



NEP-2020

CURRICULUM STRUCTURE AND SYLLABUS

**Bachelor of Computer Applications (Basic and Honors) Programmes
as Major and Minor Courses**

**And
Open Elective courses in Computer Applications**

UG BOS IN COMPUTER SCIENCE

w.e.f Academic Year 2022-23 onwards


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Curriculum for BCA

Sem	Core Courses	Hour / Week		DS Elective Courses	Hous/ Week
		Theory	Lab		
1	i. Fundamentals of Computers ii. Programming in C iii. Mathematical Foundation iv. LAB: Information Technology v. LAB: C Programming	3 3 3	4 4		
2	i. Discrete Mathematical Structures ii. Data Structures using C iii. Object Oriented Concepts using JAVA iv. LAB: Data Structure v. LAB: JAVA Lab	3 3 3	4 4		
3	i. Data Base Management Systems ii. C# and DOT NET Framework iii. Computer Communication and Networks iv. LAB: DBMS v. LAB: C# and DOT NET Framework	3 3 3	4 4		
4	i. Python Programming ii. Computer Multimedia and Animation iii. Operating Systems Concepts iv. LAB: Multimedia and Animation v. LAB: Python programming	3 3 3	4 4		
5	i. Internet Technologies ii. Statistical Computing and R Programming iii. Software Engineering iv. LAB: R Programming v. LAB: JAVA Script, HTML and CSS vi. Vocational 1	3 3 3 3 3	4 4	(a) Cyber Law and CyberSecurity (b) Cloud Computing (c) Business Intelligence	3 3 3
6	i. Artificial Intelligence and Applications ii. PHP and MySQL iii. LAB: PHP and MySQL iv. PROJECT: v. Vocational 2	3 3 3	4 12	(a) Fundamentals of DataScience (b) Mobile Application Development (c) Embedded Systems	3 3 3
7	i. Analysis and Design of Algorithms ii. Data Mining and KnowledgeManagement iii. LAB: Algorithms iv. LAB: Data Mining and KnowledgeManagement v. Vocational 3	3 3	4 4	(a) Data Compression (b) IoT (c) Data Analytics	3 3 3
8	i. Automata Theory and CompilerDesign ii. Cryptography and Network Security iii. Compiler Lab iv. LAB: Project v. Vocational 4	3 3 3	4 12	(a) Open-Source Programmin g (b) Storage Area Networks (c) Pattern Recognition (a) Machine Learning	3 3 3 3

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Vocational Electives

Sl. No	Vocational Electives
1	DTP, CAD and Multimedia
2	Hardware and Server Maintenance
3	Web Content Management Systems
4	Computer Networking
5	Health Care Technologies
6	Digital Marketing
7	Office Automation

Open Electives in Computer Science

Sl. No.	Semester	Open Electives
01	FIRST SEMESTER	<u>Any one from the following</u> <ul style="list-style-type: none">• Office Automation• Computer Fundamentals• Problem Solving and C Programming Concepts
02	SECOND SEMESTER	<u>Any one from the following excluding elective chosen in the first semester</u> <ul style="list-style-type: none">• Office Automation• Computer Fundamentals• Problem Solving and C Programming Concepts
03	THIRD SEMESTER	<u>Any one from the following</u> <ul style="list-style-type: none">• Web Designing• E-Commerce
04	FOURTH SEMESTER	<u>Any one from the following excluding elective chosen in the third semester</u> <ul style="list-style-type: none">• Web Designing• E-Commerce

Syllabus for BCA (Basic and Honors)

Semester: I

Course Code: CAC01	Course Title: Fundamentals of Computers
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03

Course Outcomes (COs):

- Introduction to computers, classification of computers, anatomy of computer, constituents and architecture, microcontrollers
- Operating systems, functions of operating systems, classification of operating systems, kernel, shell, basics of Unix, shell programming, booting
- Databases, why databases are used, users, SQL, data types in SQL, introduction of queries - select, alter, update, delete, truncate, using where, and or in not in
- Internet basics, features, applications, services, internet service providers, domain name system, browsing, email, searching
- Web Programming basics, introduction of HTML and CSS programming
- Introduction of computers, classification of computers, anatomy of computer, constituents and architecture, microcontrollers.

Course Content

Content	Hours
Unit - 1	
<p>Fundamentals of Computers: Introduction to Computers - Computer Definition, Evolution and History of Computers, Basic Organisation of a Digital Computer; Number Systems – different types, conversion from one number system to another; Computer Codes – BCD, Gray Code, ASCII and Unicode; Boolean Algebra – Boolean Operators with Truth Tables; Types of Software – System Software and Utility Software; Computer Languages - Machine Level, Assembly Level & High Level Languages, Translator</p> <p>Programs – Assembler, Interpreter and Compiler; Planning a Computer Program - Algorithm, Flowchart and Pseudo code with Examples (at least 5 hours of teaching).</p>	10


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Unit-2	
<p>Introduction to Computer: Characteristics of computers, Classification of Digital Computer Systems: Microcomputers, Minicomputers, Mainframes, Super computers.</p> <p>Anatomy of Computer: Introduction, Functions & Components of a Computer, Central Processing Unit, Storage units, Input and output Devices. How CPU and memory works. Program execution with illustrative examples. Introduction to microcontrollers.</p>	10
Unit-3	
<p>Operating System Fundamentals: Operating Systems: Introduction, Functions of an operating System, Classification of Operating Systems, System programs, Application programs, Utilities, The Unix Operating System, Basic Unix commands, Microkernel Based Operating System, Booting.</p>	08
Unit-4	
<p>Introduction to Database Management Systems: Database, DBMS, Why Database -File system vs DBMS, Database applications, Database users, Introduction to SQL, Data types, Classification of SQL-DDL with constraints, DML, DCL, TCL</p>	08
Unit-5	
<p>Internet Basics: Introduction, Features of Internet, Internet application, Services of Internet, Logical and physical addresses, Internet Service Providers, Domain Name System.</p> <p>Web Basics: Introduction to web, web browsers, http/https, URL, HTML5, CSS</p>	06

Text Books:

1. Pradeep K. Sinha and Priti Sinha: Computer Fundamentals (Sixth Edition), BPB Publication
2. David Riley and Kenny Hunt, Computational thinking for modern solver, Chapman & Hall/CRC,

Reference:

1. J. Glenn Brook shear, " Computer Science: An Overview", Addison-Wesley, Twelfth Edition,
2. R.G. Dromey, "How to solve it by Computer", PHI,

Course Code: CAC01P	Course Title: Information Technology Lab
Course Credits: 02	Hours/Week: 04
Total Contact Hours: 52	Formative Assessment Marks: 10
Exam Marks: 40	Exam Duration: 04

Part A:

1. Activities using Word Processor Software
2. Activities using Spreadsheets Software
3. Activities using Presentation Software
4. Activities involving Multimedia Editing (Images, Video, Audio ...)
5. Tasks involving Internet Browsing

Part B:

1. Flow charts: Installation and using of flowgarithms software for different arithmetic tasks like sum, average, product, difference, quotient and remainder of given numbers, calculate area of Shapes (Square, Rectangle, Circle and Triangle), decision making and looping, arrays and recursion (at least 10 problems covering all concepts).

NOTE: In addition to the ones listed above, colleges can include other activities so as for the student to become proficient in using personal computers for multiple purposes for which modern computers can be put to use.

Reference:

1. Computational Thinking for the Modern Problem Solver, By Riley DD, Hunt K.A CRC press, 2014
2. Ferragina P, Luccio F. Computational Thinking: First Algorithms, Then Code. Springer

Web References:

<http://www.flowgorithm.org/documentation/>

Evaluation Scheme for Lab Examination

Assessment Criteria		Marks
Program -1 from Part A	Write up of the program -1	5
Program -2 from Part B	Write up of the program -2	5
Execution and formatting (Any one program)		10
Viva Voce based on Lab Activities		05
Total		25

Course Code: CAC02	Course Title: Programming in C
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Confidently operate Desktop Computers to carry out computational tasks
- Understand working of Hardware and Software and the importance of operating systems
- Understand programming languages, number systems, peripheral devices, networking, multimedia and internet concepts
- Read, understand and trace the execution of programs written in C language
- Write the C code for a given problem
- Perform input and output operations using programs in C
- Write programs that perform operations on arrays

Course Content

Content	Hours
Unit - 1	
Introduction to C Programming: Overview of C; History and Features of C; Structure of a C Program with Examples; Creating and Executing a C Program; Compilation process in C.	5
C Programming Basic Concepts: C Character Set; C tokens - keywords, identifiers, constants, and variables; Data types; Declaration & initialization of variables; Symbolic constants.	
Unit-2	
Input and output with C: Formatted I/O functions - <i>printf</i> and <i>scanf</i> , control strings and escape sequences, output specifications with <i>printf</i> functions; Unformatted I/O functions to read and display single character and a string - <i>getchar</i> , <i>putchar</i> , <i>gets</i> and <i>puts</i> functions.	4
Unit-3	
C Operators & Expressions: Arithmetic operators; Relational operators; Logical operators; Assignment operators; Increment & Decrement operators; Bitwise operators; Conditional operator; Special operators; Operator Precedence and Associativity; Evaluation of arithmetic expressions; Type conversion.	11

Control Structures: Decision making Statements - <i>Simple if, if_else, nested if_else, else_if ladder, Switch Case, goto, break & continue</i> statements; Looping Statements - Entry controlled and exit controlled statements, <i>while, do-while, for</i> loops, Nested loops.	
Unit - 4	
Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays - Declaration, Initialization and Memory representation. Pointers in C: Understanding pointers - Declaring and initializing pointers, accessing address and value of variables using pointers; Pointers and Arrays; Pointer Arithmetic; Advantages and disadvantages of using pointers;	12
Unit-5	
User Defined Functions: Need for user defined functions; Format of C user defined functions; Components of user defined functions - return type, name, parameter list, function body, return statement and function call; Categories of user defined functions - With and without parameters and return type. User defined data types: Structures - Structure Definition, Advantages of Structure, declaring structure variables, accessing structure members, Structure members initialization, comparing structure variables, Array of Structures; Unions - Union definition; difference between Structures and Unions.	10

Text Books:

1. C: The Complete Reference, By Herbert Schildt.
2. M.T Somashekara, D.S Guru and K.S. Manjunatha: Problem solving with C, PHI publication
3. C Programming Language, By Brain W. Kernighan
4. Kernighan & Ritchie: The C Programming Language (PHI)

Reference Books:

1. P. K. Sinha & Priti Sinha: Computer Fundamentals (BPB)
2. E. Balaguruswamy: Programming in ANSI C (TMH)
3. Kamthane: Programming with ANSI and TURBO C (Pearson Education)
4. V. Rajaraman: Programming in C (PHI – EEE)
5. S. Byron Gottfried: Programming with C (TMH)
6. Yashwant Kanitkar: Let us C
7. P.B. Kottur: Programming in C (Sapna Book House).

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Course Code: CAC02P	Course Title: C Programming Lab
Course Credits: 02	Hours/Week: 04
Total Contact Hours: 52	Formative Assessment Marks:10
Exam Marks: 40	Exam Duration: 04

Part A:

1. Write a C Program to read radius and find area and volume of a sphere.
2. Write a C Program to read three numbers and find the biggest of three
3. Write a C Program to demonstrate library functions in *math.h* (at least 5)
4. Write a C Program to read a number, find the sum of the digits, reverse the number and check it for palindrome
5. Write a C Program to read numbers from keyboard continuously till the user presses 999 and to find the sum of only positive numbers
6. Write a C Program to read percentage of marks and to display appropriate grade (using switch case)
7. Write a C Program to find the roots of quadratic equation (if else ladder)
8. Write a C program to read marks scored in 3 subjects by n students and find the average of marks and result (Demonstration of single dimensional array)
9. Write a C Program to remove Duplicate Element in a single dimensional Array
10. Program to perform addition and subtraction of Matrices

Part B:

1. Write a C Program to find the length of a string without using built in function
2. Write a C Program to demonstrate string functions (at least 3).
3. Write a C Program to demonstrate pointers in C
4. Write a C Program to generate n prime number by defining *isprime ()* function
5. Write a C Program to find the trace of a square matrix using function
6. Write a C Program to read, display and multiply two matrices using functions
7. Write a C Program to read a string and to find the number of alphabets, digits, vowels, consonants, spaces and special characters.
8. Write a C Program to Reverse a String using Pointer
9. Write a C Program to demonstrate student structure to read & display records of n students.
10. Write a C Program to demonstrate the difference between structure & union.

Evaluation Scheme for Lab Examination

Assessment Criteria		Marks
Program -1 from Part A	Write up of the program -1	5
Program -2 from Part B	Write up of the program -2	5
Execution and formatting (Any one program)		10
Viva Voce based on Lab Activities		05
Total		25


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Course Code: CAC03	Course Title: Mathematical Foundation
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03

Course Outcomes (COs):

- Study and solve problems related to connectives, predicates and quantifiers under different situations.
- Develop basic knowledge of matrices and to solve equations using Cramer's rule.
- Know the concept of Eigen values.
- To develop the knowledge about derivatives and know various applications of differentiation.
- Understand the basic concepts of Mathematical reasoning, set and functions

Content	Hours
Unit - 1	
Mathematical logic: Mathematical logic introduction-statements Connectives-negation, conjunction, disjunction- statement formulas and truth tables-conditional and bi Conditional statements- tautology contradiction-equivalence of formulas-duality law-Predicates and Quantifiers, Arguments.	10
Unit - 2	
sets and Functions: power set- Venn diagram Cartesian product-relations - functions- types of functions - composition of functions.	10
Unit - 3	
Matrices and determinant: Introduction-Types of matrices-matrix operations-transpose of a matrix -determinant of matrix - inverse of a matrix-Cramer's rule	10
Unit - 4	
Matrix algebra: finding rank of a matrix – normal form-echelon form Cayley Hamilton theorem-Eigen values.	06
Unit -5	
Differential calculus: Functions and limits - Simple Differentiation of Algebraic Functions – Evaluation of First and Second Order Derivatives – Maxima and Minima	06

Text Books:

P. R. Vittal-Business Mathematics and Statistics, Margham Publications, Chennai,

Reference Books:

B. S. Vatsa-Discrete Mathematics –New Age International Limited Publishers, NewDelhi

Semester: II

Course Code: CAC04	Course Title: Data Structures using C
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03 Hours

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Describe how arrays, records, linked structures, stacks, queues, trees, and graphs are represented in memory and used by algorithms
- Describe common applications for arrays, records, linked structures, stacks, queues, trees, and graphs
- Write programs that use arrays, records, linked structures, stacks, queues, trees, and graphs
- Demonstrate different methods for traversing trees
- Compare alternative implementations of data structures with respect to performance
- Describe the concept of recursion, give examples of its use
- Discuss the computational efficiency of the principal algorithms for sorting, searching, and hashing

Content	Hours
Unit - 1	
Introduction to data structures: Definition; Types of data structures - Primitive & Non-primitive, Linear and Non-linear; Operations on data structures. Algorithm Specification, Performance Analysis, Performance Measurement Recursion: Definition; Types of recursions; Recursion Examples - Fibonacci numbers, GCD, Binomial coefficient nCr , Towers of Hanoi; Comparison between iterative and recursive functions.	08
Unit - 2	
Arrays: Basic Concepts – Definition, Declaration, Initialization, Operations on arrays; Types of arrays; Arrays as abstract data types (ADT); Representation of Linear Arrays in memory; Traversing linear arrays; Inserting and deleting elements; Sorting – Selection sort, Bubble sort, Quick sort, Insertion sort, merge sort; Searching - Sequential Search, Binary search; Iterative and Recursive searching; Multidimensional arrays; Representation of multidimensional arrays; Sparse matrices.	12

Unit - 3	
<p>Stacks: Basic Concepts – Definition and Representation of stacks; Operations on stacks; Applications of stacks; Infix, postfix and prefix notations; Conversion from infix to postfix using stack; Evaluation of postfix expression using stack; Application of stack in function calls.</p> <p>Queues: Basic Concepts – Definition and Representation of queues; Types of queues – Simple queues, Circular queues, Double ended queues, Priority queues; Operations on Simple queues;</p>	10
Unit-4	
<p>Dynamic memory allocation: Static & Dynamic memory allocation; Memory allocation and de- allocation functions - malloc, calloc, realloc and free.</p> <p>Linked list: Basic Concepts – Definition and Representation of linked list, Types of linked lists - Singly linked list, Doubly linked list, Header linked list, Circular linked list; Representation of Linked list in Memory; Operations on Singly linked lists – Traversing, Searching, Insertion, Deletion; Memory allocation; Garbage collection.</p>	12
Unit-5	
<p>Trees: Definition; Tree terminologies –node, root node, parent node, ancestors of a node, siblings, terminal & non-terminal nodes, degree of a node, level, edge, path, depth; Binary tree: Type of binary trees - strict binary tree, complete binary tree, binary search tree and heap tree; Array representation of binary tree. Traversal of binary tree; preorder, inorder and postorder traversal; Reconstruction of a binary tree when any two of the traversals are given.</p>	10

Text Books

1. Ellis Horowitz and Sartaj Sahni: Fundamentals of Data Structures

References

1. Tanenbaum: Data structures using C (Pearson Education)
2. Kamathane: Introduction to Data structures (Pearson Education)
3. Y. Kanitkar: Data Structures Using C (BPB)
4. Kottur: Data Structure Using C
5. Padma Reddy: Data Structure Using C
6. Sudipa Mukherjee: Data Structures using C – 1000 Problems and Solutions (McGraw Hill Education, 2007)


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Course Code: CAC04P	Course Title: Data Structure Lab
Course Credits: 02	Hours/Week: 04
Total Contact Hours: 52	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 03 Hours

Programming Lab

Part A:

1. Write a C Program to find GCD using recursive function
2. Write a C Program to display Pascal Triangle using binomial function
3. Write a C Program to generate n Fibonacci numbers using recursive function.
4. Write a C Program to implement Towers of Hanoi.
5. Write a C Program to implement dynamic array, find smallest and largest element of the array.
6. Write a C Program to read the names of cities and arrange them alphabetically using bubble sort.
7. Write a C Program to sort the given list using selection sort technique.
8. Write a C Program to sort the given list using insertion sort technique.

Part B:

1. Write a C Program to sort the given list using quick sort technique.
2. Write a C Program to sort the given list using merge sort technique.
3. Write a C Program to search an element using linear search technique and recursive binary search technique.
4. Write a C Program to implement Stack.
5. Write a C Program to convert an infix expression to postfix.
6. Write a C Program to implement simple queue.
7. Write a C Program to implement linear linked list.
8. Write a C Program to implement traversal of a binary tree.

Evaluation Scheme for Lab Examination

Assessment Criteria		Marks
Program -1 from Part A	Write up of the program -1	5
Program -2 from Part B	Write up of the program -2	5
Execution and formatting (Any one program)		10
Viva Voce based on Lab Activities		05
Total		25


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Course Code: CAC05	Course Object Oriented Programming concepts using JAVA
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03 Hours

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Understand the features of Java and the architecture of JVM
- Write, compile, and execute Java programs that may include basic data types and control flow constructs and how type casting is done
- Identify classes, objects, members of a class and relationships among them needed for a specific problem and demonstrate the concepts of polymorphism and inheritance
- The students will be able to demonstrate programs based on interfaces and threads and explain the benefits of JAVA's Exceptional handling mechanism compared to other Programming Language
- Write, compile, execute Java programs that include GUIs and event driven programming and also programs based on files

Content	Hours
Unit - 1	
Introduction to OOPS and Java: OOPS concepts and paradigm, Basics of Java programming, Data types, Variables, Operators, Control structures including selection, Looping, method Overloading, Math class, Arrays in java.	08
Unit - 2	
Objects and Classes: Basics of objects and classes in java, Constructors, Finalizer, Visibility modifiers, Methods and objects, Inbuilt classes like String, Character, String Buffer, File, this reference, I/O streams.	10
Unit-3	
Inheritance and Polymorphism: Inheritance in java, Super and sub class, Overriding, Object class, Polymorphism, Dynamic binding, Generic programming, Casting objects, Instance of operator, Abstract class, Interface in java, Package in java, UTIL package.	08


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Unit-4	
Multithreading in java: Thread life cycle and methods, Runnable interface, Thread synchronization, Exception handling with try catch-finally, Collections in java, Introduction to JavaBeans and Network Programming.	6
Unit - 5	
Event and GUI programming: Event handling in java, Event types, Mouse and key events, GUI Basics, Panels, Frames, Layout Managers: Flow Layout, Border Layout, Grid Layout, GUI components like Buttons, Check Boxes, Radio Buttons, Labels, Text Fields, Text Areas, Combo Boxes, Lists, Scroll Bars, Sliders, Windows, Menus, Dialog Box, Applet and its life cycle, Introduction to swing.	10

Text Books

1. Programming with Java, By E Balagurusamy – A Primer, Fourth Edition, TataMcGraw Hill Education Private Limited.
2. Core Java Volume I – Fundamentals, By Cay S. Horstmann, Prentice Hall
3. Object Oriented Programming with Java : Somashekara, M.T., Guru, D.S.,Manjunatha, K.S

Reference Books:

1. Java 2 - The Complete Reference – McGraw Hill publication.
2. Java - The Complete Reference, 7th Edition, By Herbert Schildt– McGraw Hillpublication.


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Course Code: CAC05P	Course Title: JAVA Lab
Course Credits: 02	Hours/Week: 04
Total Contact Hours: 52	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 04 Hours

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Implement Object Oriented programming concept using basic syntaxes of control Structures
- Identify classes, objects, members of a class and the relationships among them needed for a finding the solution to specific problem
- Demonstrates how to achieve reusability using inheritance
- Demonstrate understanding and use of interfaces, packages, different exception handling mechanisms and concept of multithreading for robust faster and efficient application development.
- Identify and describe common user interface components to design GUI in Java using Applet & AWT along with response to events

PART A: Java Fundamentals OOPs in Java

1. Program to add two integers and two float numbers. When no arguments are supplied, give a default value to calculate the sum. Use function overloading.
2. Program to perform mathematical operations. Create a class called AddSub with methods to add and subtract. Create another class called MulDiv that extends from AddSub class to use the member data of the super class. MulDiv should have methods to multiply and divide. A main function should access the methods and perform the mathematical operations.
3. Program with class variable that is available for all instances of a class. Use static variable declaration. Observe the changes that occur in the object's member variable values.
4. Program to create a student class with following attributes; Enrollment No: Name, Mark of sub1, Mark of sub2, mark of sub3, TotalMarks. Total of the three marks must be calculated only when the student passes in all three subjects. The pass mark for each subject is 50. If a candidate fails in any one of the subjects his total mark must be declared as zero. Using this condition write a constructor for this class. Write separate functions for accepting and displaying student details. In the main method create an array of n student objects and display the details.
5. In a college first year class are having the following attributes Name of the class (BCA, BCom, BSc), Name of the staff No of the students in the class, Array of students in the class. Define a class called first year with above attributes and define a suitable constructor. Also write a method called best Student () which process a first-year object and return the student with the highest total mark. In the main method define a first-year object and find the best student of this class
6. Program to define a class called employee with the name and date of appointment. Create ten employee objects as an array and sort them as per their date of

appointment. ie, print them as per their seniority.

PART B: Exception Handling & GUI Programming

1. Program to catch Negative Array Size Exception. This exception is caused when the array is initialized to negative values.
2. Program which create and displays a message on the window
3. Program to draw several shapes in the created window
4. Program which creates a frame with two buttons father and mother. When we click the father button the name of the father, his age and designation must appear. When we click mother similar details of mother also appear.
5. Program to move any one shape according to the arrow key pressed.
6. Program to create a window when we press M or m the window displays Good Morning, A or a the window displays Good After Noon E or e the window displays Good Evening, N or n the window displays Good Night
7. Demonstrate the various mouse handling events using suitable example.
8. Program to create menu bar and pull-down menus.

Evaluation Scheme for Lab Examination

Assessment Criteria		Marks
Program -1 from Part A	Write up of the program -1	5
Program -2 from Part B	Write up of the program -2	5
Execution and formatting (Any one program)		10
Viva Voce based on Lab Activities		05
Total		25


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Course Code: CAC06	Course Title: Discrete Mathematical Structures
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03 Hours

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- To understand the basic concepts of Mathematical reasoning, set and functions.
- To understand various counting techniques and principle of inclusion and exclusions.
- Understand the concepts of various types of relations, partial ordering and equivalence relations.
- Apply the concepts of generating functions to solve the recurrence relations.
- Familiarize the fundamental concepts of graph theory and shortest path algorithm

Discrete Mathematical Structures

Content	Hours
Unit - 1	
The Foundations: Logic and proofs: Propositional Logic, Applications of Propositional Logic, Propositional Equivalences, Predicates and Quantifiers, Nested Quantifiers, Rules of Inference, Introduction to Proofs, Proof Methods and Strategy. Basic Structures: Sets, Functions, Sequences, Sums, and Matrices: Sets, set operations, Functions, Sequences and Summations, matrices.	12
Unit - 2	
Counting: Basics of counting, Pigeonhole principle, Permutation and combination, Binomial Coefficient and Combination, Generating Permutation and Combination. Advanced Counting Techniques: Applications of Recurrence Relations, Solving Linear Recurrence, Relations, Divide and Conquer Algorithms and Recurrence Relations, Generating functions, Inclusion-Exclusion, Applications of Inclusion-exclusion	10


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Unit - 3	
Induction and Recursion: Mathematical Induction, Strong Induction and Well-Ordering, Recursive Definitions and Structural Induction, Relation: Properties of relation, Composition of relation, Closer operation on relation, Equivalence relation and partition. Operation on relation, Representing relation.	12
Unit-4	
Graphs: Graphs and Graph models, Graph Terminology and Special Types of Graphs, Representing Graphs and Graph Isomorphism, Connectivity, Euler and Hamilton Paths, Shortest-Path Problems, Planar Graphs, Graph Coloring.	08

Text Book:

1. Discrete Mathematics and Its Applications, Kenneth H. Rosen: Seventh Edition, 2012.

References:

1. Discrete Mathematical Structure, Bernard Kolman, Robert C, Busby, Sharon Ross, 2003.
2. Graph Theory with Applications to Engg and Comp. Sci: Narsingh Deo-PHI 1986.
3. Discrete and Combinatorial Mathematics Ralph P. Grimaldi, B. V. Ramatta, Pearson, Education, 5 Edition.
4. Discrete Mathematical Structures, Trembley and Manohar.

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BCA-Semester -III

Course Title: Database Management Systems	Course code: CAC07
Total Contact Hours: 42	Course Credits: 04
Formative Assessment Marks: 40	Duration of SEE/Exam: 03 Hours
Summative Assessment Marks: 60	

Course Outcomes (COs):

At the end of the course, students will be able to:

- Explain the various database concepts and the need for database systems.
- Identify and define database objects, enforce integrity constraints on a database using DBMS.
- Demonstrate a Data model and Schemas in RDBMS.
- Identify entities and relationships and draw ER diagram for a given real-world problem.
- Convert an ER diagram to a database schema and deduce it to the desired normal form.
- Formulate queries in Relational Algebra, Structured Query Language (SQL) for database manipulation.
- Explain the transaction processing and concurrency control techniques.

Database Management Systems (DBMS)

Unit	Description	Hours
1	Database Architecture: Introduction to Database system applications. Characteristics and Purpose of database approach. People associated with Database system. Data models. Database schema. Database architecture. Data independence. Database languages, and classification of DBMS.	10
2	E-R Model: Entity-Relationship modeling: E – R Model Concepts: Entity, Entity types, Entity sets, Attributes, Types of attributes, key attribute, and domain of an attribute. Relationships between the entities. Relationship types, roles and structural constraints, degree and cardinality ratio of a relationship. Weak entity types, E -R diagram.	10
3	Relational Data Model: Relational model concepts. Characteristics of relations. Relational model constraints: Domain constrains, key constraints, primary & foreign key constraints, integrity constraints and null values. Relational Algebra: Basic Relational Algebra operations. Set theoretical operations on relations. JOIN operations.	12

4	SQL and Data Normalization: SQL - Aggregate Functions and Grouping. Nested Sub Queries, Views. Normalization - Anomalies in relational database design. Decomposition. Functional dependencies. Normalization. First normal form, Second normal form, Third normal form. Boyce-Codd normal form.	10
5	<p>Introduction to PL/SQL programming: Introduction to PL/SQL • Features and Advantages, PL/SQL Blocks - basic syntax, Variables and their scope, Constants, Literals, Data Types, Operators, Executable Statements.</p> <p>Control Execution Flow • Conditional Control: IF Statements • CASE Statements • Iterative Control: Basic Loops -WHILE and FOR Loops, Reverse FOR LOOP Statement, Nested Loops, Labeling a PL/SQL Loop, exception handling.</p> <p>STRINGS: Declaring String Variables, String Functions and Operators, ARRAYS: Creating a Varray Type. Cursors - Implicit and Explicit Cursors, Cursor Attributes, parameterized Cursor, Functions and procedure – syntax and usage.</p>	10

References:

1. Fundamentals of Database Systems, Ramez Elamassri, Shankant B. Navathe, 7th Edition, Pearson, 2015
2. An Introduction to Database Systems, Bipin Desai, Galgotia Publications, 2010.
3. Introduction to Database System, C J Date, Pearson, 1999.
4. Database Systems Concepts, Abraham Silberschatz, Henry Korth, S.Sudarshan, 6th Edition, McGraw Hill, 2010.
5. Database Management Systems, Raghu Rama Krishnan and Johannes Gehrke, 3rd Edition, McGraw Hill, 2002
6. Oracle Database 11G PL/SQL Programming


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Course Code: CAC07P	Course Title: DBMS LAB
Course Credits: 02	Hour of Teaching/Week: 04
Total Contact Hours: 52	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 03

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Formulate query, using SQL, solutions to a broad range of query and data update problems
- using SQL in database creation and interaction
- Design a commercial relational database system (Oracle, MySQL) by writing SQL using the system
- Use a desktop database package to create, populate, maintain, and query a database.
- Analyze an information storage problem and derive an information model expressed in the form and views
- Formulate PL SQL query blocks using cursor

Programming Lab

PART A: SQL Queries

1. Implementation of DDL and DML commands of SQL with suitable examples
a) Create table b) Alter table c) Drop Table d) Insert e) Update f) Delete
2. Implementation of different types of constraints.
3. Implementation of different types of Joins
a) Inner Join b) Outer Join c) Natural Join
4. Study and Implementation of
a) Group By &having clause b) Order by clause
5. Implementation of Views
6. Execute DCL and TCL Commands

PART B: PL/SQL

1. Create a library table with attributes book id, author_name, publisher, price and edition. Write PL/SQL code block to accept the publisher's name and count number of books under that publisher and display it. Also display the publisher with maximum publication.
2. Write a function to display employee name with distinct salaries
For e.g.
if a 's salary is 100
b 's salary is 200
c 's salary is 100 displays either (a or c) and b
3. Write a function to rank the employees based on their salary (use RANK function)
4. Write a function to validate the Employee email id.
5. Write a procedure to capture the error log in a table in case of an exception using Autonomous_transaction, from employee table, store ename and salary in varrays and display the contents of the arrays in table format.
6. Write an Anonymous block which raise a user defined exception on Thursday?

7. Write a PL/SQL cursor program which is used to calculate total salary from emp table without using sum () function?

Evaluation Scheme for Lab Examination

Assessment Criteria		Marks
Program -1 from Part A	Write up of the program -1	5
Program -2 from Part B	Write up of the program -2	5
Execution and formatting (Any one program)		10
Viva Voce based on Lab Activities		05
Total		25

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Course Title: C# and Dot Net Framework	Course code: CAC08
Total Contact Hours: 42	Course Credits: 03
Formative Assessment Marks: 40	Duration of SEE/Exam: 03 Hours
Summative Assessment Marks: 60	

Course Outcomes (COs):

At the end of the course, students will be able to:

- Describe Object Oriented Programming concepts like Inheritance and Polymorphism in C# programming language.
- Interpret and Develop Interfaces for real-time applications.
- Build custom collections and generics in C#.

C# and Dot Net Framework

Unit	Description	Hours
1	<p>Introduction to C# and .NET platform and Building C# applications</p> <p>Introduction to C# and .NET platform: .NET solution, Building blocks of the .NET platform, Role of .NET base class libraries, .NET aware programming languages, Role of CIL, Role of Type Metadata, Role of Assembly Manifest, Tour of .NET namespaces.</p> <p>Building C# applications: Role of command line compiler(csc.exe), Building a C# application using csc.exe, command line debugger(corDBG.exe), Introduction to visual studio .NET IDE and its debugging, C# pre-processor directives.</p>	08
2	<p>C# language fundamentals: Anatomy of a basic C# class, Objects, Constructors, Default assignment and variables scope, Variable initialization syntax, Basic I/O with Console class, Arrays and String manipulation, Encapsulation services - Accessor and mutator methods, Class properties, Read and Write only properties, static properties. Inheritance - IS and AS keyword usage, Controlling Base class creation with base, Sealed classes, Delegation. Polymorphism - Virtual and override keywords, Abstract classes, Abstract Methods.</p>	08
3	<p>Exception & object life time and Interface and Collections:</p> <p>Exception & object life time: The Basics of Object Life Time, The Role Of Application Roots, Understanding Object Generations, The Role Of .NET Exception Handling, Throwing a Generic Exception, Catching Exceptions, Properties of Exception, Multiple Exception (Concepts Only). The Finally Block.</p> <p>Interface & Collections: Definition, Implementing an Interface in C#, Interface member sat object level, Interface as Parameters, Interface as Return Values, Arrays of Interface Types, Interface Hierarchies, Interface as polymorphic agents, Exploring the system. Collections Namespaces.</p>	08

4	Introducing windows forms: Overview of the system. windows. Forms Namespaces, An Anatomy of a Form, A Simple Form Program, Function with Control Class, The Functionality of the Form Class, Component class, control class, Programming with windows forms controls: Working with Button types, Check Boxes, Radio Buttons, Group Boxes, List Boxes, Calendar control, Timer, picture box, group box, scroll bar, Progress bar, assigning tool tips for controls. Developing an UI.	10
5	ADO .NET Connectivity: The Two Faces Of ADO. NET, Understanding ADO.NET Data Providers, Understanding the Connected Layer of ADO.NET, Working with Connection Object, Inserting, Updating and Deleting Records.	08

References:

1. "Programming in C#", E. Balagurusamy, 4th Edition, Tata McGraw-Hill, 2017.
2. "Pro C# with .NET 3.0", Andrew Troelsen
3. "Computing with C# and the .NET Framework", Arthur Gittleman, 2nd Edition, Jones & Bartlett Publishers, 2011


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Course Code: CAC08P	Course Title: C# and Dot Net Framework Lab
Course Credits: 02	Hours/Week: 04
Total Contact Hours: 52	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 04 Hours

Practical:

Part - A

1. Develop a C# .NET console application to demonstrate the conditional statements.
2. Develop a C# .NET console application to demonstrate the control statements.
3. Develop a C#.NET console application to demonstrate exception handling.
4. Develop a C#.NET console application to find sum of all elements present in jagged array of 3 inner arrays.
5. Demonstrate arrays of interface types in C#.NET.
6. Construct a console application to demonstrate abstract class and abstract method.

Part - B

1. C#.NET console application to demonstrate window controls.
2. Demonstrate subroutines and functions I C#.net
3. Assume that 10 candidates have participated in an army selection drive. In the first round of selection, candidates are short listed based on their height. Minimum height for the selection is 157.5 cms. Read the height of those 10 candidates in centimeters and list the heights which are equal to or more than the minimum height required for the selection. Also count the number of candidates who have been shortlisted like this. (Program can be written with or without array).
4. Read 10 register numbers randomly and segregate them based on the course (BA, BSc, BCom, BCA) and semester (first, third, fifth- Analyse the format of the register numbers as assigned by the university).
5. C# program to call math operations (Any 4) using delegates.
6. Design an option driven program to demonstrate following garbage collection activities
 - a) Number of generations
 - b) Generation number of target object
 - c) Number of bytes allocated.
7. Develop an application in C#.NET that demonstrates the registration and login dynamically.


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Evaluation Scheme for Lab Examination

Assessment Criteria		Marks
Program -1 from Part A	Write up of the program -1	5
Program -2 from Part B	Write up of the program -2	5
Execution and formatting (Any one program)		10
Viva Voce based on Lab Activities		05
Total		25


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Course Title: Computer Communication and Networks	Course code: CAC09
Total Contact Hours: 42	Course Credits: 03
Formative Assessment Marks: 40	Duration of SEE/Exam: 03 Hours
Summative Assessment Marks: 60	

Course Outcomes (COs):

At the end of the course, students will be able to:

- Explain the transmission technique of digital data between two or more computers and a computer network that allows computers to exchange data.
- Apply the basics of data communication and various types of computer networks in real world applications.
- Compare the different layers of protocols.
- Compare the key networking protocols and their hierarchical relationship in the conceptual model like TCP/IP and OSI.

Computer Communication and Networks

Unit	Description	Hours
1	Introduction: Computer Network-Types & Applications, Network Software-Protocol Hierarchies, Network Topologies, LAN, WAN, MAN, OSI/ISO reference model, TCP/IP reference model, Comparison between OSI & TCP.	08
2	Physical Layer: Transmission Media – Twisted pair, coaxial cable, optical fiber, radio transmission, microwave transmission and infrared transmission, switching – Circuit switching, Packet switching, Difference between Circuit switching & Packet switching.	07
3	Data Link Layer: Data Link Layer design issues, Error detection – Single parity checking, Checksum, polynomial codes – CRC, Error correction- Hamming code, Elementary data link protocols- Unrestricted Simplex Protocol and Simplex Stop-and-Wait Protocol	08
4	Network Layer: Network layer design issues, Routing algorithms –Optimality Principle, Shortest path routing, Distance vector routing, Link state routing, Congestion & Congestion control algorithms – General Principles of Congestion control, Congestion Prevention Policies, Traffic Shaping-Leaky bucket algorithm, token bucket algorithm.	09

5	Transport Layer and Application Layer: Services provided by Transport layer to its upper layers, Transport Service primitives, Elements of Transport protocols, Internet transport protocols-UDP header &TCP segment header, Difference between TCP &UDP, DNS, Architecture &Services of E- Mail and Architecture of World Wide Web.	10
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References:

1. Computer Networks, Andrew S. Tanenbaum, 5th Edition, Pearson Education, 2010.
2. Data Communication & Networking, Behrouza A Forouzan, 3rd Edition, Tata McGraw Hill, 2001.
3. Hill, 2001.
4. Data and Computer Communications, William Stallings, 10th, Edition, Pearson Education, 2017.
5. Data Communication and Computer Networks, Brijendra Singh, 3rd Edition, PHI, 2012.
6. Data Communication & Network, Dr. Prasad, Wiley Dreamtech.
7. <http://highered.mheducation.com/sites/0072967757/index.htmls>


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BCA-Semester IV

Course Title: Python Programming	Course code: CAC10
Total Contact Hours: 42	Course Credits: 03+02
Formative Assessment Marks: 40	Duration of SEE/Exam: 03 Hours
Summative Assessment Marks: 60	

Course Outcomes (COs):

At the end of the course, students will be able to:

- Explain the basic concepts of Python Programming.
- Demonstrate proficiency in the handling of loops and creation of functions.
- Identify the methods to create and manipulate lists, tuples and dictionaries.
- Discover the commonly used operations involving file handling.
- Interpret the concepts of Object-Oriented Programming as used in Python.
- Develop the emerging applications of relevant fields using Python.

Python Programming

Unit	Description	Hours
1	<p>Introduction to Features and Applications of Python; Python Versions; Installation of Python; Python IDEs; Simple Python Program. Identifiers; Variables; Operators; Precedence and Association; Data Types; Indentation; Comments; Built-in Functions- Console Input and Console Output, Type Conversions; Python Libraries; Importing Libraries with Examples.</p> <p>Strings: Creating and Storing Strings; Accessing Sting Characters; the str () function; Operations on Strings- Concatenation, Comparison, Slicing and Joining, Traversing; Format Specifiers; Escape Sequences; Python String Methods.</p>	08
2	<p>Python Control Flow: Types of Control Flow; Control Flow Statements- if, else, elif, nested if, while loop, break, continue statements, for loop Statement; range () and exit () functions, pass statement.</p> <p>Python Functions: Types of Functions; Function Definition- Syntax, Function Calling, Passing Parameters/arguments, the return statement; Default Parameters; key Word Arguments; Recursive Functions</p>	08
3	<p>Arrays- what is an array, Access the element of an array, Length of an array, looping array element, adding array elements, Removing array elements and array methods. Passing array as an argument</p> <p>Lists: Creating Lists; Operations on Lists; Built-in Functions on Lists; Nested Lists.</p> <p>Dictionaries: Creating Dictionaries; Operations on Dictionaries; Built-in Functions on Dictionaries; Dictionary Methods; Populating and Traversing Dictionaries.</p>	08

4	<p>Tuples and Sets: Creating Tuples; Operations on Tuples; Built-in Functions on Tuples; Tuple Methods; Creating Sets; Operations on Sets; Built-in Functions on Sets; Set Methods.</p> <p>Exception Handling: Types of Errors; Exceptions; Exception Handling using try, except and finally.</p> <p>Object Oriented Programming: Classes and Objects; Creating Classes and Objects; Constructor Method; Classes with Multiple Objects; Objects as Arguments; Objects as Return Values;</p>	08
5	<p>File Handling: File Types; Operations on Files– Create, Open, Read, Write, Close Files; File Names and Paths; Format Operator.</p> <p>Data analysis: NumPy – introduction, array creation, operations on arrays, panda – introduction, creating data frames and data fetching using simple queries.</p> <p>Data visualization: Introduction to data visualization, matplotlib library, different types of charts using pyplot – line, bar, histogram and pie charts.</p>	10

References:

1. Think Python How to Think Like a Computer Scientist, Allen Downey et al., 2nd Edition, Green Tea Press. Freely available online @ <https://www.greenteapress.com/thinkpython/thinkCSpy.pdf>, 2015.
2. Introduction to Python Programming, Gowrishankar S et al., CRC Press, 2019.
3. Python Data Analytics: Data Analysis and Science Using Pandas, matplotlib, and the Python Programming Language, Fabio Nelli, Apress®, 2015
4. Advance Core Python Programming, MeenuKohli, BPB Publications, 2021.
5. Core PYTHON Applications Programming, Wesley J. Chun, 3rd Edition, Prentice Hall, 2012.
6. Automate the Boring Stuff, Al Sweigart, No Starch Press, Inc, 2015.
7. Data Structures and Program Design Using Python, D Malhotra et al., Mercury Learning and Information LLC, 2021.
8. <http://www.ibiblio.org/g2swap/byteofpython/read/>
9. <https://docs.python.org/3/tutorial/index.html>


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Course Title: Python Programming Lab	Course code: CAC10P
Total Contact Hours: 52	Course Credits: 02
Formative Assessment Marks: 25	Duration of SEE/Exam: 03 Hours
Summative Assessment Marks: 25	

Programs for Practical Component:

Part-A

1. Check if a number belongs to the Fibonacci Sequence
2. Solve Quadratic Equations
3. Find the sum of n natural numbers
4. Display Multiplication Tables
5. Check if a given number is a Prime Number or not
6. Implement a sequential search
7. Explore string functions
8. Read and write into a file

Part-B

1. Create a calculator program
2. Implement Selection Sort
3. Demonstrate exception handling
4. Demonstrate use of Dictionaries.
5. Demonstrate use of Tuples.
6. Drawing Line and bar chart using matplotlib.
7. Create array using NumPy and perform array operations
8. Create data frame from excel sheet and perform simple operations.

**Evaluation Scheme for Lab Evaluation Scheme for
Lab Examination**

Assessment Criteria		Marks
Program -1 from Part A	Write up of the program -1	5
Program -2 from Part B	Write up of the program -2	5
Execution and formatting (Any one program)		10
Viva Voce based on Lab Activities		05
Total		25


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Course Title: Computer Multimedia & Animation	Course code: CAC11
Total Contact Hours: 42	Course Credits: 03
Formative Assessment Marks: 40	Duration of SEE/Exam: 03 Hours
Summative Assessment Marks: 60	

Course Outcomes (COs):

At the end of the course, students will be able to:

- Write a well-designed, interactive Web site with respect to current standards and practices.
- Demonstrate in-depth knowledge of an industry-standard multimedia development tool and its associated scripting language.
- Determine the appropriate use of interactive versus standalone Web applications.

Computer Multimedia & Animation

Unit	Description	Hours
1	Web Design: Origins and evolution of HTML, Basic syntax, Basic text markup, Images, Lists, Tables, Forms, Frame, Overview and features of HTML5.CSS: Introduction, Level soft style sheets, Style specification formats, Select or forms, Property value forms, Font properties, List properties, Color, Alignment of text, The and <div> tags; Overview and features of CSS3. JavaScript: Object orientation and JavaScript; General syntactic characteristics; Primitives, operations, and expressions; Screen output and keyboard input.	10
2	Animation: What is an Animation? The Start and End States, Interpolation, Animations in HTML. All About CSS Animations, creating a Simple Animation, Detailed Look at the CSS Animation Property, Keyframes, Declaring Multiple Animations, Wrap-up. All About CSS Transitions, adding a Transition, Looking at Transitions in Detail, The Longhand Properties, Longhand Properties vs. Shorthand Properties, Working with Multiple Transitions.	09
3	HTML5 – SVG: Viewing SVG Files, Embedding SVG in HTML5, HTML5 – SVG Circle, HTML5 – SVG Rectangle, HTML5 – SVG Line, HTML5 – SVG Ellipse, HTML5 – SVG Polygon, HTML5 – SVG Polyline, HTML5 – SVG Gradients, HTML5 – SVG Star.	08
4	HTML5 – CANVAS: The Rendering Context, Browser Support, HTML5 Canvas Examples, Canvas - Drawing Rectangles, Canvas - Drawing Paths, Canvas - Drawing Lines, Canvas - Drawing Bezier Curves, Canvas - Drawing Quadratic Curves, Canvas - Using Images, Canvas - Create Gradients,	08

5	HTML5 - Styles and Colors: Canvas - Text and Fonts, Canvas - Pattern and Shadow, Canvas - Save and Restore States, Canvas - Translation, Canvas -Rotation, Canvas - Scaling, Canvas - Transforms, HTML5 Canvas - Composition, Canvas – Animations.	07
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References:

1. The Complete Reference HTML and CSS, 5th Edition, Thomas A Powell, 2017.
2. Animation in HTML, CSS, and JavaScript, Kirupa Chinnathambi, CreateSpace Independent Pub, 2013.
3. <https://www.w3.org/Style/CSS/current-work#CSS3>
4. <http://bedford-computing.co.uk/learning/cascading-style-sheets/>


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Course Title: Computer Multimedia & Animation Lab	Course code: CAC11P
Total Contact Hours: 52	Course Credits: 02
Formative Assessment Marks: 25	Duration of SEE/Exam: 03 Hours
Summative Assessment Marks: 25	

Programs for practical component

Part A

1. Develop and demonstrate a HTML document that illustrates a) Image as a background b) Hyperlink using an image c) Hyperlink with another web page (A, Base, Href) d) Link to email address, FTP Websites
2. Multimedia: - a) Develop a web page to play audio file using <a>Tag. b) Develop a web page to play video file using <Embed>Tag.
3. Write a JavaScript program to determine whether a given year is a leap year in the Gregorian calendar.
4. Write a JavaScript program to convert temperatures to and from Celsius, Fahrenheit
5. Create an animation using HTML.
6. Create an interactive web page using HTML5 layout tags.
7. Write a JavaScript that calculates the squares and cubes of the numbers from 0 to 10 and outputs HTML text that displays the resulting values in an HTML table format.
8. Demonstrate canvas in HTML5.

Part B

1. Develop and demonstrate a HTML document that illustrates a) the use of Formatting Text. b) Headings tags (H1, H2, H3, H4, H5, H6) c) Font Details (Font Size, Style, Type, Color) d) Setting Color (BG Color)
2. Develop and demonstrate a HTML document that illustrates a) Unordered List (UL) b) Ordered List (OL) and Definition list (DL) c) Table Alignment (Cell Spacing, Cell Padding, Height, Width, Border, Rowspan, colspan) d) Setting Different Table Attributes (Color, Image)
3. Create Style sheet to set formatting for text tags and embed that style sheet on web pages created for your site.
4. Design a timetable and display it in tabular format using html.
5. Design signup form to validate username, password, and phone numbers etc. using Java script
6. Write a JavaScript to design a simple calculator to perform the following operations: sum, product, difference and quotient
7. Develop and demonstrate a HTML5 file that includes JavaScript script that uses functions for the following problems: a. Parameter: A string b. Output: The position in the string of the left-most vowel c. Parameter: A number d. Output: The number with its digits in the reverse order
8. Write an HTML page that contains a selection box with a list of 5 countries. When the user selects a country, its capital should be printed next in the list. Add CSS to customize the properties of the font of the capital (color, bold and font size).

Course Title: Operating System Concepts	Course code: CAC12
Total Contact Hours: 42	Course Credits: 03
Formative Assessment Marks: 40	Duration of SEE/Exam: 03 Hours
Summative Assessment Marks: 60	

Course Outcomes (COs):

At the end of the course, students will be able to:

- Explain the fundamentals of the operating system.
- Comprehend multithreaded programming, process management, process synchronization, memory management and storage management.
- Compare the performance of Scheduling Algorithms
- Identify the features of I/O and File handling methods.

Operating System Concepts

Unit	Description	Hours
1	Introduction to Operating System: Definition of Operating System, Early systems – Batch Systems, Multiprogramming, Time Sharing, and Distributed systems. Special Purpose Systems – Real Time Systems and Handheld Systems. Opensource Operating Systems. Process Management: Process Concept- Process Definition, Process State, Process Control Block, Process scheduling- Scheduling Queues, Schedulers, Context switch. Operations on Processes- Creation and Termination of Processes. Inter process communication (IPC) - Definition, Independent and Co-operating processes.	10
2	CPU Scheduling: CPU I/O burst cycle, CPU Scheduler, Preemptive scheduling, Dispatcher. Scheduling criteria, Scheduling Algorithms- First-Come-First-Served (FCFS), Shortest Job First (SJF), Priority Scheduling, Round Robin scheduling algorithms, Multi-level queue scheduling (Concepts only) and Multi- level feedback queue scheduling (Concepts only). Multiple processor scheduling, Real time scheduling.	10
3	Deadlocks: Definition with example, System Model, Deadlocks Characterization- – Necessary Conditions, Resource Allocation Graph, Methods for Handling Deadlocks -Deadlock Prevention, Deadlock Avoidance, Deadlock Detection and Recovery from Deadlock.	08
4	Memory Management: Logical and Physical Address Space, Swapping, Contiguous Allocation, Paging, Segmentation, Segmentation with Paging. Virtual Memory: Definition, Demand Paging, Page Replacement Algorithms, Allocation of frames, Thrashing.	08

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5	File System: File Concepts- Attributes, Operations and Types of Files. File Access methods, Directory Structure, Protection and consistency semantics. File System Implementation- File System Structure, File Allocation Methods, Free Space Management.	06
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References:

1. Operating System Concepts, Silberschatz' et al., 10th Edition, Wiley, 2018.
2. Operating System Concepts - Engineering Handbook, Ghosh PK, 2019.
3. Understanding Operating Systems, McHoes A et al., 7th Edition, Cengage Learning, 2014.
4. Operating Systems - Internals and Design Principles, William Stallings, 9th Edition, Pearson.
5. Operating Systems – A Concept Based Approach, Dhamdhare, 3rd Edition, McGrawHill Education India.
6. Modern Operating Systems, Andrew S Tanenbaum, 4th Edition, Pearson.


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Syllabus for Open Electives in Computer Science:

Course Code: CSOE01	Course Title: Computer Fundamentals
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03 Hours

Course Outcomes (COs):

- Introduction to computers, classification of computers, anatomy of computer, constituents and architecture, microcontrollers
- Operating systems, functions of operating systems, classification of operating systems, kernel, shell, basics of Unix, shell programming, booting
- Databases, why databases are used, users, SQL, data types in SQL, introduction of queries - select, alter, update, delete, truncate, using where, and or in not in
- Internet basics, features, applications, services, internet service providers, domain name system, browsing, email, searching
- Web Programming basics, introduction of HTML and CSS programming
- Introduction of computers, classification of computers, anatomy of computer, constituents and architecture, microcontrollers.

Content	Hours
Unit - 1	
Fundamentals of Computers: Introduction to Computers - Computer Definition, Evolution and History of Computers, Basic Organisation of a Digital Computer; Number Systems – different types, conversion from one number system to another; Computer Codes – BCD, Gray Code, ASCII and Unicode; Boolean Algebra – Boolean Operators with Truth Tables; Types of Software – System Software and Utility Software; Computer Languages - Machine Level, Assembly Level & High Level Languages, Translator Programs – Assembler, Interpreter and Compiler; Planning a Computer Program - Algorithm, Flowchart and Pseudo code with Examples(at least 5 hours of teaching) .	10
Unit-2	
Introduction to Computer: Characteristics of computers, Classification of Digital Computer Systems: Microcomputers, Minicomputers, Mainframes, Super computers. Anatomy of Computer: Introduction, Functions & Components of a Computer, Central Processing Unit, Storage units, Input and output Devices. How CPU and	10

memory works. Program execution with illustrative examples. Introduction to microcontrollers.	
Unit-3	
Operating System Fundamentals: Operating Systems: Introduction, Functions of an operating System, Classification of Operating Systems, System programs, Application programs, Utilities, The Unix Operating System, Basic Unix commands, Microkernel Based Operating System, Booting.	08
Unit-4	
Introduction to Database Management Systems: Database, DBMS, Why Database -File system vs DBMS, Database applications, Database users, Introduction to SQL, Data types, Classification of SQL-DDL with constraints, DML, DCL, TCL	08
Unit-5	
Internet Basics: Introduction, Features of Internet, Internet application, Services of Internet, Logical and physical addresses, Internet Service Providers, Domain Name System. Web Basics: Introduction to web, web browsers, http/https, URL, HTML5, CSS	06

Text Books:

3. Pradeep K. Sinha and Priti Sinha: Computer Fundamentals (Sixth Edition), BPB Publication
4. David Riley and Kenny Hunt, Computational thinking for modern solver, Chapman & Hall/CRC,

Reference:

3. J. Glenn Brook shear," Computer Science: An Overview", Addison-Wesley, Twelfth Edition,
4. R.G. Dromey, "How to solve it by Computer", PHI,


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Course Code: CSOE02	Course Title: Problem Solving and C Programming Concepts
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03 Hours

Course Outcomes (COs):

- Introduction to computers, classification of computers, anatomy of computer, constituents and architecture, microcontrollers
- Operating systems, functions of operating systems, classification of operating systems, kernel, shell, basics of Unix, shell programming, booting
- Databases, why databases are used, users, SQL, data types in SQL, introduction of queries - select, alter, update, delete, truncate, using where, and or in not in
- Internet basics, features, applications, services, internet service providers, domain name system, browsing, email, searching
- Web Programming basics, introduction of HTML and CSS programming
- Introduction of computers, classification of computers, anatomy of computer, constituents and architecture, microcontrollers.

Course Content

Content	Hours
Unit - 1	
Problem Solving Techniques: Problem solving techniques – problem definition, analysis, design, debugging, testing, documentation and maintenance. Design Tools -ALGORITHM: definition, characteristics, advantages and disadvantages. FLOWCHART - definition, symbols, advantages and disadvantages. Writing an algorithm and flowchart: Area of circle, arithmetical operations, simple interest and compound interest, quadratic equation, largest of three numbers, sum of N natural numbers, factorial of number, Fibonacci series, prime number, reverse a given number, evaluation of series like $\sin(x)$, $\cos(x)$, e^x , $\log(x)$ etc.	10
Unit-2	
Introduction to C Programming: Overview of C; History and Features of C; Structure of a C Program with Examples; Creating and Executing a C Program; Compilation process in C. C Programming Basic Concepts: C Character Set; C tokens - keywords, identifiers, constants, and variables; Data types; Declaration & initialization of variables; Symbolic constants, Formatted I/O functions - <i>printf</i> and <i>scanf</i> .	10
Unit-3	

C Operators & Expressions: Arithmetic operators; Relational operators; Logical operators; Assignment operators; Increment & Decrement operators; Bitwise operators; Conditional operator; Special operators; Operator Precedence and Associativity; Evaluation of arithmetic expressions; Type conversion.	08
Unit-4	
Decision making, branching and looping: Decision making - if and if-else statement, nested if, else if ladder, switch statements, conditional operator, goto statement. Looping - while, do-while and for, nested for. break and continue statements. Programs on these concepts.	08
Unit-5	
Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays -Declaration, Initialization and Memory representation.	06

References :


1. Computer Concepts and Programming, Padma Reddy
2. Let us C , Yashwanth Kanetkar
3. Ansi C, Balagurusamy
4. Problem solving with C, M. T. Somashekara and D. S. Guru


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Course Code: CSOE03	Course Title: Office Automation
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03 Hours

Content	Hours
Unit - 1	
Windows Desktop - GUI: Definition, Standards, Cursors/Pointers, Icons, GUI Menus, GUI-Share Data – Desktop icons and their functions: My computer, My documents, Network neighbourhood, Recycle Bin, Quick launch tool bar, System tray, Start menu, Task bar – Dialog Boxes: List Box, Spin Control Box, Slide, Drop-down list, Radio button, Check box, Text box, Task Bar - System Tray - Quick launch tool bar - Start button - Parts of Windows -Title bar-Menu bar - Scroll bar- Status bar, Maximize, Minimize, close and Resize & Moving a Window – Windows - Start Menu –Help Menu- Preview Menu; Logoff & Shutdown – Keyboard Accelerators: Key board short keys or hotkeys	06
Unit-2	
MS Word - Working with Documents -Opening & Saving files, Editing text documents, Inserting, Deleting, Cut, Copy, Paste, Undo, Redo, Find, Search, Replace, Formatting page & setting Margins, Converting files to different formats, Importing & Exporting documents, Sending files to others, Using Tool bars, Ruler, Using Icons, using help, Formatting Documents - Setting Font styles, Font selection- style, size, colour etc, Type face - Bold, Italic, Underline, Case settings, Highlighting, Special symbols, Setting Paragraph style, Alignments, Indents, Line Space, Margins, Bullets & Numbering. Setting Page style - Formatting Page, Page tab, Margins, Layout settings, Paper tray, Border & Shading, Columns, Header & footer, Setting Footnotes & end notes – Shortcut Keys; Inserting manual page break, Column break and line break, creating sections & frames, Anchoring & Wrapping, Setting Document styles, Table of Contents, Index, Page Numbering, date & Time, Author etc., Creating Master Documents, Web page. Creating Tables- Table settings, Borders, Alignments, Insertion, deletion, Merging, Splitting, Sorting, and Formula, Drawing - Inserting ClipArt, Pictures/Files etc., Tools – Word Completion, Spell	10

Checks, Mail merge, Templates, Printing Documents – Shortcut keys.	
Unit-3	
MS Excel: Spread Sheet & its Applications, Opening Spreadsheet, Menus - main menu, Formula Editing, Formatting, Toolbars, Using Icons, Using help, Shortcuts, Spreadsheet types. Working with Spreadsheets- opening, saving files, setting Margins, converting files to different formats (importing, exporting, sending files to others), Spread sheet addressing - Rows, Columns & Cells, Referring Cells & Selecting Cells – Shortcut Keys. Entering & Deleting Data- Entering data, Cut, Copy, Paste, Undo, Redo, Filling Continuous rows, columns, highlighting values, Find, Search & replace, Inserting Data, Insert Cells, Column, rows & sheets, Symbols, Data from external files, Frames, Clipart, Pictures, Files etc., Inserting Functions, Manual breaks, Setting Formula - finding total in a column or row, Mathematical operations (Addition, Subtraction, Multiplication, Division, Exponentiation), Using other Formulae. Formatting Spreadsheets, Formatting layout for Graphics, Clipart etc., Worksheet Row & Column Headers, Sheet Name, Row height & Column width, Visibility - Row, Column, Sheet, Security, Sheet Formatting & style, Sheet background, Colour etc., Borders & Shading – Shortcut keys. Working with sheets – Sorting, Filtering, Validation, Consolidation, and Subtotal. Creating Charts - Drawing. Printing. Using Tools.	10
Unit-4	
MS Power point: Introduction to presentation – Opening new presentation, Different presentation templates, setting backgrounds, Selecting presentation layouts. Creating a presentation - Setting Presentation style, Adding text to the Presentation. Formatting a Presentation - Adding style, Colour, gradient fills, arranging objects, Adding Header & Footer, Slide Background, Slide layout. Adding Graphics to the Presentation- Inserting pictures, movies, tables etc into presentation, Drawing Pictures using Draw. Adding Effects to the Presentation- Setting Animation & transition effect. Printing Handouts, Generating Standalone Presentation viewer.	10


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Unit-5	
Internet and Web Browsers: Definition of Web Addressing-URL-Different types of Internet Connections; Dial up connection, Broad band (ISDN, DSL, Cable), Wireless (Wi-Fi, Wi-Max, Satellite, Mobile) naming convention, browsers and its types, internet browsing, searching - Search Engines - Portals - Social Networking sites-Blogs - viewing a webpage, downloading and uploading the website; Creating an email-ID, e-mail reading, saving, printing, forwarding and deleting the mails, checking the mails, viewing and running file attachments, addressing with cc and bcc.	06

References:

1. Fundamentals of computers - V.Rajaraman - Prentice- Hall of india
2. Microsoft Office 2007 Bible - John Walkenbach,Herb Tyson,Faithe Wempen,cary N.Prague,Michael R.groh,Peter G.Aitken, and Lisa a.Bucki -Wiley India pvt.ltd.
3. Computer Fundamentals - P. K. Sinha Publisher: BPB Publications.
4. Computer & Internet Basics Step-by-Step - Etc-end the Clutter - Infinity Publishing.
5. <https://en.wikipedia.org>
6. <http://windows.microsoft.com/en-in/windows/windows-basics-all-topics>


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ELECTRONIC - COMMERCE

Course Code: CSOE04	Course Title: ELECTRONIC COMMERCE
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03 Hours

Course Outcomes (COs):

- Compare how internet and other information technologies support business processes.
- Demonstrate an overall perspective of the importance of application of internet technologies in business administration
- Explain the basic business management concepts.
- Demonstrate the basic technical concepts relating to E-Commerce.
- Identify the security issues, threats and challenges of E-Commerce.

Content Hours

Unit - 1	
Introduction to E-Commerce and Technology Infrastructure Working of Web - HTML Markup for Structure - Creating simple page - Marking up text - Adding Links - Adding Images - Table Markup - Forms - HTML	9
Unit-2	
Building an E-Commerce Website, Mobile Site and Apps: Systematic approach to build an E-Commerce: Planning, System Analysis, System Design, Building the system, Testing the system, Implementation and Maintenance, Optimize Web Performance – Choosing hardware and software – Other E-Commerce Site tools – Developing a Mobile Website and Mobile App	10
Unit-3	
E-Commerce Security and Payment Systems: E-Commerce Security Environment – Security threats in E-Commerce – Technology Solutions: Encryption, Securing Channels of Communication, Protecting Networks, Protecting Servers and Clients – Management Policies, Business Procedure and Public Laws - Payment Systems	09


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Unit-4	
Business Concepts in E-Commerce: Digital Commerce Marketing and Advertising strategies and tools – Internet Marketing Technologies – Social Marketing – Mobile Marketing – Location based Marketing – Ethical, Social, Political Issues in E-Commerce	09
Unit-5	
Project Case Study: Case Study: Identify Key components, strategy, B2B, B2C Models of E-commerce Business model of any e-commerce website - Mini Project : Develop E-Commerce project in any one of Platforms like Woo-Commerce, Magento or Opencart	05

Text Book:

1. Kenneth C. Laudon, Carol Guercio Traver - E-Commerce, Pearson, 10th Edition, 2016

References:

1. <http://docs.opencart.com/>
2. <http://devdocs.magento.com/>
3. <http://doc.prestashop.com/display/PS15/Developer+tutorials>
4. Robbert Ravensbergen, –Building E-Commerce Solutions with Woo Commerce||, PACKT, 2nd Edition

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WEB DESIGNING

Course Code: CSOE05	Course Title: WEB DESIGNING
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03 Hours

Course Outcomes (COs):

- Students can understand the basics of internet technology.
- Demonstrate the various tags useful to create a web page.
- Write HTML and understand how to effectively implement it in the web environment.
- Write CSS effectively to create well organized, styled web pages.

Content	Hours
Unit – 1	
Internet Basics: Basic concepts, communicating on the Internet, Internet Domains, Internet server identities – Registering a virtual domain with inter NIC, Domain Name Extension, establishing connectivity on the internet, Client IP Address – How Client IP Address are assigned, How ISPs achieve the task of assigning IP Address, How IP Address came into existence, A brief overview of TCP/IP and its services – Internet Protocol, Transmission control protocol – world wide web, FTP, Telnet.	08
Unit-2	
Introduction to HTML - Information files creation, Web server, Web browser – understanding how a browser communicates with a web server, establish connection, Client issues a request and sends a response, server terminates the connection.	10
Unit-3	
HTML: HTML tags, Paired tags, Singular tags, Structure of HTML program – Head, Body, Title and footers, Text Formatting tags – Paragraph breaks, line breaks,	08

<p>Head styles, Drawing Lines, Text Styles – Bold, Italic, Underline, Centering (Text, Images., etc.).</p> <p>Lists: Types of Lists: Unordered list (Bullets), Ordered list (Numbering), Definition list</p> <p>Adding Graphics to HTML document: Using the border attribute, width and height attribute, align attribute, alt attribute. Tables: Introduction, the caption tag, Using the width and border attribute, cellpadding attribute, cellspacing attribute, the background-color property, the colspan and Rowspan attribute.</p>	
Unit-4	
<p>Linking Documents: External document references, Internal document references, hyper linking to a HTML FILE, Images as Hyperlinks.</p> <p>Frames: Introduction to frames- frameset tag, frame tag</p>	08
Unit-5	
<p>Dynamic HTML(DHTML): CSS (Cascading Style Sheets) – Font attributes, color and background attributes, Text attribute, Border attribute, Margin attributes, List attribute, Using the span and div tags, External Style Sheets.</p>	08

Text Book:

- 1.HTML, JavaScript, DHTML and PHP – Ivan Bayross 4th edition

References:

1. <https://www.w3schools.com/TAGs/default.asp>
2. <https://w3schools.sinsixx.com/dhtml/>
3. Web Design with HTML & CSS: HTML & CSS Complete Beginner's Guide – Prem Kumar


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**Skill Enhancement Course:
BCA THIRD SEMESTER
Open-Source Tools**

Course Code: SEC-1	Course Title: Open-Source tools
Course Credits: 02	Hours/Week: Theory -15 hour + 30 hours practical demonstration in classroom
Total Contact Hours: 45	Formative Assessment Marks: 25
Summative Assessments Marks: 25	Exam Duration: 01 hr.

course Outcomes (COs):

- Recognize the benefits and features of Opensource Technology and to interpret, contrast and compare opensource products among themselves
- Use appropriate opensource tools based on the nature of the problem
- Write code and compile different open-source software.

Course Content (Open-Source Tools)

Module	Details of topic	Duration
Module 1: Open Source Softwares	i. Introduction to Open sources, Need of Open Sources, Open Source –Principles, Standard Requirements, Advantages of Open Sources – ii. Free Software – FOSS iii. Licenses – GPL, LGPL, Copyrights, Patents, Contracts & Licenses and Related Issues iv. Application of Open Sources. Open-Source Operating Systems: FEDORA, UBUNTU	05 hours
Module 2: Programming Tools and Techniques	i. Usage of design Tools like Argo UML or equivalent ii. Version Control Systems like Git or equivalent iii. Bug Tracking Systems (Trac, BugZilla) iv. Bootstrap	05 hours

<p>Module 3: Case Studies</p>	<p>i. Apache ii. Berkeley Software Distribution iii. Mozilla (Firefox) iv. Wikipedia v. Joomla vi. GNU Compiler Collection vii. Libre Office</p>	<p>05 hours</p>
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Text Book:

1. KailashVadera, Bhavyesh Gandhi, "Open-Source Technology", Laxmi Publications Pvt.Ltd 2012, 1st Edition.

Reference Book:

1. Fadi P. Deek and James A. M. McHugh, "Open Source: Technology and Policy", Cambridge Universities Press 2007.

Pattern of continuous Evaluation and Semester End Examination

Total Marks for each course = 100

Continuous assessment (C1) = 20 marks

Continuous assessment (C2) = 20 marks

Semester End Examination (C3) = 60 marks

Formative evaluation process (Internal Assessment).

- a. The first component (C1) of assessment is for 20 marks. This shall be based on tests, assignments, seminars, case studies, fieldwork, project work etc. This assessment and score process should be completed after completing 50% of the syllabus of the course/s and within 45 working days of the semester program.
- b. The second component (C2) of assessment is for 20 marks. This shall be based on the test, assignment, seminar, case study, fieldwork, internship / industrial practicum/project work etc. This assessment and score process should be based on the completion of the remaining 50 per cent of the syllabus of the courses of the semester.

Summative evaluation process (Semester End theory Examination).

During the 17th – 19th week of the semester, a semester-end examination shall be conducted by the University for each course. This forms the third and final component of assessment (C3) and the maximum marks for the final component will be 60 marks.

Practical Examination: For the practical course of full credits, marks shall be for **50 marks** awarded as follows

Internal Assessment for 25 Marks: 15 Marks for maintaining Practical record and 10 marks for practical test. Test shall be conducted after the completion of Practical Classes.

End Semester Practical Examination: End Semester Practical examination shall be conducted for 25 marks.


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**B.Sc BOTANY
THIRD SEMESTER
Paper III. (SSC 790) Q.P Code 15330.**

HISTOLOGY, ANATOMY, EMBRYOLOGY AND PALYNOLOGY

Theory	
Total theory marks	-50
I A marks for theory	- 10
Total number of teaching hours / sem	- 60hr
Total number of teaching hours / week	- 04hr
Duration of theory exam	-03hr
Practical- Based on theory paper III	
Max. marks	-40
Total number practical / week	-01
Duration	-03hr
Duration of practical exam	-03hr

Histology: Meristems – Structure and function, Classification based on Origen, function and position. Histogen and Tunica corpus theory. Structure and function of parenchyma, Collenchyma, Sclerenchyma, Xylem and Phloem. **-07hr**

Tissue system:

Dermal–Structure and function of epidermis, Stomata, hairs and glandular hairs **-02hr**

Ground tissue system - Structure and function of Cortex, Endodermis, Pericycle and Pith **-03hr**

Vascular tissue system – Types of vascular bundles- Radial, Conjoint, Collateral, Bicollateral, and concentric. **-02hr**

Anatomy: - Internal structure of

Dicot - Tridax and Cucurbita stem, Cicer root and Tridax leaf.

Monocot –Grass stem, Canna root and Grass leaf.

Normal secondary growth- in Tridax stem. Formation of cambial ring, Storied and non-storied cambium, activity of cambium, secondary xylem, **secondary** phloem, vascular rays, sap wood, heart wood, growth rings, tyloses and periderm . **-10hr**

Secondary growth in typical dicot root –Cicer.

Anamolous secondary growth in Boerhavia and Dracena stem. **-06hr**

Embryology: Historical account, contribution of Maheshwari and BGL Swamy -02hr

Microsporogenesis – Development of Anther, male gametophyte and Pollen embryo sac. -03hr

Megasporogenesis – Types of ovules, differentiation of archesporial initial, formation of megaspore, types of tetrads, types of embryosac [Monosporic, Bisporic and Tetrasporic]. Development of monosporic embryosac [Polygonum type only]. Double fertilization, Triple fusion and its significance. -06hr

Endosperm: Types- Cellular, Helobial and free nuclear . Detailed study of cellular type of endosperm, endosperm haustorium and vermiform appendage. -04hr

Embryo: Types – Dicot and Monocot, development of dicot embryo Crucifer type. Suspensor haustorium,[definitionwithexample]. -02hr

Apomixis - a brief account -02hr

Polyembryony – Types, causes of poly embryony. Significance - 02hr

Palynology – Definition pollen morphology –Pollen structure, size and shape of pollen grains, spherical, sub-porate, prolate and perprolate, Wall layers and their morphology ,exine, sexine, ecto and endoexine, Nexine- I, II, and II., Pollen kit, Number, position and character of aperture and Exine sculpture. -06hr

Pollination: Types – Self and cross pollination, types of cross pollination, piston and lever mechanism, Contrivances of cross pollination. -03hr

B.Sc. Botany

THIRD SEMESTER

Practical Model question paper

(HISTOLOGY, ANATOMY, EMBRYOLOGY, AND PALYNOLOGY)

Time:03 hours

Max.Marks-40

- | | | |
|------|---|------|
| I. | Identify the specimen – ‘A’ | -03 |
| II. | Mount and sketch of Endosperm/Embryo/Pollinia of - ‘B’ | -05 |
| III. | Calculate of the percentage of viability/Fertility of - ‘C’ | -04 |
| IV. | Preparation of temporary stained slide of – ‘D’ | -06 |
| V. | Identify the slides E, F,G & H | - 12 |
| | Record- | -05 |
| | Viva- | -05 |

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SCHEME OF EVALUATION FOR BOTANY PRACTICAL-III

(HISTOLOGY, ANATOMY, EMBRYOLOGY, AND PALYNOLOGY)

- I. Mount, identify, sketch, and label the specimen 'A' -03
From palynology
Identification =01
Sketch and label=01
Mounting=01
- II. Mount and sketch the Endosperm/Embryo/Pollinia of 'B' -05
Mount=03
Identification =01
Sketch and label=01
- III. Calculate the percentage of viability/Fertility of 'C' -04
Preparation=02
Calculation=02
- IV. Preparation of temporary stained slide 'D' sketch, label, & identify with reason (Anatomy) -06
Preparation=03
Sketch & Label=01
Identification=01
Reason=01
- V. Identify the slides E, F, G, & H with reasons -12
Identification=01
Sketch & label=01
Reason=01

(One from Histology, one from Anatomy, one from Embryology ,and one from Palynology)


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**B.Sc BOTANY
FOURTH SEMESTER
Paper IV. (SSD 790) Q.P Code 15430.**

ECOLOGY, ENVIRONMENTAL BIOLOGY AND PHYTOGEOGRAPHY

Theory	
Total theory marks	-50
I A marks for theory	- 10
Total number of teaching hours / sem	- 60hr
Total number of teaching hours / week	- 04hr
Duration of theory exam	-03hr
Practical- Based on theory paper IV	
Max. marks	-40
Total number practical / week	-01
Duration	-03hr
Duration of practical exam	-03hr

Theory:

Ecology: Definition and Scope, Factors affecting plant growth and their distribution, Climatic factors (light, temperature, rainfall, wind & atmospheric humidity), Edaphic factors (Soil formation, soil profile, soil air and soil biota), Biotic factors & Topographic factors.

Response of Plants to stress conditions- Hydrophytes, Mesophytes, Xerophytes, Epiphytes, Halophytes, Psamophytes and Parasites.
- **-15hrs**

Ecosystem: Biosphere, concept and structure of ecosystem. Types of ecosystem (pond, forest and grassland), Ecological pyramids, Ecological niche, Food chain, Food web, Ecotone, tropic level, energy flow, Law of thermodynamics and Biogeochemical cycles (Nitrogen, Hydrologic, Carbon, Sulphur and Phosphorous cycles). **-14hrs**

Ecological Successions: Process of plant succession, Hydrosere and Xerosere, concept of climax vegetation. **- 02 hrs**

Community Ecology: Methods of studying natural vegetation Qualitative and Quantitative techniques (Quadrats, Bisects and Transects). **-02hrs**

Environmental Biology

Natural Resources: Introduction, renewable and non-renewable resources, a study on fuel and soil resources, general account on NTFPs. **-05hrs**

Environmental Pollution: Source of air, water, land and noise pollution, Causes & effects of air, water, land and noise pollution (Global warming, Acid rain, Smog & fog, Eutrophication, Ozone depletion, Green house effect, Acidification, Solid wastes, Nuclear hazards) and Control/management of pollution. **-06hrs**

Forestry: Deforestations, Reforestations, Afforestations and Social forestry, importance of forestry **-02hrs**

Conservation Ecology: Soil erosions and its types, control of soil erosions, conservation and management of soil erosions. Wet lands, Sacred Grooves, National parks, Wildlife Sanctuaries and Biosphere reserves, Biodiversity Hot spots of India. **-06hrs**

Phytogeography: Phytogeographical regions of India, Types of forest in India and Karnataka, endemism. **04hrs**

Population ecology: Effect of habitat characteristics of populations, population density, mortality, natality, and populations interactions. **02 hrs**

B. Sc. Botany

FOURTH SEMESTER

PRACTICAL MODEL QUESTION PAPER PRACTICAL-IV

Practical-IV: ECOLOGY, ENVIRONMENTAL BIOLOGY AND PHYTOGEOGRAPHY

Practical Model Question paper

Time: 03 hours

Max. Marks 40

1. Mount the anatomical section of the material 'A' 06 Marks
2. Comment on the specimens 'B' and 'C' 06 Marks
3. Comment on ecological Instrument 'D' 04 Marks
4. Identify the slides 'E' & 'F' with proper ecological reasons 04 Marks
5. Determination of Soil P^H **OR** Water holding capacity of soil **OR** Estimation of Chloride in given water samples. 06 Marks
6. Mapping of vegetation of Karnataka, Marking and labelling and comment
- 04 Marks
7. Viva 05 Marks
8. Class Records 05 Marks


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SCHEME OF EVALUATION FOR BOTANY PRACTICAL-IV

Practical-IV: ECOLOGY, ENVIRONMENTAL BIOLOGY AND PHYTOGEOGRAPHY

1. Identification of 'A' Hydrophytes/ Xerophytes/Epiphytes 06 Marks
Preparation: 03 Marks
Identification & reason: 02 Marks
Sketch & Label: 01 Marks
2. Comment on the specimens B and C 06 Marks
Identification: 01 Marks
Comments: 02 Marks
(Hydrophytes/Xerophytes/ Epiphytes/Halophytes/ parasite/Psamophytes)
3. Comment on ecological Instrument 'D' 04 Marks
Identification: 01 Marks
Comments: 02 Marks
Uses: 01
4. Identify the slides E & F with proper ecological reasons 04 Marks
Identification: 01 Marks
Comments: 01 Marks
5. Determination of Soil P^H **OR** Water holding capacity of soil **OR** Estimation of Chloride of given water samples. 06 Marks
Procedure : 02
Readings: 02
Results : 02
6. Mapping of vegetation of Karnataka ,Marking ,labeling and comment- 04 Marks (1+1+2)
7. Viva 05 Marks
8. Class Records 05 Marks


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B.Sc BOTANY
FIFTH SEMESTER
Paper V. (SSE 790) Q.P Code 15549.

MORPHOLOGY, TAXONOMY, ECONOMIC BOTANY AND ETHNO BOTANY

Theory	
Total theory marks	-50
I A marks for theory	- 10
Total number of teaching hours / sem	- 45hr
Total number of teaching hours / week	- 03hr
Duration of theory exam	-03hr
Practical- Based on theory paper V	
Max. marks	-40
Total number practical / week	-01
Duration	-03hr
Duration of practical exam	-03hr

MORPHOLOGY: Vegetative Morphology

Root: General introduction including classification. Modification for storage (fusiform, conical, napiform and fasciculate), support (epiphytic and aerial) and respiration (respiratory/pneumatophores) floating and sucking (haustoria).

Stem: General introduction including branching type. Modification:-Rhizome, stem tuber, bulb, corm, stolon, sucker, off-set, phylloclade, cladode, thorn and tendril.

Leaf: General introduction, Types (simple and compound), Phyllotaxy (alternate, opposite and whorled) stipules.

Modification: phyllode, spines, tendril, hooks, Insectivorous plant-pitcher plant, sundew plant .

Floral Morphology:

Inflorescence- general account of racemose and cymose including special cymes.

Flower: Complete account of floral morphology - Gamosepalous, polysepalous, gamopetalous, polypetalous condition, aestivation, attachment and dehiscence and cohesion of anthers, apocarpous and syncarpous, placentation, style and stigma, floral formula and floral diagram.

Fruit: General account including classification and types of fruits. **-15hr**

TAXONOMY OF ANGIOSPERMS:

Principles of classification, Binomial nomenclature, species concept, system of classification by Bentham and Hooker, Herbarium techniques and importance of herbaria of India.

Study of following families with plants of economic importance (Bentham and Hooker's system to be followed).

Dicots: Annonaceae, Brassicaceae, Capraidaceae, Malvaceae, Rutaceae, Anacardiaceae, Fabaceae (Caesalpinioideae, Mimosoideae and Papilionoidae), Myrtaceae, Cucurbitaceae, Apiaceae, Rubiaceae, Asteraceae, Apocynaceae, Asclepiadaceae, Convolvulaceae, Solonaceae, Acanthaceae, Lamiaceae, Verbinaceae, Amaranthaceae and Euphorbiaceae.

Monocots: Orchidaceae, Liliaceae, Arecaceae, Poaceae, and Cannaceae. **- 22hr**

ECONOMOIC BOTANY:

Food: Cereals, Millets and Pulses: Jowar, Ragi, Wheat, Rice, Black gram and Bengal gram.

Oils and Fats: Groundnut, Coconut, Sunflower.

Beverages: Tea, Coffee and Cocoa.

Textile Fibres: Cotton and Coir.

Spices: Cardomom, Clove, and Cinnamon.

Timner: Teak, Rosewood, and Neem.

Narcotic: Tobacco and Opium.

Medicinal plants: *Rauwolfia serpentina*, *Vincarosea*, *Tylophoraasthimatica*, *Cinchona officinalis*, *Withaniasomnifera*, *Tinosporacordilofia*. *Ocimum*, Garlic, *Aloe vera*, Turmeric and Ginger. **-10hr**

ETHONOBOTANY:

A general account of Ethnobotany and its significance.

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Contributions of Indian ethnobotanists: S K Jain, R. R. Rao, K.S Manilal, and R. K Arora. -
- 03hr

B. Sc. Botany

FIFTH SEMESTER

MODEL PRACTICAL QUESTION PAPER PRACTICAL-V

(MORPHOLOGY, TAXONOMY, ECONOMIC BOTANY AND ETHNOBOTANY)

Time- 3 hrs

Marks - 40

- | | | |
|------|--|------|
| I. | Identify the families , A,B,C,D with reasons | - 12 |
| II. | Describe 'E' technical terms and draw floral diagram with floral formula F | - 06 |
| III. | Write the morphological and Biological importance of G,H & I | -06 |
| IV. | Write the economic importance of J & K | - 04 |
| V. | Identify and comment on Ethnobotanist L | - 02 |
| VI. | Viva | - 05 |
| VII. | Record | - 05 |

**PAPER V- PRACTICAL SYLLABUS
MORPHOLOGY, TAXONOMY , ECONOMIC BOTANY & ETHNOBOTANY**

MORPHOLOGY

1. Root modification -
Tap root - Fusiform , Napiform and Conical root.
2. Stem Modification -
Underground - Rhizome , Tubers , Bulb, and Corm.
3. Leaf modification -
Tendrils [Gloriosa /Pea] and Stipules [Smilax] and available insectivorous plant specimens.
4. Inflorescence - Types of Racemose (Simple raceme, Spike, Spadix ,Corymb, Head , Globose head and Umbel) , Cymose inflorescence (Simple, Dichacial , Polychacial) and Special type (Cyathium, and Verticelaster)
5. Fruits - Legume, Siliqua, Berry, drupe, Pepo, Hesperidium, Pome, Eterio of berries / Follicle.


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TAXONOMY

1. Any six families from Polypetalae, six from gamopetalae and two families from each Monocots and monochlamydae. Inflorescence/ Root/stem/leaf/parts used.
2. **Demonstration of herbarium techniques.**
3. Botanical tour is compulsory
4. **Herbarium submission is deleted from the practical syllabus**
5. **ECONOMIC BOTANY**-As prescribed by the Economic Botany syllabus
6. **ETHNOBOTANY**- as per theory syllabus

SCHEME OF EVALUATION FOR BOTANY PRACTICAL-V

MORPHOLOGY, TAXONOMY, ECONOMIC BOTANY & ETHNOBOTANY

- | | | |
|------|--|-----|
| I. | Identify the families A,B,C,D with reasons
Three from polypetale and gamopetale, one from monochlamydeae/monocot
Identification =01
Salient features=02 | -12 |
| II. | Describe 'E' technical terms and draw floral diagram with floral formula F
E-Technical description = 03 marks
F- Floral diagram and floral formula= 2+1 marks | -06 |
| III. | Write the morphological and Biological importance of G,H & I

G= Root/Stem/Leaf modification
H=Inflorescence
I=Fruit
(Identification-01 marks , comments-01marks) | -06 |
| IV. | Write the economic importance of J & K
J = 02 marks, K= 02 marks
Monocot and Dicot: botanical name, family, parts used and uses | -04 |
| V. | Identify and comment on Ethnobotanist L
Identification=01 comment=01 | -02 |
| VI. | Viva | 05 |
| VII. | Record | 05 |

B.Sc BOTANY

FIFTH SEMESTER

Paper VI. (SSE 791) Q.P Code 15550.

CELL BIOLOGY AND CYTOGENETICS

Theory	
Total theory marks	-50
I A marks for theory	- 10
Total number of teaching hours / sem	- 45hr
Total number of teaching hours / week	- 03hr
Duration of theory exam	-03hr
Practical- Based on theory paper VI	
Max. marks	-40
Total number practical / week	-01
Duration	-03hr
Duration of practical exam	-03hr

The Cell: Ultra structure of a plant cell, organization, function and its components- cell wall, membranes (fluid mosaic model) Endoplasmic reticulum, Golgi apparatus, Lysosomes, Peroxisomes, Ribosomes, Mitochondria, Plastids, Cytoplasm, Vacuole, Cell sap, Non-living, inclusions, Nucleus, Nucleoplasm, Nuclear membrane, Pores and Nucleolus.

Chromosomes: Size, number, structure, chromatids, centromere, telomere, satellite, secondary constriction. Nuclear organizer. Types of chromosomes (based on position of centromere), Karyotype, heterochromatin (facultative and constitutive heterochromatin). Euchromatin, Chromosomal Model including nucleosome model; Mitosis and Meiosis in plants Chromosomal aberrations (deletion, duplication, inversion, translocations).

Variation in chromosome number: Polyploidy (Anueploidy, euploidy, autopolyploidy, allopolyploidy- with reference to Raphanobrassica), Character of Polyploidy and its significance of Polyploidy. **-15h**

Nucleic acids: Chemical composition of DNA and RNA.

RNA: Occurrence, types, structure, functions.

DNA: Occurrence, types, structure (double helix model), mechanism of DNA replication (semi conservative method)

Gene Mutation: Mutation and Mutagens (spontaneous, induced: point mutation).

Concept of Gene: Gene expression and regulation- exons, introns, inducible and repressible genes: the operon concept; lac operon(inducible)and repression operon(tryptophan).

Genetic Code: Code dictionary, properties of genetic code.

Protein synthesis: Central dogma: mechanism of protein synthesis transcription and translation: co-linearity. **- 15h**

Mendelian Genetics : Biography of Mendel in brief: Mendel's experiments: Monohybrid cross-law of dominance, law of segregation, purity of gametes. Homozygous, heterozygous, phenotype, genotype, monohybrid test cross, Dihybrid cross – law of independent assortment, dihybrid test cross. Mention of trihybrid crosses, incomplete dominance (*Mirabilis jalapa*, Snapdragon).

Modification of Mendelian Ratios: (With reference to plant examples) Interaction of genes – Epistasis(dominant and recessive); supplementary factors, complementary factors: multiple alleles(self-sterility in *Nicotiana*), Linkage and crossing over(*Maize*).

Sex determination in plants: Chromosomal mechanisms of sex determination methods- XX-XY, ZZ-ZW and XX-XO (only plant examples)- *Melandrium*, *Rumex acetosa* (tripartite), *Humulus lupulus* (tetrapartite). **- 15h**

B.Sc., Botany

FIFTH SEMESTER

PAPER- VI: CELL BIOLOGY AND CYTOGENETICS-PRACTICAL SYLLABUS

1. Preparation of Mitotic slides. Ex: Onion root tips.
2. Preparation of Meiotic slides. Ex :Onion flower buds, Rheo
3. Study of different stages of mitosis and meiosis from permanent slides.
4. Solve the genetic problems from the given list
5. Technique of making permanent slides in mitosis and meiosis

B.Sc., Botany

FIFTH SEMESTER

PAPER- VI: CELL BIOLOGY AND CYTOGENETICS

Model Practical question paper -VI

Duration: 3 hrs

Marks - 40

1. Prepare squash of material 'A' Identify, sketch, label the stages with reasons. -08
 2. Prepare smear of material 'B' Identify, sketch , label the stages with reasons. -06
 3. Identify the slides 'C' and 'D'(one from mitosis and one from meiosis) -06
 4. Solve the genetic problem 'E' and 'F' -10
- Viva -05
Record -05

PAPER- VI: CELL BIOLOGY AND CYTOGENETICS

SCHEME OF EVALUATION FOR PAPER-VI

Duration: 3 hrs

Marks - 40

1. Prepare squash of material 'A' Identify, sketch, label the stages with reasons. -08
Preparation=05 marks
Identification with reasons=01 marks
Sketch & label=02 marks
2. Prepare smear of material 'B' Identify, sketch, label the stages with reasons. -06
Onion/Rheo flower bud
Preparation=03 marks
Identification =01 marks
Sketch & label=02 marks
3. Identify the slides 'C' and 'D'(one from mitosis and one from meiosis) -06
Identification =01 marks, reason=01 marks
Sketch & label=01 marks
4. Solve the genetic problem 'E' and 'F' -10
Monohybrid/dihybrid/interaction factors/incomplete dominance/crossing over
Viva -05
Record -05

B.Sc., Botany

SIXTH SEMESTER

Paper- VII(SSF 790). Q.P. Code 15649.

PLANT PHYSIOLOGY

Theory	
Total theory marks	-50
I A marks for theory	- 10
Total number of teaching hours / sem	- 45hr
Total number of teaching hours / week	- 03hr
Duration of theory exam	-03hr
Practical- Based on theory paper VII	
Max. marks	-40
Total number practical / week	-01
Duration	-03hr
Duration of practical exam	-03hr

Plant Water Relation: Significance of water for plants. Solutions (Molar and Mole), colloidal systems (hydrophilic and hydrophobic). Osmosis (O.P, T.P, D.P.D, and water potential. Plasmolysis, exosmosis, deplasmolysis and endosmosis)

Absorption of water: Mechanism active osmotic and active non osmotic absorption and passive absorption. Ascent of sap-path (only Balsam experiment) mechanism, Root pressure and T.C.T theory.

Absorption of Mineral Salts: Mechanism of absorption passive absorption (diffusion, mass flow, -exchange, Donnan equilibrium), active absorption (Lundergardh and Burstrom) Cytochrome pump theory, Lecithin cycle , carrier concept) **.- 10hr**

Mineral Nutrition: Essential and Non-essential elements, Micro and Marco nutrients. Role and deficiency symptoms of N.P.K and Mg, Fe, Cu.


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Transpiration: Types of transpiration, mechanism of stomatal transpiration – structure of stomata, mechanism of stomatal movement. Significance of transpiration, Guttation and wilting point.

Translocation of Solutes: Types (upward, radial and downward), path (phloem ringing experiment, protoplasmic streaming theory, and mass flow theory.

Enzymes: Nomenclature, structure, classification and properties. **- 10hr**

Photosynthesis: Structure and function of chloroplast, photosynthesis pigment, Photosystem I and Photosystem II. The Z scheme the light, and dark reaction, C3 and C4 pathway. The law of limiting factor, factors affecting photosynthesis. Photosynthesis in bacteria. CAM photosynthesis.

Respiration: Introduction, types, Biochemical pathways of respiration –glycolysis. TCA cycle, electron transport system and terminal oxidation. An account of photorespiration and its significance. An account of anaerobic respiration and fermentation. Signification as an industrial process. **- 15h**

Carbohydrates: Importance of carbohydrates, definition, classification, common carbohydrates in plant glucose, fructose, sucrose, starch, cellulose, pectose.

Phytohormones: Definition, types of hormones, physiological and practical application of auxins, gibberellins, cytokinins, ethylene, ABA.

Physiology of flowering: Photoperiodism, types, role of phytochrome, vernalisation, seed dormancy.

Plant Movement: Introduction, classification, trophic movement. **- 10h**


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SIXTH SEMESTER

PAPER-VII; PRACTICAL SYLLABUS

List of major experiments.

1. Measurement of DPD in plants (Potato) by gravimetric method.
2. Ganong's photometer – Rate of transpiration under different conditions of light and wind.
3. Relation between absorption and transpiration.
4. Suction force due to transpiration.
5. Evolution of oxygen by bubble counting method under different wave length of light using color transparencies – Normal, Red, blue, yellow or green (During examination different condition need not to be asked).
6. Experiment to demonstrate the presence of starch in leaves.
7. Separation of chlorophyll pigments by paper chromatographic method.
8. Ganong's respirometer- demonstrated that CO₂ is liberated during respiration.

List of Minor experiments

1. Potato osmoscope to demonstrate endosmosis and ex-osmosis
2. Bell jar experiment
3. Light; screen experiment
4. Mohl's half leaf experiment.
5. Dewar's flask expt
6. Kuhne's fermentation vessel
7. Phototropism
8. Hydrotropism
9. Geotropism
10. Arc indicator

B.Sc., Botany

SIXTH SEMESTER

Paper- VIII. (SSF 791). Q.P.Code 15650

PLANT BREEDING, BIOTECHNOLOGY, PLANT TISSUE CULTURE AND EVOLUTION

Theory	
Total theory marks	-50
I A marks for theory	- 10
Total number of teaching hours / sem	- 45hr
Total number of teaching hours / week	- 03hr
Duration of theory exam	-03hr
Practical- Based on theory paper VIII	
Max. marks	-40
Total number practical / week	-01
Duration	-03hr
Duration of practical exam	-03hr

Plant breeding: Principles and objectives : Methods of breeding (Mass selection, single plant or pure line selection, clonal selection, progeny selection, recurrent selection). Significance of plant breeding- increase in yield, resistance to disease and insect pests. Plant breeding in producing new and improved varieties of medicinal plants.

Hybridization: Objectives, steps in hybridization, classification- intraspecific, interspecific and intergeneric crosses with suitable examples.

Propagation: Cutting-root and stem, layering- simple, compound and gooty. Grafting- wedge grafting, approach grafting, Bud grafting.

Evolution: Brief account of theories of evolution – Lamarck, Weismann, Darwin and De-varies, Modern synthetic theories. **- 17hr**

Biotechnology: Introduction: General procedure and scope of genetic engineering (r-DNA technology), PCR technology, production of polyclonal and monoclonal antibodies, general aspects of ELISA technique. Gene mapping.

Application of biotechnology in pharmaceutical, agriculture, Industrial, Environmental field and oil spill (Waste management and sewage treatment) .

DNA finger printing and its application

Transgenic plants- Bt cotton, Tomato, Arabidopsis thaliana **-18hr**

Tissue culture: Aim and scope, Totipotency, callus culture, organogenesis through callus culture, somatic embryogenesis, haploid culture (example anther culture), Protoplast fusion. Application of tissue culture in agriculture and human welfare. **-10 hr**

Practical syllabus

Paper VIII – Project work

Practical syllabus- ANY TOPIC

Time– 3 hrs

Marks - 40

Practical VIII: SCHEME OF VALUATION

- | | |
|--------------------------------------|-----|
| 1. Record – Project work Submission. | -20 |
| 2. Practical proper - Presentation. | -10 |
| 3. Viva | -10 |

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KUVEMPU



UNIVERSITY

DEPARTMENT OF APPLIED BOTANY

SHANKARAGHATTA

SYLLABUS

FOR

BOTANY

I & II SEMESTER

UNDER GRADUATE (UG)

PROGRAMME

FRAMED ACCORDING TO

NATIONAL EDUCATION POLICY

(NEP) 2020


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GOVERNMENT OF KARNATAKA

**NATIONAL EDUCATION POLICY-
2020**

(NEP-2020)

**Report on
Proposed Model Syllabus for
Four Years Graduate Programmes in
Universities of Karnataka State under NEP-
2020 in**

BOTANY

Submitted to

Department of Higher Education

Government of Karnataka,


Bengaluru


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B.Sc. BOTANY: Semester - 1

Title of the Course: Microbial Diversity and Technology

Number of Theory Credits	Number of lecture hours/semester	Number of practical Credits	Number of practical hours / semester
4	56	2	56
Content of Theory Course 1			56 Hrs
Unit –1			15
<p>Chapter No. 1: Microbial diversity-Introduction to microbial diversity; Methods of estimation; Hierarchical organization and positions of microbes in the living world. Whittaker’s five-kingdom system and Carl Richard Woese’s three-domain system. Distribution of microbes in soil, air, food and water. Significance of microbial diversity in nature.</p>			5
<p>Chapter No. 2 History and developments of microbiology-Microbiologists and their contributions (Leeuwenhoek, Louis Pasteur, Robert Koch, Joseph Lister, Dmitri Iwanowski, Sergius Winogradsky and M W Beijerinck and Paul Ehrlich).</p>			5
<p>Chapter No. 3 Microscopy-Working principle and applications of light, dark field, phase contrast and electron microscopes (SEM and TEM). Microbiological stains (acidic, basic and special) and Principles of staining. Simple, Gram’s and differential staining.</p>			5


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Unit – 2	15
Chapter No. 4. Culture media for Microbes -Natural and synthetic media, Routine media -basal media, enriched media, selective media, indicator media, transport media, and storage media.	5
Chapter No. 5. Sterilization methods -Principle of disinfection, antiseptic, tyndallisation and Pasteurization, Sterilization -Sterilization by dry heat, moist heat, UV light, ionization radiation, filtration. Chemical methods of sterilization-phenolic compounds, anionic and cationic detergents.	5
Chapter No. 6. Microbial Growth -Microbial growth and measurement. Nutritional types of Microbes- autotrophs and heterotrophs, phototrophs and chemotrophs; lithotrophs and organotrophs.	5
Unit – 3	11
Chapter No. 7 Microbial cultures and preservation -Microbial cultures. Pure culture and axenic cultures, sub culturing, Preservation methods-overlaying cultures with mineral oils, lyophilisation. Microbial culture collections and their importance. A brief account on ITCC, MTCC and ATCC.	5
Chapter No. 8. Viruses - General structure and classification of Viruses; ICTV system of classification. Structure and multiplication of TMV, SARS-COV-2, and Bacteriophage (T2). Cultivation of viruses. Vaccines and types.	4
Chapter No. 9. Viroids - general characteristics and structure of Potato Spindle	2

Tuber Viroid (PSTVd); Prions - general characters and Prion diseases. Economic Importance of viruses.	
Unit – 4	15
Chapter No. 10. Bacteria- General characteristics and classification. Archaeobacteria and Eubacteria. Ultrastructure of Bacteria; Bacterial growth and nutrition. Reproduction in bacteria- asexual and sexual methods. Study of <i>Rhizobium</i> and its applications. A brief account of Actinomycetes and Cyanobacteria. Mycoplasmas and Phytoplasmas- General characteristics and diseases. Economic importance of Bacteria.	5
Chapter No. 11. Fungi- General characteristics and classification. Thallus organization and nutrition in fungi. Reproduction in fungi (asexual and sexual). Heterothallism and parasexuality. Type study of <i>Phytophthora</i> , <i>Rhizopus</i> , <i>Neurospora</i> , <i>Puccinia</i> , <i>Penicillium</i> and <i>Trichoderma</i> .	5
Chapter No. 12. Lichens – Structure and reproduction. VAM Fungi and their significance. Fungal diseases -Late Blight of Potato, Black stem rust of wheat; Downy Mildew of Bajra, Grain smut of Sorghum, Sandal Spike, Citrus Canker, Root Knot Disease of Mulberry. Economic importance of Fungi.	5

Text Books

1. Ananthnarayan R and Panikar JCK. 1986. Text book of Microbiology. Orient Longman ltd. New Delhi.
2. Arora DR. 2004. Textbook of Microbiology, CBS, NewDelhi.

Content of Practical Course 1: List of Experiments to be conducted

Practical 1: Safety measures in microbiology laboratory and study of equipment/appliances used for microbiological studies (Microscopes, Hot air oven, Autoclave/Pressure Cooker, Inoculation needles/loop, Petri plates, Incubator, Laminar flow hood, Colony counter, Haemocytometer, Micrometer etc.).

Practical 2: Enumeration of soil/food /seed microorganisms by serial dilution technique.

Practical 3: Preparation of culture media (NA/PDA) sterilization, inoculation, incubation of *E coli* / *B. subtilis*/ Fungi and study of cultural characteristics.

Practical 4: Determination of cell count by using Haemocytometer and determination of microbial cell dimension by using Micrometer.

Practical 6: Simple staining of bacteria (Crystal violet /Nigrosine blue) / Gram's staining of bacteria.

Practical 7: Isolation and study of morphology of *Rhizobium* from root nodules of legumes

Practical 8: Preparation of spawn and cultivation of paddy straw (Oyster) mushroom.

Practical 9: Study of vegetative structures and reproductive structures - *Albugo*, *Phytophthora/Pythium*, *Rhizopus/Mucor*, *Saccharomyces*, *Neurospora/ Sordaria*, *Puccinia*, *Agaricus*, *Lycoperdon*, *Aspergillus/Penicillium*, *Trichoderma*.
(Depending on local availability)

Practical 10: Preparation of agar slants, inoculation, incubation, pure culturing and preservation of microbes by oil overlaying.

Practical 11: Study of late blight of Potato, Downy mildew of Bajra, Citrus canker, Tobacco mosaic disease, Sandal spike disease.

Practical 12: Study of well-known microbiologists and their contributions through charts and photographs.

Practical-13: Visit to water purification units/Composting/ microbiology labs/dairy and farms to understand role of microbes in day today life.

(Note: Botanical study tour to a floristic rich area for 1-2 days and submission of study report is compulsory)


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Scheme of Formative Assessment-Practical

Assessment Occasion/ type	Weightage in Marks
PRACTICAL TEST	10
ASSIGNMENT/REPORT SUBMISSION	05
PARTICIPATION/CLASS PERFORMANCE	05
Total	20

Date

Course Co-ordinator

Subject Committee Chairperson


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BOTANY: Open Elective Course (OE-1) I Semester

OE-1.1: PLANTS AND HUMAN WELFARE

Course Outcome:

On completion of this course, the students will be able to

1. To make the students familiar with economic importance of diverse plants that offer resources to human life.
2. To make the students known about the plants used as-food, medicinal value and also plantsource of different economic value.
3. To generate interest amongst the students on plants importance in day today life, conservation, ecosystem and sustainability.

Number of Theory Credits	Number of lecture hours/semester	Number of practical Credits	Number of practical hours / semester
3	39	0	00
Content of Theory Course OE-1.1: PLANTS AND HUMAN WELFARE			39 Hrs
Unit I			13
<p>Origin of Cultivated Plants. Concept of Centres of Origin, their importance with reference to Vavilov's work. Examples of major plant introductions. Crop domestication and loss of genetic diversity (Only conventional plant breeding methods). Importance of plant bio-diversity and conservation.</p> <p>Cereals: Wheat and Rice (origin, evolution, morphology, post-harvest processing & uses). Green revolution. Brief account of millets and their nutritional importance.</p> <p>Legumes: General account (including chief pulses grown in Karnataka- red gram, green gram, chick pea, soybean). Importance to man and ecosystem.</p>			3
Unit II			13
<p>Cash crops: Morphology, new varieties and processing of sugarcane, products and by-products of sugarcane industry. Natural Rubber –cultivation, tapping and processing.</p> <p>Spices: Listing of important spices, their family and parts used, economic importance with special reference to Karnataka. Study of fennel, clove, black pepper and cardamom</p> <p>Fruits: Mango, grapes and Citrus (Origin, morphology, cultivation, processing and uses)</p> <p>Beverages: Tea, Coffee (morphology, processing & uses)</p>			

UNIT II	13
<p>Oils and fats: General description, classification, extraction, their uses and health implications; groundnut, coconut, sunflower and mustard (Botanical name, family & uses). Non edible oil yielding trees and importance as biofuel. Neem oil and applications.</p> <p>Essential Oils: General account. Extraction methods of sandal wood oil, rosa oil and eucalyptus oil. Economic importance as medicine, perfumes and insect repellents.</p> <p>Drug-yielding plants: Therapeutic and habit-forming drugs with special reference to <i>Cinchona</i>, <i>Digitalis</i>, <i>Aloe vera</i> and <i>Cannabis</i>.</p> <p>Fibers: Classification based on the origin of fibers; Cotton and jute (origin morphology, processing and uses).</p>	

Text Books and References

1. Kochhar, S.L. (2012). Economic Botany in Tropics. New Delhi, India: MacMillan & Co.
2. Wickens, G.E. (2001). Economic Botany: Principles & Practices. The Netherlands: Kluwer Academic Publishers.
3. Chrispeels, M.J. and Sadava, D.E. (1994) Plants, Genes and Agriculture. Jones & Bartlett - Publishers.

Pedagogy:

Lectures, Practicals, Field and laboratory visits, Participatory Learning, Seminars, Assignments, specimen submission etc

Assessment Occasion / type	Weightage in Marks
Formative Assessment / IA	40
Summative Assessment / ESE	60
Total	100

Scheme of Formative Assessment-Theory	
Assessment Occasion / type	Weightage in Marks
ATTENDANCE	10
I TEST	10
II TEST	10
ASSIGNMENT/SEMINAR	10
Total	40

Date

Course Co-ordinator

Subject Committee Chairperson

35

B.Sc. BOTANY: Semester – 2

Title of the Course: Diversity of Non- Flowering Plants

Number of Theory Credits	Number of lecture hours/semester	Number of practical Credits	Number of practical hours/semester
4	56	2	56
Content of Theory Course 2			56 Hrs
Unit –1			15
<p>Chapter No. 1 Algae –Introduction and historical development in algology. General characteristics and classification of algae, Diversity- habitat, thallus organization, pigments, reserve food, flagella types, life-cycle and alternation of generation in Algae. Distribution of Algae.</p>			5
<p>Chapter No. 2 Morphology and reproduction and life-cycles of <i>Nostoc</i>, <i>Oedogonium</i>, <i>Chara</i>, <i>Sargassum</i> and <i>Batrachospermum</i>. Diatoms and their importance. Blue-green algae-A general account. Algalblooms and toxins.</p>			5
<p>Chapter No. 3 Algal cultivation- Cultivation of microalgae-<i>Spirulina</i> and <i>Dunaliella</i>; Algal cultivation methods in India. Algal products- Food and Nutraceuticals, Feed stocks, food colorants; fertilizers, aquaculture feed; therapeutics and cosmetics; medicines; dietary fibres from algae and uses.</p>			5
Unit – 2			15


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Chapter No. 4. Bryophytes – General characteristics and classification of Bryophytes, Diversity-habitat, thallus structure, Gametophytes and sporophytes.	5
Chapter No. 5 Distribution, morphology, anatomy, reproduction and life-cycles of <i>Riccia</i> , <i>Anthoceros</i> , and <i>Funaria</i> . Ecological and economic importance of Bryophytes. Fossil Bryophytes.	5
Chapter No. 6. . Pteridophytes- General characteristics and classification; Structure of sporophytes and life-cycles. Distribution, morphology, anatomy, reproduction and life-cycles in <i>Selaginella</i> , <i>Equisetum</i> , <i>Pteris</i> and <i>Salvinia</i> .	5
Unit – 3	15
Chapter No. 7 A brief account of heterospory and seed habit. Stelar evolution in Pterodophytes. Affinities and evolutionary significance of Pteridophytes. Ecological and economic importance.	5
Chapter No. 8. Gymnosperms- General characteristics. Distribution and classification of Gymnosperms. Study of the habitat, distribution, habit, anatomy, reproduction and life-cycles in <i>Cycas</i> , <i>Pinus</i> and <i>Gnetum</i> .	5
Chapter No. 9. Affinities and evolutionary significance of Gymnosperms. Economic importance of Gymnosperms - food, timber, industrial uses and medicines.	5
Unit – 4	11

Chapter No. 10. Origin and evolution of Plants: Origin and evolution of plants through Geological Time scale.	2
Chapter No. 11. Paleobotany- Paleobotanical records, plant fossils, Preservation of plant fossils - impressions, compressions, petrification's, moulds and casts, pith casts. Radiocarbon dating.	5
Chapter No. 12. Fossil taxa- <i>Rhynia</i> , <i>Lepidodendron</i> , <i>Lepidocarpon</i> , <i>Lyginopteris</i> and <i>Cycadeoidea</i> . Exploration of fossil fuels. Birbal Sahni Institute of Paleosciences.	4

Text Books

- 1) Chopra, G.L. A text book of Algae. Rastogi & Co., Meerut, Co., New Delhi, Depot. Allahabad.
- 2) Johri, Lata and Tyagi, 2012, A Text Book of, Vedam e Books, New Delhi.
- 3) Sharma, O.P. 1990. Text Book of Pteridophyta. McMillan India Ltd. New Delhi.
- 4) Sharma, O.P. 1992. Text Book of Thallophytes. McGraw Hill Publishing Co. New Delhi.
- 5) Sharma, O.P., 2017, Algae Singh-Pande-Jain 2004-05. A Text Book of Botany. Rastogi Publication, Meerut.

References

1. Sambamurty, A.V.S.S.. A Text Book of Algae. I.K. International Private Ltd., New Delhi.
2. Agashe, S.N. 1995. Paleobotany. Plants of the past, their evolution, paleoenvironment and Allied plants. Hutchinson & Co., Ltd., London.
3. Anderson R.A. 2005, Algal cultural Techniques, Elsevier, London.
4. Publication, Application in exploration of fossil fuels. Oxford & IBH., New Delhi.
5. Eams, A.J., (1974) Morphology of vascular plants - Lower groups. Tata Mc Grew-Hill Publishing Co. New Delhi, Freeman & Co., New York.
6. Fritze, R.E. 1977. Structure and reproduction of Algae. Cambridge University Press.
7. Goffinet B and Shaw A.J. 2009, Bryophyte Biology, 2nd ed. Cambridge University Press, Cambridge. Gymnosperms.

Content of Practical Course 2: List of Experiments to be conducted

Practical-1: Study of morphology, classification, reproduction and lifecycle of *Nostoc/Oscillatoria*.

Practical-2: Study of morphology, classification, reproduction and life-cycle of *Oedogonium* & *Chara, Sargassum, Batrachospermum/ Polysiphonia*.

Practical-3: Study of morphology, classification, reproduction and life-cycle of *Riccia* & *Anthoceros*.

Practical-4: Study of morphology, classification, anatomy, reproduction and life-cycle of *Selaginella and Equisetum*.

Practical -5: Study of morphology, classification, anatomy, reproduction and life-cycle of *Pteris, Azolla*..

Practical -6: Study of morphology, classification, anatomy and reproduction in *Cycas*.

Practical -7: Study of morphology, classification & anatomy, reproduction in *Pinus*.

Practical -8: Study of morphology, classification & anatomy, reproduction in *Gnetum*.

Practical -9: Study of important blue green algae causing water blooms in the lakes.

Practical -10: Study of different methods of cultivation of ferns in a nursery.

Practical -11: Preparation of natural media and cultivation of *Azolla* in artificial ponds.

Practical -12: Media preparation and cultivation of *Spirulina*.

Practical -13: Study different algal products and fossils impressions and slides.

Practical-14: Visit to algal cultivation units/lakes with algal blooms/Fern house/ Nurseries/Geology museum/lab to study plant fossils.

(Note: Botanical study tour to a floristic rich area for 1-2 days and submission of study report is compulsory)

Open Elective Course (OE-2)

II Semester

OE-2.1: PLANT PROPAGATION, NURSERY MANAGEMENT AND GARDENING

Paper Outcome:

On completion of this course, the students will be able to

1. To gain knowledge of gardening, cultivation, multiplication, raising of seedlings of garden plants.
2. To get knowledge of new and modern techniques of plant propagation.
3. To develop interest in nature and plant life.

Number of Theory Credits	Number of lecture hours/semester	Number of practical Credits	Number of practical hours / semester
3	39	0	0
Content of Theory Course OE-2.1: PLANT PROPAGATION, NURSERY MANAGEMENT AND GARDENING			39 Hrs
Unit I: Nursery and Vegetative propagation			13
<p>Nursery: Definition, objectives and scope and general practices and building up of infrastructure for nursery, planning and seasonal activities. Planting - direct seeding and transplants, Soil free/soilless/ synthetic growth mediums for pots and nursery.</p> <p>Vegetative propagation: Air-layering, cutting, selection of cutting, collecting season, treatment of cutting, rooting medium and planting of cuttings. Hardening of plants .Green house, mist chamber, shed root, shade house and glass house.</p>			
Unit II: Gardening			13
<p>Definition, objectives and scope. Different types of gardening - landscape and home/terrace gardening, parks and its components. Plant materials and design. Computer applications in landscaping, Gardening operations: soil laying, manuring, watering, management of pests and diseases and harvesting.</p>			
Unit II: Seed, Sowing/raising of seeds and seedlings			13
<p>Structure and types - Seed dormancy; causes and methods of breaking dormancy. Seed storage: Seed banks, factors affecting seed viability, genetic erosion Seed production technology. Seed testing and certification.</p>			

Transplanting of seedlings - Study of cultivation of different vegetables and flowering plants: cabbage, brinjal, lady's finger, tomatoes, carrots, bougainvillea, roses, geranium, ferns, petunia, orchids etc. Storage and marketing procedures. Developing and maintenance of different types of lawns. Bonsai technique.	
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Text Books and References

1. Agrawal, P.K. (1993). Hand Book of Seed Technology. New Delhi, Delhi: Dept. of Agriculture and Cooperation, National Seed Corporation Ltd.
2. Bose T.K., Mukherjee, D. (1972). Gardening in India. New Delhi, Delhi: Oxford & IBH PublishingCo.
3. Jules, J. (1979). Horticultural Science, 3rd edition. San Francisco, California: W.H. Freeman and Co.
4. Kumar, N. (1997). Introduction to Horticulture. Nagercoil, Tamil Nadu: Rajalakshmi Publications.
5. Musser E., Andres. (2005). Fundamentals of Horticulture. New Delhi, Delhi: McGraw Hill Book Co.
6. Sandhu, M.K. (1989). Plant Propagation. Madras, Bangalore: Wile Eastern Ltd.

Pedagogy:

Lectures, Practicals, Field and laboratory visits, Participatory Learning, Seminars, Assignments, specimen submission etc

Assessment Occasion / type	Weightage in Marks
Formative Assessment / IA	40
Summative Assessment / ESE	60
Total	100

Scheme of Formative Assessment-Theory	
Assessment Occasion / type	Weightage in Marks
ATTENDANCE	10
I TEST	10
II TEST	10
ASSIGNMENT/SEMINAR	10
Total	40

Date

Course Co-ordinator

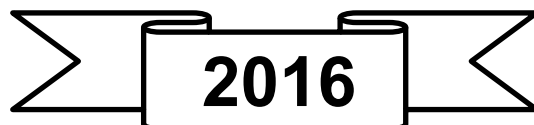
Subject Committee Chairperson

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**JNANA SAHYADRI, SHANKARAGHATTA,
SHIVAMOGGA DIST., INDIA, 577 451.**

**Chemistry Syllabus for B.Sc. Course- 2016
(SEMESTER SCHEME)
(w.e.f. June - 2016)**



**Chemistry Syllabus for B.Sc. Course – 2016 (SEMESTER SCHEME)
(w.e.f. June - 2016)**

**Pattern and Scheme of Examination under Semester Scheme
approved by UG-BOS in Chemistry held on 25-11-2015.**

: SYLLABUS PATTERN :

<p><u>First Semester:</u> <u>Paper-I; CHEMISTRY - I (60 hours)</u> <u>(15 hours/unit, 04 hours/week)</u> <u>Theory:</u> Unit-I: Analytical Chemistry Unit-II: Inorganic Chemistry Unit-III: Organic Chemistry Unit-IV: Physical Chemistry <u>Practical: Paper-I (03 hours/week)</u></p>	<p><u>Second Semester:</u> <u>Paper-II; CHEMISTRY - II (60 hours)</u> <u>(15 hours/unit, 04 hours/week)</u> <u>Theory:</u> Unit-I: Analytical Chemistry Unit-II: Inorganic Chemistry Unit-III: Organic Chemistry Unit-IV: Physical Chemistry <u>Practical: Paper-II (03 hours/week)</u></p>
<p><u>Third Semester:</u> <u>Paper-III; CHEMISTRY - III (60 hours)</u> <u>(15 hours/unit, 04 hours/week)</u> <u>Theory:</u> Unit-I: Analytical Chemistry Unit-II: Inorganic Chemistry Unit-III: Organic Chemistry Unit-IV: Physical Chemistry <u>Practical: Paper-III (03 hours/week)</u></p>	<p><u>Fourth Semester:</u> <u>Paper-IV; CHEMISTRY - IV (60 hours)</u> <u>(15 hours/unit, 04 hours/week)</u> <u>Theory:</u> Unit-I: Analytical Chemistry Unit-II: Inorganic Chemistry Unit-III: Organic Chemistry Unit-IV: Physical Chemistry <u>Practical: Paper-IV (03 hours/week)</u></p>
<p><u>Fifth Semester:</u> <u>Paper-V; CHEMISTRY - V (45 hours)</u> <u>(15 hours/unit, 03 hours/week)</u> <u>Theory:</u> Unit-I: Analytical Chemistry Unit-II: Inorganic Chemistry Unit-III: Organic Chemistry <u>Practical: Paper-V (03 hours/week)</u></p>	<p><u>Fifth Semester:</u> <u>Paper-VI; CHEMISTRY - VI (45 hours)</u> <u>(15 hours/unit, 03 hours/week)</u> <u>Theory:</u> Unit-I: Physical Chemistry Unit-II: Analytical Chemistry Unit-III: Inorganic Chemistry <u>Practical: Paper-VI (03 hours/week)</u></p>
<p><u>Sixth Semester:</u> <u>Paper-VII; CHEMISTRY - VII (45 hours)</u> <u>(15 hours/unit, 03 hours/week)</u> <u>Theory:</u> Unit-I: Organic Chemistry Unit-II: Physical Chemistry Unit-III: Analytical Chemistry <u>Practical: Paper-VII (03 hours/week)</u></p>	<p><u>Sixth Semester:</u> <u>Paper-VIII; CHEMISTRY - VIII (45 hours)</u> <u>Theory:</u> Unit-I: Inorganic Chemistry Unit-II: Organic Chemistry Unit-III: Physical Chemistry <u>Practical: Paper-VIII (03 hours/week)</u></p>


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THIRD SEMESTER

PAPER-III: CHEMISTRY - III

Total Hours: 60

UNIT - I: ANALYTICAL CHEMISTRY

Total Hours: 15

(Note: Numerical problems must be solved wherever necessary)

Solvent extraction

8 hours (12 marks weightage)

Definition, types, principle and efficiency of extraction, sequence of extraction process, factors affecting extraction-pH, oxidation state, modifiers, synergistic, masking and salting out agents, techniques-batch, continuous extraction and counter current extraction, applications.

Ultracentrifugation

5 hours (06 marks weightage)

Centrifugation, centrifugal force, sedimentation, centrifugal decantation, centrifuges, selection of centrifuge tubes, preparative, density gradient and isopycnic centrifugation. Analytical sedimentation, sedimentation coefficient, sedimentation velocity-Application of the technique in biological separation; membrane separation-principle and applications.

Ultrafiltration Zone refining techniques

2 hours (02 marks weightage)

Principles, instrumentation and applications.

References:

1. Introduction to Instrumental Analysis – R.D. Braun.
2. Instrumental method of chemical analysis – B.K. Sharma, Goel publishing House, Meerut.
3. Instrumental method of analysis – Willard, merit and Dean, VII Edition .
4. Analytical Chemistry- Gray D. Christian, V edition John Wiley and Sons, Inc.
5. Instrumental Methods of Chemical Analysis- B.K. Sharma, Goel publishing House, Meerut'
6. J. E. Huheey, E. A. Keiter and R. L. Keiter, Inorganic Chemistry: Principles of Structure and Reactivity, IV Edition, Pearson Education, India.
7. Vogel's Textbook of Quantitative Chemical Analysis, J. Mendham, R.C. Denney, J.D. Barnes and M.J.K. Thomas, VI Edition.


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UNIT - II: INORGANIC CHEMISTRY

Total Hours: 15

Chapter-1: Glass, Cement and paints

4 hours (6 marks weightage)

Glass : Raw materials, manufacture by tank furnace method, colouring agents, annealing of glass, types of glass – soda glass, potash glass, flint glass, pyrex glass (their composition and uses).

Cement: Raw materials, manufacture by dry process, mechanism of setting. Role of water and gypsum in setting process.

Paints: Constituents and their functions, manufacture of white lead by chamber's process and electrolytic process

Chapter-2: p-block elements

5 hours (7 marks weightage)

BF_3 - Preparation, properties, electron acceptor character, applications.

Hydrides of Boron; Diborane - Preparation, properties, structure and bonding and uses.

Borazine - Preparation, properties, structure and uses.,

Carbon and silicon – Structural features of diamond and graphite, CO_2 and SiO_2 – Correlation of their properties with structure.

Fullerenes- Introduction, preparation, properties and uses.

Silicates – Types, structure, ultramarine and zeolites

Chapter-3: d-block and f-block elements

6 hours (7 marks weightage)

d-Block elements: Electronic configuration, general characteristics of transition elements, oxidation states, atomic size, ionization potential, colour, complex formation, magnetic properties and acidic & basic properties of oxides- explanation with reference to 3d-series.

f-Block elements: Lanthanide series-Definition, electronic configuration, oxidation states, colour, complex formation and magnetic properties, lanthanide contraction, its causes and consequences, separation of lanthanides by ion-exchange method, applications of lanthanides.

References:

1. Principles of Inorganic Chemistry (UGC Syllabus), B.R. Puri, L.R. Sharma, K.C. Kalia, Milestone Publishers, New Delhi, India, 2008.
2. Advanced Inorganic Chemistry by Gurudeep Raj and Chatwal Anand
3. Modern Inorganic Chemistry by R D Madan
4. Advanced Inorganic Chemistry by Sathyaprakash.
5. J. E. Huheey, E. A. Keiter and R. L. Keiter, Inorganic Chemistry: Principles of Structure and Reactivity, IV Edition, Pearson Education, India, 2006.
6. F. A. Cotton, G. Wilkinson, C. M. Murillo and M. Bochmann, Advanced Inorganic Chemistry, VI Edition, John Wiley and Sons, Inc., New York, 1999.

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UNIT - III: ORGANIC CHEMISTRY

Total Hours: 15

Chapter-1: Alcohols

7 hours (9 marks weightage)

Monohydric alcohol- Classification, nomenclature, preparation from alky halides, aldehydes, ketones. Distinguish test between 1^o, 2^o, 3^o by Victor-Meyer method. Lucas method. Test for hydroxyl alcohol- formation of alkoxide, esterification with mechanism, oxidation.

Dihydric alcohol- Nomenclature, preparation of glycol from alkene. oxidative cleavage using lead tetra acetate, periodic acid. Uses of ethylene glycol. Pinacol - Pinacolone rearrangement with mechanism.

Trihydric alcohol- Nomenclature. manufacture of glycol from Spent lye. Synthesis from propene. Reactions of glycol with oxalic acid at different temperatures, reaction with PCl₅, with fatty acids.

Uses of glycerol, preparation of nitroglycerine, composition and uses of Cordite and dynamite.

Chapter-2: Phenols

6 hours (8 marks weightage)

Classification, nomenclature, Methods of preparation from Cumene, Dow process, from diazonium salts.

Acidity of phenols- resonance, stabilization of phenoxide ion, compare the acidity of alcohol and phenol. Effect of substituent's on acidity of phenols, electron withdrawing groups (-NO₂, -Cl, -CN, -CHO, -COOH), electron donating groups (-CH₃, -OCH₃, -NH₂).

Reactions of phenols. Fries, Claisen, Reimer-Tiemann, Leimer-Mannich reactions with mechanism.

Synthesis of phenolphthalein, salicylaldehyde, vanillin, o-benzoquinone.

Chapter-3: Ethers and epoxides

2 hours (3 marks weightage)

Chemical reactions of ethers- Cleavage and auto-oxidation. Ziesel's method.

Synthesis of epoxides: acid and base catalyzed ring opening reaction, reactions of epoxides with Grignard and organolithium reagents.

References:

1. I. L. Finar, Organic Chemistry, ELBS Longmann, Vol. I & II, 1984.
2. B.S. Bahl and Arun Bahl, Organic Chemistry, S. Chand and Sons, New Delhi, 2005.
3. R. K. Bansal, Organic Reaction Mechanism, Wiley Eastern Limited, New Delhi, 1993.
4. J. March, Advanced Organic Chemistry, Wiley Interscience, 1994.
5. E. S. Gould, Mechanism and Structure in Organic Chemistry, Halt, Rinhart & Winston, New York, 964.
6. Peter Sykes, A Guide book to mechanism in Organic Chemistry., Pearson Education India.
7. F. A. Carey and Sundberg, Advanced Organic Chemistry – Part A & B, III Edition, Plenum Press, New York, 1990.
8. S. K. Ghosh, Advanced General Organic Chemistry, Book and Allied (P) Ltd, 1998.


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(Note: Numerical problems must be solved wherever necessary)

Chapter-1: Chemical Kinetics and Catalysis**8 hours (11 marks weightage)**

Review of terms – Rate, Order and Molecularity, comparison between rate order and molecularity. Derivation of expression for the rate constant of a second order reaction with $a = b$ and $a \neq b$. Arrhenius equation, concept of activation energy. Theories of reaction rates: collision theory, transition state theory. Steady state approximation and Lindemann's hypothesis. Experimental determination of kinetics of inversion of cane sugar by polarimetric method.

Catalysis: Types of Catalysis; Homogeneous, Heterogeneous Catalysis, characteristics of catalytic reactions. Brief discussion on theories of Catalysis: The Intermediate Compound Formation Theory, The Adsorption Theory. Enzyme Catalysis: Mechanism of Enzyme Catalysis; Michaelis - Menten equation.

Chapter-2: Electrochemistry-I:**7 hours (9 marks weightage)**

Electrolytes, electrolytic conductance. Debye-Huckel theory of strong electrolytes; asymmetry effect and electrophoretic effect. Debye-Huckel-Onsager's equation for strong electrolytes (elementary treatment only), Transport number, definition and determination by Hittorf's method.

Kohlrausch's law; its applications: determination of degree of dissociation, determination of equilibrium constants of weak electrolytes, determination of solubility product of sparingly soluble salt. Conductometric titrations: Strong acid v/s strong base, weak acid v/s strong base, mixture of acid vs. strong base.

References:

1. Physical chemistry; R. L. Madan, G. D. Tuli, S. Chand & Co.
2. Principles of Physical Chemistry: Puri, Sharma and Pathania, Vishal Publishing Co.
3. A Textbook of Physical Chemistry, Volume 2, K L Kapoor, Mc. Millan publishers India Limited.
4. Chemical Kinetics and Reaction Dynamics, Upadhyay, Santosh K.
5. A Textbook of Physical Chemistry, A. S. Negi, New age
6. Chemical Kinetics, K.J. Laidler, III Edition, Pearson Education Pvt. Ltd., New Delhi,
7. An Introduction to Chemical Kinetics, Margaret Robson Wright, John Wiley.
8. Kinetics and Chemical Reactions, S. K. Jain, Vishal Publishing Co.
9. Electrochemistry, B.K. Sharma , Krishna Prakashan Media (p) Ltd,
10. An Introduction to Electrochemistry, Samuel Glasstone, Litton Educational Publishing, Inc., New York.
11. Physical Chemistry, K. J. Laidler and J. M. Meiser, III Edition, Houghton Mifflin Comp., New, York, International Edition.
12. Industrial Electrochemistry, D. Pletcher and F.C. Walsh, Chapman and Hall, II Edition, 1984.
13. Engineering chemistry, Jain and Jain, Dhanpal and sons.
14. Physical Chemistry, T.W. Atkins, Oxford University Press.
15. Physical Chemistry, K. K. Padmanabha, Lakshmi Printing & Publishing House, Mysore.

FOURTH SEMESTER

PAPER-IV: CHEMISTRY - IV

Total Hours: 60

UNIT - I: ANALYTICAL CHEMISTRY

Total Hours: 15

(Note: Numerical problems must be solved wherever necessary)

Chapter-1: Chromatography

5 hours (8 marks weightage)

General description of chromatography- classification, chromatograms, migration rates of solutes, retention time, capacity factor, selectivity factor, band broadening and column efficiency, plate theory and rate theory. Theory of band broadening, van-Deemter's equation, column resolution, factors influencing resolution.

Chapter-2: Planar Chromatography

4 hours (4 marks weightage)

Paper and thin layer chromatography, stationary and mobile phase, various techniques of development, visualization and evolution of chromatograms, applications.

Chapter-3: Gas Chromatography

4 hours (5 marks weightage)

Introduction and overview of GSC and GLC: Instrumentation, sample injection systems, columns, detectors- TCD, FID, β -ray ionization detectors, temperature programming, applications- quantitative and qualitative analysis.

Chapter-4: HPLC

2 hours (3 marks weightage)

Introduction, superiority of HPLC, instrumentation and applications,

References:

1. Vogel's Text book of Quantitative Chemical Analysis- Revised by G. H. Jaffery, J. Bassett, J. Mendham and R. C. Denny ELBS, V Edition (1996)
2. Introduction to Instrumental Analysis – R.D. Braun 1986.
3. Instrumental method of chemical analysis – B.K. Sharma, Goel publishing House, Meerut 2000.
4. Instrumental method of analysis – Willard, merit and Dean, VII Edition 1998.
5. Analytical Chemistry- Gray D. Christian, V Edition John Wiley and Sons, Inc.
6. Instrumental Methods of Chemical Analysis- B.K. Sharma, Goel publishing House, Meerut, 2000.
7. Quantitative Chemical Analysis- D. C. Harris, W. M. Freeman and Co., NY, USA, IVED, 1995


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UNIT - II: INORGANIC CHEMISTRY

Total Hours: 15

Chapter-1: Metallurgy

9 hours (13 marks weightage)

Thermodynamics of metallurgy, Ellingham's diagrams- features, applications and limitations, extraction of lead - self-reduction process and nickel from pentlandite, extraction of manganese from pyrolusite from allumino thermite process extraction of gold by hydrometallurgical process, refining of gold by quartation process, beryllium from beryl via sodium beryllium fluoride, Thorium from Monazite sand and Uranium from Pitch blende by acid digestion process.

Chapter-2: Solvents

6 hours (7 marks weightage)

Classification, comparative account of water and liquid ammonia as solvents (striking similarities and factors which make them good polar solvents). Reactions in liquid ammonia and water, acid-base neutralisation, oxidation-reduction, complex formation, ionisation of acetic acid. Solvolysis, solvation, Solubility of ionic solids – its dependence of lattice energy and solvation energy. Solutions of alkali metals in liquid ammonia, advantages and disadvantages of liquid NH_3 as solvents.

References:

1. Principles of Inorganic Chemistry (UGC Syllabus), B.R. Puri, L.R. Sharma, K.C. Kalia, Milestone Publishers, New Delhi, India, 2008.
2. Advanced Inorganic Chemistry by Gurudeep Raj and Chatwal Anand.
3. Modern Inorganic Chemistry by P L Sony.
4. A text book of Industrial Chemistry by B K Sharma.


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Chapter-1: Aldehydes and Ketones**5 hours (7 marks weightage)**

Nomenclature. Structure and reactivity of carbonyl groups in aldehydes, ketones. Methods of preparation of chloral, acrolein, crotonaldehyde.

Reactions of aldehydes and ketones with hydroxyl amine, hydrogen cyanide, 2,4-DNP. Reaction Mechanism of Aldol, Perkin's, Benzoin, Cannizaro, Knoevenagel reaction. Clemmenson reduction, Wolff-Kishner reduction.

Chapter-2: Carboxylic acids**4 hours (6 marks weightage)**

Nomenclature of mono and dicarboxylic acids. Acidity of carboxylic acids. Effect of substituents on acidity. Comparative study of:

- (i) Acetic acid and formic acid.
- (ii) Acetic acid and benzoic acid.
- (iii) Acetic acid and monochloro acetic acid.
- (iv) 2-chloro butanoic acid and chlorobutanoic acid.

Hydroxy acid, effect of heat on α , β and γ – hydroxy acids.

Derivatives of Carboxylic acids: Preparation and reactions of (i) acid chlorides, (ii) acid amides, (iii) acid anhydrides.

Chapter-3: Amines**3 hours (4 marks weightage)**

Nomenclature, Classification with examples. Synthesis of amines by reduction of nitro compounds. Hoffmann's degradation methods with mechanism. Basicity of amines. Comparative study of:

- (i) Methyl amine, dimethyl amine and trimethyl amine.
- (ii) Methyl amine and aniline.
- (iii) Aniline and p-nitroaniline and p-toluidine.
- (iv) Aniline, N-methyl aniline and N, N-dimethyl aniline.

Separation of amines by alkylation, nitrous acid method and Heinsberg's method.

Chapter-4: Organosulphur compounds**3 hours (3 marks weightage)**

Aromatic sulphonic compounds- thio alcohols, nomenclature and general chemical properties, sulphonal and thioethers. Aromatic sulphonic acids- Nomenclature, general methods of preparations, general chemical properties. Reactions due to SO_3H group and benzene ring.

Synthesis of Saccharin, Chloramine-T and Dichloramine-T.

References:

1. S.H. Pine, Organic Chemistry, 5th Edition, Mcgraw Hill International Edition, Chemistry Series, New York, 1987.
2. I. L. Finar, Organic Chemistry, VI Edition, ELBS, 1990.
3. Bahl and Arun Bahl, Organic Chemistry, S. Chand and Sons, New Delhi, 2005.
4. Arun Bahl and B.S. Bahl, Advanced Organic Chemistry, S. Chand.
5. V. K. Ahluwalia, Textbook of Organic Chemistry, Viva Books Private Limited, 2012.
6. S. K. Ghosh, Advanced General Organic Chemistry, Book and Allied (P) Ltd, 1998.

(Note: Numerical problems must be solved wherever necessary)

Chapter-1: Electrochemistry-II**6 hours (8 marks weightage)**

Definition of EMF of a cell, standard electrode potential, IUPAC sign convention; Types of reversible electrodes with examples: gas-metal ion, metal-ion, metal insoluble salt-anion electrode, Redox electrode with examples – Quinhydrone electrode (To be mentioned). Reference electrodes – Construction and working of SHE and calomel electrode. Concentration cell – Derivation of EMF using Nernst equation for electrolytic concentration cell without transference. Liquid junction potentials, elimination of liquid junction potential. Potentiometric titration involving only redox systems ($K_2Cr_2O_7$ vs. FAS).

Chapter-2: Photochemistry**5 hours (7 marks weightage)**

Laws of photochemistry- Grothus-Draper's law and Stark-Einstein's law of photochemical equivalence. Quantum yield and explanation for Photochemical reactions of hydrogen-iodine, hydrogen-chlorine and hydrogen-bromine. Qualitative description of fluorescence, phosphorescence, non-radiative processes (internal conversion, inter-system crossing), Jablonski diagram. Photosensitized reactions - simple examples, chemiluminescence, bioluminescence.

Chapter-3: Colloids**4 hours (5 marks weightage)**

Definition of colloids, classification of colloids; Lyophilic and Lyophobic Colloids. Solids in liquids (sols): properties – kinetic, optical and electrical; stability of colloids, protective action, Hardy—Schulze law, gold number. Liquids in liquids (emulsions): types of emulsions, preparation, Emulsifier. Liquids in solids (gels): preparation and properties, association colloids (micelles). General application of colloids.

References:

1. Physical chemistry; R. L. Madan, G. D. Tuli, S. Chand & Co.
2. Principles of Physical Chemistry: Puri, Sharma and Pathania, Vishal Publishing Co.
3. Textbook of Physical Chemistry, Gurdeep Raj, Goel Publications
4. Elements of Physical Chemistry, B.R. Puri, L.R. Sharma, M.S. Pathania, I Edition, Vishal Publishing House, Jalandhar, India, 2013.
5. Electrochemistry, B.K. Sharma, Krishna Prakashan Media (p) Ltd,
6. An Introduction to Electrochemistry, Samuel Glasstone, Litton Educational Publishing, Inc., New York.
7. Physical Chemistry, K. J. Laidler and J. M. Meiser, III Edition, Houghton Mifflin Comp., New, York, International Edition.
8. Industrial Electrochemistry, D. Pletcher and F.C. Walsh, Chapman and Hall, II Edition, 1984.
9. Photochemistry, Gurdeep Raj, Goel Publications.
10. Photochemistry, J. G. Calvert and J. N. Pitts, Wiley, New York.
11. Fundamentals of Photochemistry, K. K. Rohatgi - Mukherjee, New Age International Pub., Reprint 2006.
12. Molecular Energy Transfer, R. Levine and J. Jortner, eds., J. Wiley, New York.
13. A Textbook of Physical Chemistry, Volume 2, K L Kapoor, Mc. Millan publishers India Limited.
14. Physical Chemistry, T.W. Atkins, Oxford University Press.
15. Physical Chemistry, K.K. Padmanabha, Lakshmi Printing & Publishing House, Mysore.

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FIFTH SEMESTER

PAPER-V: CHEMISTRY - V

Total Hours: 45

UNIT - I: ANALYTICAL CHEMISTRY

Total Hours: 15

(Note: Numerical problems must be solved wherever necessary)

Chapter-1: Gravimetry

7 hours (13 marks weightage)

General principles, condition for precipitations, choice of precipitation, advantages of using organic precipitants, factors influencing the solubility of the precipitate, theories of precipitation, co-precipitation, post-precipitation, effect of digestion, PFHS, pH change, ion releasing reagents, change in oxidation states (taking Fe, Cu and Al as examples), use of mixed solvents and analytical applications

Chapter-2: UV-Visible spectroscopy

4 hours (7 marks weightage)

Range, frequency and energy of UV radiations, interaction of UV radiation with organic molecules, types of transitions, allowed and non-allowed transitions, Concept of chromophores and auxochromes, bathochromic shift and hypso chromic shift, hyper chromic effect and hypo chromic effect.

Comparison of λ_{\max} organic compounds taking following examples giving reasons

1. CH_3CHO and $\text{C}_6\text{H}_5\text{CHO}$
2. Ethylene and 1,3-butadiene
3. Cis and transstilbene
4. Cis-trans cinnamic acid

Chapter-3: IR spectroscopy

4 hours (7 marks weightage)

Range, frequency and energy of IR radiations, interaction of IR radiation with organic molecules, molecular vibrations – stretching and bending vibrations, Hook's law, finger print region, Stretching frequency of functional groups in benzaldehyde, acetophenone, ethyl acetate, aniline and methyl amine.

References:

1. Vogel's Text book of Quantitative Chemical Analysis- Revised by, G. H. Jaffery, J. Bassett, J. Mendham and R. C. Denney, ELBS V Edition (1989), John Wiley and Sons. Inc. New York.
2. Introduction to Instrumental Analysis – R.D. Braun 1986.
3. Instrumental method of chemical analysis – B.K. Sharma, Goel publishing House, Meerut 2000.
4. Instrumental method of analysis – Willard, merit and Dean, VII Edition, 1998.
5. Analytical Chemistry- Gray D. Christian, V Edition, John Wiley and Sons, Inc.
6. Instrumental Methods of Chemical Analysis-B.K. Sharma, Goel publishing House, Meerut, 2000.
7. Quantitative Chemical Analysis- D. C. Harris, W. M. Freeman and Co., NY, USA, IV Edition, 1995.

Chapter-1: Electroplating**10 hours (18 marks weightage)**

Theory, purpose of electroplating, nature of good deposit, factors influencing electroplating (concentration of metal ion, pH, temperature, current density), electroplating of chromium and gold.

Ceramics-Raw materials and their role, varieties of clay, production of ceramic ware, glazing insulators.

Refractories-Classification, properties, hardness, pyrometric cone equivalent values.

Abrasives- Classification, properties, hardness of abrasives, Moh's scale, manufacture and importance of carborundum.

Chapter-2: Alloys**5 hours (9 marks weightage)**

Definition, purpose of making alloys, preparation of alloys by electro deposition method and powder metallurgy method, advantages of powder metallurgy, influence of carbon, manganese, nickel, chromium, tungsten, silicon and cobalt on the properties of steel, heat treatment of steel, hardening, tempering and annealing, case hardening of steel-carbiding and nitriding.

References:

1. Advanced Inorganic Chemistry, V Edition, F.A. Cotton and G. Wilkinson; John Willey and sons, 1988.
2. Inorganic Chemistry; Principles of structure and reactivity, III Edition, James E Huheey, Ellen E. Keither and Richard L. Keither, Harper Collins college Pub., 1983.
3. Inorganic Chemistry 3rd ed., Shriver and Atkins, Oxford University Press, 1999.
4. Organometallic Chemistry, A Unified approach R.C. Mehrotra and A. Singh. Willey Eastern, New Delhi.
5. A text book of Industrial Chemistry by B.K. Sharma
6. A concise Inorganic Chemistry, J .D. Lee, ELBS Ed., 1991
7. Modern aspects of Inorganic Chemistry, H. J. Emeleus and A. G. Sharpe, ELBS.
8. Theoretical Principles of Inorganic Chemistry, IV ed., G. S. Manku, Tata, McGraw Hill, 1990


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Chapter-1: Purification of organic compounds 4 hours (7 marks weightage)

Methods for purification of solids- crystallization, fractional crystallization and sublimation. Methods for purification of liquids- Distillation, Fractional distillation, distillation under reduced pressure, steam distillation. Criteria of purity- Melting point and boiling point.

Chapter-2: Heterocyclic compounds 4 hours (7 marks weightage)

Preparation and reactions of pyrrole, furan, thiophene, pyridine, pyrimidine, indole, quinoline, isoquinoline. Aromaticity of pyrrole, furan, thiophene. Basicity of pyrrole and pyridine.

Chapter-3: Dyes 3 hours (5 marks weightage)

Classification of dyes with example. Chromophore theory, Modern theory. Synthesis of, Congo Red, Malachite Green, Methyl Orange and Indigo. Structural elucidation and synthesis of Alizarin.

Chapter-4: Polymer Chemistry 4 hours (7 marks weightage)

Classification of polymers-Types of polymerization, Mechanism of Free radical and ionic polymerization. Examples for addition polymers and condensation polymers. Zeigler-Natta catalyst. Thermoplastics and thermosetting plastics. Synthesis of Styrene, Teflon, Nylon-6, Nylon-6,6, Bakelite, PVC, polythene and Natural rubber.

References:

1. Arun Bahl and B.S. Bahl, Advanced Organic Chemistry, S. Chand.
2. Paula Yurkanis Bruice, Organic chemistry, III Edition, Pearson Education, Inc. (Singapore), New Delhi, reprint, 2002.
3. Gurdeep Chatwal, Chemistry of Organic Natural Products, Vol 1 and 2, Goel Pub. House, 2002.
4. R. K. Bansal, Heterocyclic Chemistry.
5. S. H. Pine, Organic Chemistry, 5th Edition, Mcgraw Hill International Edition, Chemistry Series, New York, 1987.
6. Bill Meyer Text Book of Polymer Science, F.W. Jr. John Wiley & Sons 1984.
7. Gowarikar. V.R. Viswanathan, N.V. Jayadev Sreedhar. "Polymer Science".
8. Sharma. B.K., Polymer Chemistry, Goel Publishing House, Meerut- 1989.
9. Arora M.G. Vadar M.S., Polymer Chemistry. Anmol Publications Pvt. Ltd., New Delhi 1989.


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FIFTH SEMESTER

PAPER-VI: CHEMISTRY - VI

Total Hours: 45

UNIT - I: PHYSICAL CHEMISTRY

Total Hours: 15

(Note: Numerical problems must be solved wherever necessary)

Chapter- 1: Thermodynamics - I

8 hours (14 marks weightage)

Review of the thermodynamics terms; system, surroundings etc, types of systems, state and path functions. Work done in isothermal expansion and compression of an ideal gas. Heat capacity of a gas at constant pressure and constant volume: relationship between C_p and C_v . Derivation of Kirchoff's equation. Limitations of I law of thermodynamics with illustrations. Need for II-law of thermodynamics, different ways of stating II-law with respect to heat and spontaneity. Heat engine - Carnot's cycle and derivation of the expression for its efficiency. II-law in terms of efficiency (η). Concept of entropy and its physical significance. Entropy changes in reversible isothermal process. Entropy changes of an ideal gas in different processes; entropy of mixing, standard entropies. Free energy: Gibbs function (G) and Helmholtz function (A) as thermodynamic quantities. Variation of G and A with pressure, volume and temperature.

Chapter-2: Fundamentals of Molecular Spectroscopy

7 hours (13 marks weightage)

Electromagnetic radiation and its interaction with matter, regions of the EM spectrum, Origin of molecular spectra: Born-Oppenheimer approximation. Types of molecular spectra-rotation, vibration, electronic, Raman (to be mentioned).

Electronic spectroscopy: Qualitative description of electronic transition in σ , π and n molecular orbitals and their energy levels, selection rules and Franck-Condon principle.

Raman Spectroscopy:

Concept of Polarizability. Raman spectra, Stokes and anti Stokes lines, selection rules. Instrumentation. Applications of Raman spectroscopy, comparison of Raman and IR spectroscopies.

References:

1. Physical chemistry; R. L. Madan, G. D. Tuli, S. Chand & Co.
2. Principles of Physical Chemistry: Puri, Sharma and Pathania, Vishal Publishing Co.
3. Textbook of Physical Chemistry, Gurdeep Raj, Goel Publications House, New Delhi.
4. Elements of Physical Chemistry, B.R. Puri, L.R. Sharma, M.S. Pathania, I Edition, Vishal Publishing House, Jalandhar, India, 2013.
5. Molecular Structure and Spectroscopy, Aruldas, Printice Hall, India Pvt. Ltd.
6. A Textbook of Physical Chemistry, Volume 2, K.L. Kapoor, McMillan Publishers, India Limited.
7. Physical Chemistry, K. J. Laidler and J. M. Meiser, III Edition, Houghton Mifflin Comp., New, York, International Edition.
8. Molecular Energy Transfer, R. Levine and J. Jortner, eds., J. Wiley, New York.
9. A Textbook of Physical Chemistry, Volume 2, K L Kapoor, McMillan McMillan Publishers, India Limited.

(Note: Numerical problems must be solved wherever necessary)

Chapter-1: Microwave spectroscopy**4 hours (6 marks weightage)**

Spectrum of electromagnetic radiations, interaction of electromagnetic radiations with molecules, quantisation of different forms of energies in molecules. Condition for energy absorption by molecules (emissions and absorption spectrum). Spectroscopic terms, classification, types of molecules, (microwave active and microwave inactive), Linear molecules, spherical top molecules, symmetric top molecules, asymmetric top molecules. Applications of Microwave spectroscopy

Chapter-2: NMR Spectroscopy**6 hours (12 marks weightage)**

Introduction to NMR spectroscopy: instrumentation, theory and types of NMR active nuclides. Relaxation process - Spin-Spin relaxation, Spin-lattice relaxation, number of signals, shielding and deshielding effects, influencing chemical shifts. [Inductive effect, van der Waal's deshielding, anisotropic effects, hydrogen bonding]

Solvents used, spectra of CH_3OH , $\text{C}_2\text{H}_5\text{OH}$, and $\text{C}_6\text{H}_5\text{CH}_3$, peak area and proton counting, splitting of the signals (Pascal's triangle), spin-spin coupling, splitting signal by proton. Calculating the ratio in the heights of the signals. Applications of NMR spectroscopy.

Chapter-3: Mass Spectroscopy**5 hours (9 marks weightage)**

Basic principles- Theory of mass spectroscopy, instrumentation, mass spectrum, the molecular ion peak, determination of molecular formula, Mc-Lafferty rearrangement. Metastable ion peaks and their importance. Nitrogen rule. General transformation modes. Homolytic cleavage-heterolytic cleavage. Retro-Deil's Alder reactions. Important features of mass spectra of hydrocarbons - alkanes, alkenes and cycloalkenes.

References:

1. Fundamental of Analytical Chemistry, D.A. Skoog, D.M. West, Holler and Crouch VIII Edition, 2005, Saunders College Publishing, New York.
2. Analytical Chemistry, G.D. Christian, V Edition, 2001 John Wiley & Sons, Inc, India.
3. Quantitative Analysis, R.A. Day and A.L. Underwood, VI Edition, 1993 prentice Hall, Inc. New Delhi.
4. Vogel's Textbook of Quantitative Chemical Analysis, J. Mendham, R.C. Denney, J.D. Barnes and M.J.K. Thomas, VI Edition.
5. Analytical Chemistry Principles, John H. Kennedy, II Edition, Saunders College Publishing, California, 1990.
6. Instrumental Methods of Analysis by H.H. Willard, L.L. Merritt and J.A. Dean, VII Edition, CBS Publishers, New Delhi, 1988.
7. Principles and Practice of Analytical Chemistry, F. W. Fifield and Kealey III Edition, 2000, Blackwell Sci., Ltd. Malden, USA.
8. Modern Analytical Chemistry, David Harvey, McGraw Hill, New Delhi, 2000.
9. Introduction to Instrumental Analysis, Braun, Pharm. Med. Press. India.

UNIT - III: INORGANIC CHEMISTRY

Total Hours: 15

Chapter-1: Co-ordination Chemistry

10 hours (18 marks weightage)

Double salts, complex salts, definition of terms-complex ion, ligand, co-ordination number, co-ordination sphere. Types of ligands with example-monodentate, bidentate, polydentate, Ambidentate and macro cyclic ligands (crown ethers, porphyrins).

Methods of detection of complex formation- conductivity, pH, colour, EAN rule for Stabilising of Complexs. Nomenclature of complex compounds. Isomerism in complex compounds: a) Structural isomerism-Ionization isomerism, hydrate isomerism, linkage isomerism and co-ordinate isomerism, b) Optical and geometrical isomerism in complex compounds with co-ordination number 4 and 6.

Stability of complex compounds- Stepwise stability constant, overall formation constant, factors influencing the stability of complexes-Nature of metal ion, nature of ligands, chelation and macrocyclic effects. Applications of complex formation in (a) Metallurgy (in the extraction of nickel and gold) (b) Qualitative and quantitative analysis.

Valence Bond Theory (VBT)

Valence bond theory as applied to complexes- inner and outer orbital complexes. The structure and geometry of the following complexes to be discussed:

1. $[\text{Fe}(\text{CN})_6]^{2-}$
2. $[\text{Fe}(\text{H}_2\text{O})_6]^{2+}$
3. $[\text{MnCl}_4]^{2-}$
4. $[\text{Ni}(\text{CO})_4]^{2-}$
5. $[\text{Cu}(\text{NH}_3)_4]^{2+}$

Modification of VBT :Electroneutrality principle of $[\text{Be}(\text{H}_2\text{O})]^{2+}$ and back bonding effect with respect to $[\text{Ni}(\text{CO})_4]^{2-}$.

Crystal Field Theory (CFT)

Splitting of d-orbitals in octahedral and tetrahedral fields, effect of weak and strong field ligands, spectrochemical series of ligands, crystal field stabilization energy and calculation of CFSE for different systems.

Chapter-2: Metal Carbonyls

5 hours (08 marks weightage)

Definition, Preparation of chromium, iron, Manganese, Cobalt carbonyls, stability of carbonyls based on 18 electron rule, Structure and bonding of $\text{Cr}(\text{CO})_6$, $\text{Fe}(\text{CO})_5$, $\text{Mn}_2(\text{CO})_{10}$, Uses of metal Carbonyls

References:

1. Principles of Inorganic Chemistry (UGC Syllabus), B.R. Puri, L.R. Sharma, K.C. Kalia, Milestone Publishers, New Delhi, India, 2008.
2. Advanced inorganic Chemistry by Gurudeep Raj and ChatwalAnand
3. Modern Inorganic Chemistry by R D Madan
4. Advanced inorganic Chemistry by Sathyaprakash ,Vol-2

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SIXTH SEMESTER

PAPER-VII: CHEMISTRY - VII

Total Hours: 45

UNIT - I: ORGANIC CHEMISTRY

Total Hours: 15

Chapter - 1: Stereochemistry of organic compounds 9 hours (17 marks weightage)

Concept of isomerism, Optical isomerism, elements of symmetry, molecular chirality. Enantiomers, properties of enantiomers, optical isomerism in Lactic acid and tartaric acid. R and S notations. Optical activity due to helicity.

Diastereomers. Threo and erythrodiastereomers. Racemisation, resolution of racemic modifications (chemical and biological methods), Walden inversion, asymmetric synthesis.

Geometrical isomerism: Geometric isomerism in maleic acid and fumaric acid. Determination of their configurations. E and Z notations. Geometrical isomerism of oximes, Determination of configuration of oximes. Beckmann rearrangement. Conformational isomers of ethane, 1,2-dichloroethane and cyclohexane.

Chapter-2: Drugs 3 hours (5 marks weightage)

Classification of drugs. Synthesis of aspirin, paracetamol, tetracyclin. Use of chloroquin.

Chapter-3: Retrosynthesis 3 hours (5 marks weightage)

Retrosynthesis of benzocaine, 4-methoxy acetophenone, saccharin. Disconnection approach. General terms: synthon, synthetic equivalents and target molecule. General guidelines for disconnection.

References:

1. I. L. Finar, Organic Chemistry, ELBS Longmann, Vol. I & II, 1984.
2. Alex V. Ramani, Leo A. Stanley, C. Mani, Stereochemistry, MJP Publishers.
3. Introduction to stereochemistry – K. Mislow.
4. R. K. Bansal, Organic Reaction Mechanism, Wiley Eastern Limited, New Delhi, 1993.
5. J. March, Advanced Organic Chemistry, Wiley Interscience, 1994.
6. E. S. Gould, Mechanism and Structure in Organic Chemistry, Halt, Rinhart & Winston, New York, 1964.
7. Peter Sykes, A Guide book to mechanism in Organic Chemistry, Pearson Education India.
8. P.S. Kalsi, Stereochemistry and mechanism through solved problems, New Age International Publications.
9. Stuart Warren, Paul Wyatt, Organic Synthesis: The Disconnection Approach, John Wiley & Sons.
10. F. A. Carey and Sundberg, Advanced Organic Chemistry – Part A & B, III Edition, Plenum Press, New York, 1990.
11. D. Nasipuri, Stereochemistry of Organic Compounds, II Edition, Wiley Eastern Limited, New Delhi, 1991.
12. S. K. Ghosh, Advanced General Organic Chemistry, Book and Allied (P) Ltd, 1998.

(Note: Numerical problems must be solved wherever necessary)

Chapter - 1: Physical Properties and Chemical Constitution**6 hours (10 marks weightage)**

Additive properties, constitutive properties, additive-constitutive properties (definitions). Polarization: Induced, orientation and molar polarization. Clausius - Mossotti equation. Dipole moment and structure of molecules - planar and non-planar, differentiating between cis and trans isomers. Parachor: meaning and its use in determining chemical constitution and molecular structure. Molar refraction and its application in elucidating molecular structure. Brief account of magnetic properties - paramagnetic, diamagnetic and ferromagnetic systems. Magnetic susceptibility and its importance.

Chapter-2: Nanomaterials and Polymers**4 hours (8 marks weightage)**

Nanomaterials: General characteristics, a brief and elementary account of synthetic methods; bottom-up method, top-down method, examples (detailed mechanism is not required), general applications of nanomaterials.

Polymers: Definition, classification, degree of polymerization, expressions for number average and weight average molecular weights. Determination of molar mass of polymers by viscosity method (Ostwald's viscometric method).

Chapter-3: Surface and Interfacial Chemistry**5 hours (9 marks weightage)**

Adsorption; types of adsorption and adsorption isotherms, Solid-liquid interfaces: Gibbs adsorption isotherm (expression only). Solid-gas interfaces. – Langmuir isotherm (derivation), Temkin and BET isotherm (expression only). Determination of surface concentration of adsorbents using BET isotherm. Kinetics of enzymatic reactions: Michaelis-Menten equation, effect of temperature and pH.

References:

1. Physical chemistry; R. L. Madan, G. D. Tuli, S. Chand & Co.
2. Principles of Physical Chemistry: Puri, Sharma and Pathania, Vishal Publishing House, Jalandhar, India, 2014.
3. Textbook of Physical Chemistry, Gurdeep Raj, Goel Publications
4. Elements of Physical Chemistry, B.R. Puri, L.R. Sharma, M.S. Pathania, I Edition, Vishal Publishing House, Jalandhar, India, 2013.
5. A Textbook of Physical Chemistry, Volume 2, K L Kapoor, Mc.Millan Publishers India Limited.
6. Physical Chemistry, T.W. Atkins, Oxford University Press.
7. Physical Chemistry – A Molecular Approach, Donald A. McQuarrie, John D. Simon, III Edition (Viva Student Edition), Viva Books Pvt. Ltd., New Delhi.
8. Principles of Physical Chemistry, S. H. Maron, C. F. Prutton, Mc.Millan Publishers India Limited.
9. Electrochemistry, B.K. Sharma, Krishna Prakashan Media (p) Ltd.
10. An Introduction to Electrochemistry, Samuel Glasstone, Litton Educational Publishing, Inc., New York.

11. New Directions in Solid State Chemistry, C.N.R.Rao, J. Gopalakrishna, Cambridge University Press.
12. Introduction to nanoscience, Gabor L. Hornyak, Joydeep Dutta, Harry F.Tibbals, Anil K. Rao, CRC Press.
13. Nanotechnology, S.Shanmugam, MJP Publishers, Chennai (2010).
14. A Handbook on Nanochemistry, Patrick Salomon, Dominant Publishers and Distributers, New Delhi.
15. Nanotechnology: Importance and applications, M.H. Fulekar, IK International.
16. Supramolecular chemistry- Concepts and Perspectives, J.M. Lehn, Wiley-VCH.
17. Physical Chemistry, K. K. Padmanabha, Lakshmi Printing & Publishing House, Mysore.

UNIT - III: ANALYTICAL CHEMISTRY

Total Hours: 15

(Note: Numerical problems must be solved wherever necessary)

Chapter-1: Radio Chemical Methods of Analysis **8 hours (10 marks weightage)**

Radiation dose, G-value primary and secondary processes, radiolysis of water vapour, Dosimeter-Fricke dosimeter and ceric sulphate dosimeter, Introduction, nature of radioactivity, radiometric units, detection and measurement of radioactivity, disintegration, rate of disintegration, radioactive traces, tracer techniques, applications in analytical chemistry, isotopic dilution analysis, activation analysis, radiometric analysis and applications.

Chapter-2: Thermal methods of analysis **4 hours (10 marks weightage)**

Introduction, thermogravimetric analysis (TGA), types of thermogravimetric analysis, principle and method. Automatic thermogravimetric analysis, instrumentation, types of recording thermobalances, Introduction, instrumentation and application of DSC and DTA.

Chapter-3: Kinetic methods of analysis **3 hours (6 marks weightage)**

Kinetics- the basics, Enzyme Catalysis properties of enzymes, enzyme inhibitors and activators, some examples of enzyme analysis.

References:

1. Vogel's Text book of Quantitative Chemical Analysis- Revised by G. H. Jaffery, J. Bassett, J. Mendham and R. C. Denny ELBS, V Edition (1996).
2. Introduction to Instrumental Analysis – R.D. Braun 1986.
3. Instrumental method of chemical analysis – B.K. Sharma, Goel publishing House, Meerut 2000.
4. Instrumental method of analysis – Willard, merit and Dean, VII Edition 1998.
5. Analytical Chemistry- Gray D. Christian, V Edition John Wiley and Sons, Inc.
6. Instrumental Methods of Chemical Analysis-B.K.Sharma, Goel publishing House, Meerut, 2000.
7. Quantitative Chemical Analysis- D. C. Harris, W. M. Freeman and Co., NY, USA, IVED, 1995.


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SIXTH SEMESTER

PAPER-VIII: CHEMISTRY - VIII

Total Hours: 45

UNIT - I: INORGANIC CHEMISTRY

Total Hours: 15

Chapter-1: Inorganic polymers

5 hours (9 marks weightage)

Silicones: Types, preparation (Linear, branched and cyclic), properties and applications. Fluorocarbons: Definition, examples, properties, manufacture of Teflon and uses. Phosphazenes: Preparation, properties and nature of bonding in triphosphazenes. S-N ring compounds (S_4N_4 and S_2N_2): Preparation, properties and uses.

Chapter-2

3 hours (5 marks weightage)

Organometallic Compounds

Definition, Classification, Based on Hapticity and Based on Group, 18 electron rule, Structure of ferrocene and Chromocene.

Chapter-3: Bio-inorganic Chemistry

7 hours (13 marks weightage)

Elements in biological systems- metals and nonmetals, bulk metals and trace metals. Iron: Co-ordination environment in Haeme, Role of haemoglobin in oxygen transportation. Zinc: Zinc containing metalloenzymes- role of carbonic anhydrase and carboxy peptidase. Magnesium: Co-ordination environment in chlorophyll, skeletal structure of chlorophyll, role of chlorophyll in photosynthesis. Cobalt: Vitamin B_{12} , Molybdenum: Nitrogenase.

References:

1. Principles of Inorganic Chemistry (UGC Syllabus), B.R. Puri, L.R. Sharma, K.C. Kalia, Milestone Publishers, New Delhi, India, 2008.
2. Advanced Inorganic Chemistry by Gurudeep Raj and Chatwal Anand.
3. Modern Inorganic Chemistry by P L Sony.
4. A text book of Industrial Chemistry by B K Sharma.
5. A text book of Bioinorganic chemistry by Hussain Reddy.

UNIT - II: ORGANIC CHEMISTRY

Total Hours: 15

Chemistry of Natural products.

Chapter-1: Carbohydrates

5 hours (8 marks weightage)

Classification and nomenclature of carbohydrates. Monosaccharides- Mechanism of formation of osazone from glucose and fructose. Inter-conversion of glucose and fructose. Chain lengthening and chain shortening of aldoses, configuration of glucose and fructose. Epimerization (conversion of glucose into mannose). Formation of glycosides. Determination of ring size of D(+) glucose. Elucidation of cyclic structure of D(+) glucose. Constitution of D(+) Fructose. Determination of ring size of D(-) Fructose (six membered ring). Mechanism of mutarotation.

Disaccharides- Elucidation of structure of maltose and sucrose. Polysaccharides- Structure of starch and cellulose.

Chapter-2: Amino acids and proteins**4 hours (7 marks weightage)**

Definitions and classification of amino acids, synthesis of amino acids by Gabriel phthalimide, malonic ester and Strecker's method of synthesis.

Properties and reactions- Zwitter ion and isoelectric points. Ninhydrin and Biuret tests.

Peptides: peptide bond, carbobenzoxy method of synthesis of peptides.

Proteins: Classification based on composition and structure: primary and secondary structures of proteins. Denaturation of proteins.

Chapter-3: Alkaloids**2 hours (4 marks weightage)**

Definition, method of isolation, structural elucidation of nicotine and its synthesis by Spath process. Structure and uses of atropine and cocaine.

Chapter-4: Terpenes**2 hours (4 marks weightage)**

Classification and isolation. isoprene rule, structure of menthol, camphor, geraniol, α -terpineol and zingiberene. Structural elucidation of citral and its synthesis from methyl heptenone.

Chapter-5: Enzymes and nucleic acids**2 hours (4 marks weightage)**

Classification, active site, factors affecting activity of enzymes with explanation. Mechanism of enzyme catalysis (chymotrypsin as example).

Synthesis of nucleosides and nucleotides. Hydrogen bonding in DNA.

References:

1. O. P. Agarwal, Chemistry of Organic Natural Products, Vol 1 and 2, Goel Pub. House, 2002.
2. Gurdeep Chatwal, Chemistry of Organic Natural Products, Vol 1 and 2, Goel Pub. House, 2002.
3. Bahl and Arun Bahl, Advanced Organic Chemistry, S. Chand and Sons, New Delhi, 2005.
4. Lubert Stryer, Biochemistry, W. H. Freeman and company, New York, 1975.
5. Robert L. Caret, Katherine J. Denniston, Joseph J. Topping, Principles and Applications of organic and biological chemistry, WBB publishers, USA, 1993.
6. J. L. Jain, Biochemistry, Sultan Chand and Co. 1999
7. A. Mazur and B. Harrow, Text book of Biochemistry, 10th Edition, W.B. Saunders Co., Philadelphia, 1971.
8. Paula Yurkanis Bruice, Organic Chemistry, III Edition, Pearson Education, Inc. (Singapore), New Delhi, reprint, 2002.


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(Note: Numerical problems must be solved wherever necessary)

Chapter-1: Thermodynamics-II: 6 hours (10 marks weightage)

Clausius-Clapeyron equation (derivation) and its applications. Nernst heat theorem; statement and concept of residual entropy, evaluation of absolute entropy. Third law of thermodynamics. Partial molar quantities; Concept of chemical potential, variation of chemical potential with temperature and pressure, derivation of Gibbs-Duhem equation, Duhem-Margules equation and its application.

Chapter-2: Elementary Quantum Mechanics 4 hours (7 marks weightage)

Physical interpretation of the wave function. Postulates of quantum mechanics, Schrödinger wave equation based on the postulates of quantum mechanics and its importance. Eigen values and Eigen functions, Hamiltonian operator. Application of Schrödinger equation to Particle in a one dimensional box (derivation).

Chapter-3: Statistical Thermodynamics 5 hours (9 marks weightage)

Energy states: macro and microstates, Limitation of classical thermodynamics, Distinguish between classical mechanics and statistical mechanics. Sterling approximation, derivation of Maxwell-Boltzmann statistics, statistical interpretation of entropy, application of statistics to gases-monoatomic ideal gas (No derivations). Partition functions and thermodynamic parameters, expressions for translational, rotational, vibrational and electronic partition functions, enthalpy, energy, Gibbs free energy.

References:

1. Physical chemistry; R. L. Madan, G. D. Tuli, S. Chand & Co.
2. Principles of Physical Chemistry: Puri, Sharma and Pathania, Vishal Publishing Co.
3. A Textbook of Physical Chemistry, Volume 2, K L Kapoor, Mc. Millan publishers India Limited.
4. A Textbook of Physical Chemistry, A. S. Negi, New age
5. Physical Chemistry, K. J. Laidler and J. M. Meiser, III Edition, Houghton Mifflin Comp., New, York, International Edition.
6. Industrial Electrochemistry, D. Pletcher and F.C. Walsh, Chapman and Hall, II Edition, 1984.
7. Physical Chemistry, T.W. Atkins, Oxford University Press
8. Advanced Physical Chemistry, D. N. Bajpai, S. Chand & Co.
9. Quantum Chemistry, R.K. Prasad, 4th Edition, New Age International Publishers, New Delhi.
10. Quantum Mechanics for Chemists, David O. Hayward, The Royal Society of Chemistry, UK.
11. Quantum Chemistry, John P. Lowe, Kirk A. Peterson, III Edition, Academic Press, London, UK.
12. Quantum Chemistry, Donald A. McQuarrie, I Indian Edition, Viva Books Pvt. Ltd., New Delhi.
13. Quantum Chemistry, Ira N. Levine, V Edition, Pearson Education Pvt. Ltd., New Delhi.

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PRACTICALS FOR B.Sc. COURSE (CHEMISTRY)- 2016

FIRST SEMESTER - PRACTICALS (3 HOURS PER WEEK)

PAPER - I: VOLUMETRIC ANALYSIS

1. Calibration of pipette, burette, standard flask (100mL).
2. Preparation of standard solution of Sodium carbonate, standardization of HCl and estimation of NaOH.
3. Preparation of standard solution of potassium biphthalate, standardization of sodium hydroxide solution and estimation of HCl/H₂SO₄.
4. Preparation of standard solution of oxalic acid, standardization of KMnO₄ solution and estimation of Mohr's salt solution.
5. Preparation of standard Mohr's salt solution, standardization of K₂Cr₂O₇ and estimation of Ferric chloride solution (diphenylamine indicator).
6. Preparation of standard solution of ZnSO₄, standardization of EDTA and estimation of hardness of water.
7. Preparation of standard solution of K₂Cr₂O₇, standardization of sodium thiosulphate solution and estimation of copper in copper sulphate solution.
8. Estimation of available chlorine in bleaching powder.
9. Determination of acetic acid in commercial vinegar using NaOH.
10. Determination of alkali content – antacid tablet using HCl.
11. Estimation of calcium content in a sample Eg., chalk as calcium oxalate.

Note: A minimum of EIGHT experiments must be performed and recorded.


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SECOND SEMESTER - PRACTICALS (3 HOURS PER WEEK)

PAPER - II: Inorganic Qualitative Analysis

Systematic Semi-Micro Inorganic Qualitative Analysis of a salt mixture containing Two Cations and Two Anions.

The following radicals may be given:

BASIC RADICALS: (from amongst) Pb^{2+} , Bi^{3+} , Cd^{2+} , Al^{3+} , Zn^{2+} , Mn^{2+} , Ba^{2+} , Sr^{2+} , Ca^{2+} , Mg^{2+} , Na^+ , K^+ , and NH_4^+ .

ACID RADICALS: (from amongst) CO_3^{2-} , HCO_3^- , SO_3^{2-} , S^{2-} , NO_2^- , F^- , Cl^- , Br^- , I^- , NO_3^- , SO_4^{2-} , BO_3^{3-} , PO_4^{3-} .

Experiment A: Preliminary Tests for acid and basic radicals in given samples.

Experiment B: Wet tests for Acid and Basic radicals in given samples.

Experiment C: Confirmatory tests.

Note:

1. At least 10 unknown samples are to be analyzed by each student during the laboratory session.
2. The students have to write the equation and proper explanation wherever necessary.

THIRD SEMESTER - PRACTICALS (3 HOURS PER WEEK)

PAPER – III: Organic Qualitative Analysis

Qualitative analysis of Organic compounds [Monofunctional group]

The following compounds may be given:

1. Urea
2. Oxalic acid
3. Aniline
4. o-Cresol
5. Benzoic acid
6. Benzaldehyde
7. Acetophenone
8. Chlorobenzene
9. Benzamide
10. Nitrobenzene
11. Toluene

Note: A minimum of EIGHT experiments must be performed and recorded.

Chemical equations have to be discussed for all tests.

FOURTH SEMESTER – PRACTICALS (3 HOURS PER WEEK)

PAPER – IV: Chemistry Practicals - IV

1. Determination of density using specific gravity bottle and viscosity of the given liquid by using Ostwald's viscometer.
2. Determination of density and surface tension of the given liquid by drop weight method using stalagmometer.
3. Determination of molecular weight of non volatile solute by Walker-Lumsden method.
4. Determination of percentage of given electrolyte in phenol water system by miscibility temperature method.
5. Determination of percentage of given binary mixture (Glycerol-water) by viscosity method.
6. Determination of rate constant of Fe^{3+} catalyzed decomposition of H_2O_2 .
7. Determination of rate constant of saponification of ethyl acetate.
8. Determination of critical solution temperature of phenol water system.
9. Determination of transition temperature of given hydrate salt ($\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$).
10. Identification of the given amino acid by paper chromatography.
11. Determination of rate constant of inversion of cane sugar by polarimeter method.

Note: A minimum of EIGHT experiments must be performed and recorded.

FIFTH SEMESTER - PRACTICALS (3 HOURS PER WEEK)

PAPER – V: Gravimetric Analysis

1. Estimation of Barium (from barium chloride solution) as Barium sulphate.
2. Estimation of Iron (from Mohr's salt solution) as Iron oxide.
3. Estimation of Aluminium (from potash alum solution) as Aluminium oxide.
4. Estimation of Nickel (from Nickel ammonium sulphate solution) as Nickel dimethylglyoximate.
5. Estimation of Copper (from copper sulphate solution) as Cuprous thiocyanate.
6. Estimation of Zinc (from zinc sulphate solution) as Zinc oxinate..
7. Estimation of sulphate (from barium chloride solution) as Barium sulphate.
8. Estimation of Magnesium (from magnesium sulphate solution) as **Magnesium oxinate.**

Note: All the above experiments must be performed and recorded.

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V SEMESTER – PRACTICALS (3 HOURS PER WEEK)

PAPER – VI: Organic preparation and estimation

Part-A: Preparation

1. Preparation of acetanilide from aniline.
2. Preparation of m-dinitro benzene from nitrobenzene. (Example for nitration reaction)
3. Preparation of benzoic acid from benzaldehyde. (Example for oxidation reaction)
4. Preparation of p-bromo acetanilide from acetanilide. (Example for bromination reaction)
5. Preparation of azo dye from aniline. (Example for coupling reaction)

Note: A minimum of FOUR experiments must be performed and recorded.

Part-B: Estimation

1. Determination of Phenol.
2. Determination of Aniline.
3. Determination of Glycine.
4. Determination of Citric acid.
5. Determination of Amide.

Note: A minimum of FOUR experiments must be performed and recorded.

SIXTH SEMESTER - PRACTICALS (3 HOURS PER WEEK)

PAPER – VII: Chemistry Practicals - VII

Part-A

1. Determination of percentage composition of a binary mixture of organic liquids by using Abbe's Refractometer
2. Determination of rate constant of inversion of cane sugar by Polarimeter.
3. Determination of cell constant (0.1N KCl solution to be prepared by students) and determine the equivalent conductance of the given electrolyte solution by using conductivity bridge.
4. Determination of cell constant (0.1N KCl solution to be prepared by students) and determine the equivalent conductance at infinite dilution for weak electrolyte of given solution.
5. Potentiometric titration of Mohr's salt solution v/s Potassium dichromate/Potassium permanganate solution
6. Potentiometric titration of Hydrochloric acid v/s Sodium hydroxide.

Note: A minimum of FOUR experiments must be performed and recorded.

Part-B

1. Conductometric titration of Sodium hydroxide vs Hydrochloric acid
2. Conductometric titration of Mixture of weak acid and strong acid vs Sodium hydroxide.
3. Determine the pH of mixture of acetic acid and sodium acetate at different concentrations and determination of dissociation constant of acid by using pH meter.
4. Estimation of Cu(II) in the given solution by colorimetric method.
5. Estimation of Fe(III) in the given solution by colorimetric method.
6. Conductometric titration of tertiary mixture of CuSO_4 + Acetic acid + HCl using NaOH solution.

Note: A minimum of FOUR experiments must be performed and recorded.

SIXTH SEMESTER – PRACTICALS (3 HOURS PER WEEK)

PAPER – VIII: Inorganic Complex Preparation and Estimation

Part - A: Preparation and estimation

1. Preparation of chloropentamminecobalt(III) chloride.
2. Preparation of nitropentammine cobalt(III) chloride
3. Preparation of tetraamminecopper(II) sulphate.
4. Preparation of potassium trisoxalatoferrate(III) hydrate.
5. Preparation of trithiourea zinc(II) complex.
6. Preparation of Hexamminenickel(II)chloride complex.

Note: A minimum of FOUR experiments must be performed and recorded.

Part - B: Ore Analysis

1. Estimation of calcium carbonate in limestone by oxalate method.
2. Estimation of amount of iron present in haematite ore.
3. Estimation of MnO_2 present in the given pyrolusite ore.
4. Estimation of amount of nitrite present in sodium nitrite ore solution.
5. Estimation of amount of magnesium present in gypsum ore.
6. Estimation of amount of chromium present in chromite ore.

Note: A minimum of FOUR experiments must be performed and recorded.


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BA/BSc/BCom/BBA/BCA

BSc Semester 1 – Chemistry (Hons)with specialization in Analytical Chemistry

Title of the Course:DSC-1: Analytical and Organic Chemistry – I

Number of Theory Credits	Number of lecture hours/semester	Number of practical Credits	Number of practical hours/ semesters
4	56	2	56
Content of Theory Course 1			56Hrs
Unit –1			14
<p>Language of analytical chemistry: Definitions of analysis, determination, measurement, techniques and methods. Classification of analytical techniques. Choice of an analytical method - accuracy, precision, sensitivity, selectivity, method validation. Figures of merit of analytical methods and limit of detection (LOD), Limit of quantification (LOQ), linear dynamic range (working range).</p> <p>Errors and treatment of analytical data: Limitations of analytical methods – Errors: Determinate and indeterminate errors, absolute error, relative error, minimization of errors. Statistical treatment of finite samples -mean, median, range, standard deviation and variance. External standard calibration - regression equation (least squares method), correlation coefficient (R^2).</p> <p>Numerical problems</p> <p>Basic laboratory practices, calibration of glassware (pipette, burette and volumetric flask), Sampling (solids and liquids), weighing, drying, dissolving, Acid treatment, Rules of work in analytical laboratory, General rule for performing quantitative determinations (volumetric and gravimetric), Safety in Chemical laboratory, Rules of fire prevention and accidents, First aid. Precautions to be taken while handling toxic chemicals, concentrated/fuming acids and organic solvents.</p>			
Unit - 2			14
<p>Titrimetric analysis: Basic principle of titrimetric analysis. Classification, Preparation and dilution of reagents/solutions. Normality, Molarity and Mole fraction. Use of $N_1V_1 = N_2V_2$ formula, Preparation of ppm level solutions from source materials (salts), conversion factors.</p> <p>Acid-base titrimetry: Titration curves for strong acid vs strong base, weak acid vs strong base and weak base vs strong acid titrations. Titration curves, Quantitative applications – selecting and standardizing a titrant, inorganic analysis - alkalinity, acidity.</p> <p>Complexometric titrimetry: Indicators for EDTA titrations - theory of metal ion indicators, titration methods employing EDTA - direct, back, displacement and indirect determinations, Application-determination of hardness of water.</p> <p>Redox titrimetry: Balancing redox equations, calculation of the equilibrium constant of redox reactions, titration curves, Theory of redox indicators, calculation of standard potentials using Nernst equation. Applications.</p> <p>Precipitation titrimetry: Titration curves, titrants and standards, indicators for precipitation titrations involving silver nitrate- Volhard's and Mohr's methods and their differences.</p> <p>Gravimetric Analysis: Requisites of precipitation, mechanism of precipitation, Factors influencing precipitation, Co-precipitation, post-precipitation, Advantages of organic reagents over inorganic reagents, reagents used in gravimetry (8-hydroxy quinoline (oxine) and dimethyl glyoxime (DMG)).</p> <p>Numerical problems on all the above aspects.</p>			
Unit - 3			14
<p>Classification and nomenclature of organic compounds, Hybridization, Shapes of organic molecules, Influence of hybridization on bond properties.</p> <p>Nature of bonding in Organic molecules</p> <p>Formation of Covalent bond, Types of chemical bonding, localized and delocalized, conjugation and cross conjugation, concept of resonance, electronic displacements: Inductive effect, Electromeric effect, Resonance and Hyper conjugation, cross conjugation explanation with examples. Concept of resonance, aromaticity, Huckel rule, anti-aromaticity explanation with examples. Strengths of Organic acid and bases: Comparative study with emphasis on factors effecting pK values. Relative strength of aliphatic and aromatic carboxylic acids-Acetic acid and chloroacetic acid, acetic acid and propionic acid, acetic acid and Benzoic acid. Steric effect- Relative stability of trans and cis-2-butene.</p>			

<p>Mechanisms of Organic Reactions</p> <p>Notations used to represent electron movements and directions of reactions- curly arrows, formal charges. Types of bonds breaking- homolytic and heterolytic. Types of reagents-Electrophiles, nucleophiles, nucleophilicity and basicity. Types of organic reactions- substitution, addition, elimination, rearrangement and pericyclic reactions, explanation with examples.</p> <p>Chemistry of Aliphatic hydrocarbons, Carbon-Carbon Sigma bonds</p> <p>Chemistry of alkanes: Formation of alkanes, Wurtz reaction, Wurtz-Fittig reaction, Free radical substitution, Halogenation- relative reactivity and selectivity</p> <p>Carbon-carbon pi bonds</p> <p>Formation of alkenes and alkynes by elimination reaction. Mechanism of E1, E2, E1cb reaction. Saytzeff and Hofmann eliminations. Addition of HBr to propene, Free radical addition of HBr to propene. Addition of halogens to alkenes-carbocation and halonium ion mechanism. Stereospecificity of halogen addition. Ozonolysis mechanism - ozonolysis of propene. Addition of hydrogen halides to alkenes, mechanism, regioselectivity and relative rates of addition. Hydrogenation, hydration, hydroxylation and epoxidation of alkenes, explanation with examples, 1,2 and 1,4- addition reactions in conjugated dienes. Diels-Alder reaction, Allylic and benzylic bromination and mechanism in propene, 1-butene, 1-toluene and ethylbenzene.</p>	
Unit - 4	14
<p>Nucleophilic substitution at saturated carbon. Mechanism of S_N^1 and S_N^2 reactions with suitable examples. Energy profile diagrams, Stereochemistry and factors effecting S_N^1 and S_N^2 reactions.</p> <p>Aromatic Electrophilic substitution reactions, Mechanisms, σ and π complexes, Halogenation, Nitration, Sulphonation, Friedel Crafts alkylation and acylation with their mechanism. Activating and deactivating groups. Orientation influence, Ortho-para ratio.</p> <p>Aromatic nucleophilic substitution reaction: S_N^Ar and Benzyne mechanism with suitable examples</p>	

Text Books

1. Vogel's Textbook of Quantitative Chemical Analysis, J. Mendham, R.C. Denney, J.D. Barnes and M.J.K. Thomas, 6th edition, Third Indian Reprint, Pearson Education Pvt.Ltd.(2007).
2. Fundamentals of Analytical Chemistry, D.A. Skoog, D.M. West, Holler and Crouch, 8th edition, Saunders College Publishing, New York (2005).
3. Analytical Chemistry, G.D. Christian, 6th edition, Wiley-India (2007).
4. Practical Volumetric Analysis, Peter A C McPherson, Royal Society of Chemistry, Cambridge, UK (2015).
5. Morrison, R. N. & Boyd, R. N. *Organic Chemistry*, Dorling Kindersley (India) Pvt. Ltd. (Pearson Education)
6. Finar, I. L. *Organic Chemistry (Volume I)*, Dorling Kindersley (India) Pvt. Ltd. (Pearson Education)
7. McMurry, J. E. *Fundamentals of Organic Chemistry*, 7th Ed. Cengage Learning India Edition, 2013
8. Organic Reaction mechanism by V. K. Ahluwalia and K. Parashar (Narosa Publishers).
9. Organic Chemistry by S. M. Mukherji, S. P. Singh and R. K. Kapoor. (Narosa Publishers)
10. A Guide book to mechanism in Organic Chemistry by Peter sykes.Pearson.

References

Pedagogy

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Internal Test	40
Sem End Exam	60
Total	100

Date

Course Co-ordinator

Subject Committee Chairperson


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Content of Practical Course 1: List of Experiments to be conducted

PART-A Analytical Chemistry

1. Calibration of glassware, pipette, burette and volumetric flask.
2. Determination of sodium carbonate and sodium bicarbonate in a mixture.
3. Determination of alkali present in soaps/detergents
4. Determination of iron(II) using potassium dichromate
5. Determination of oxalic acid using potassium permanganate solution
6. Standardization of EDTA solution and determination of hardness of water
7. Determination of Fe^{2+} as Fe_2O_3
8. Determination of Ni^{2+} as $\text{Ni}(\text{DMG})_2$ complex.

PART-B Organic Chemistry

1. Selection of suitable solvents for Purification/Crystallization of organic compounds.
2. Preparation of acetanilide from aniline using Zn/acetic acid (Green method).
3. Synthesis of p-nitro acetanilide from acetanilide using nitrating mixture.
4. Bromination of acetanilide (i) Conventional method and/or (ii) with ceric ammonium nitrate and potassium bromide (Green method).
5. Hydrolysis of methyl m-nitrobenzoate to m-nitrobenzoic acid (Conventional method)
6. Synthesis of diazoaminobenzene from aniline (conventional method).
7. Preparation of dibenzalacetone (Green method).
8. Diels Alder reaction between furan and maleic acid (Green method).


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B.Sc Semester 1 – Chemistry (Hons) with specialization in Analytical Chemistry

Title of the Course:OE-1: CHEMISTRY IN DAILY LIFE

Number of Theory Credits	Number of lecture hours/ semester	Number of practical Credits	Number of practical hours/ semesters
3	42	-	42
Content of Theory Course 1			42 Hrs
Unit –1			14
<p>Dairy Products: Composition of milk and milk products. Analysis of fat content, minerals in milk and butter. Estimation of added water in milk. Beverages: Analysis of caffeine in coffee and tea, detection of chicory in coffee, chloral hydrate in toddy, determination of methyl alcohol in alcoholic beverages.</p> <p>Food additives, adulterants, and contaminants- Food preservatives like benzoates, propionates, sorbates, disulphites. Artificial sweeteners: Aspartame, saccharin, dulcin, sucralose, and sodium cyclamate. Flavors: Vanillin, alkyl esters (fruit flavors), and monosodium glutamate.</p> <p>Artificial food colorants: Coal tar dyes and non-permitted colors and metallic salts. Analysis of pesticide residues in food.</p>			
Unit - 2			14
<p>Vitamins: Classification and Nomenclature. Sources, deficiency diseases, and structures of Vitamin A1, Vitamin B1, Vitamin C, Vitamin D, Vitamin E & Vitamin K1.</p> <p>Oils and fats: Composition of edible oils, detection of purity, rancidity of fats and oil. Tests for adulterants like argemone oil and mineral oils. Halphen test.</p> <p>Soaps & Detergents: Definition, classification, manufacturing of soaps and detergents, composition and uses</p>			
Unit - 3			14
<p>Chemical and Renewable Energy Sources: principles and applications of primary & secondary batteries and fuel cells. Basics of solar energy, future energy storer.</p> <p>Polymers: Basic concept of polymers, classification and characteristics of polymers. Applications of polymers as plastics in electronic, automobile components, medical fields, and aerospace materials. Problems of plastic waste management. Strategies for the development of environment-friendly polymers.</p>			

Text Books

1. B. K. Sharma: Introduction to Industrial Chemistry, Goel Publishing, Meerut (1998)
2. Medicinal Chemistry- Ashtoush Kar.
3. Analysis of Foods – H.E. Cox: 13.
4. Chemical Analysis of Foods – H.E. Cox and Pearson.
5. Foods: Facts and Principles. N. Shakuntala Many and S. Swamy, 4th ed. New Age International (1998)
6. Physical Chemistry – P I Atkins and J. de Paula – 7th Ed. 2002, Oxford University Press.
7. Handbook on Fertilizer Technology by Swaminathan and Goswamy, 6th ed. 2001, FAI.
8. Organic Chemistry by I. L. Finar, Vol. 1 & 2. 9. Polymer Science and Technology, J. R. Fired (Prentice Hall).

References

Pedagogy


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BSc Semester 2 – Chemistry (Hons) with specialization in Analytical Chemistry
Title of the Course: DSC – 2: INORGANIC AND PHYSICAL CHEMISTRY - I

Number of Theory Credits	Number of lecture hours/semester	Number of practical Credits	Number of practical hours/ semesters
4	56	2	56
Content of Theory Course 2			56Hrs
Unit –1			14
<p>Bohr's theory, its limitations and atomic spectrum of hydrogen atom. Wave mechanics: de Broglie equation, Heisenberg's Uncertainty Principle and its significance, Schrödinger's wave equation, significance of ψ and ψ^2. Quantum numbers and their significance.</p> <p>Normalized and orthogonal wave functions. Sign of wave functions. Radial and angular wave functions for hydrogen atom. Radial and angular distribution curves. Shapes of s, p, d and f orbitals. Contour boundary and probability diagrams.</p> <p>Pauli's Exclusion Principle, Hund's rule of maximum multiplicity, Aufbau's principle and its limitations- Electronic configurations of the elements (Z=1-30), effective nuclear charge, shielding/screening effect, Slater's rules. Variation of effective nuclear charge in Periodic Table.</p>			
Unit - 2			14
<p>s, p, d and f-block elements, the long form of periodic table. Detailed discussion of the following properties of the elements, with reference to s and p-block elements:</p> <p>(a) Atomic radii (van der Waals)</p> <p>(b) Ionic and crystal radii.</p> <p>(c) Covalent radii</p> <p>(d) Ionization enthalpy, successive ionization enthalpies and factors affecting ionization energy. Applications of ionization enthalpy.</p> <p>(e) Electron gain enthalpy, trends of electron gain enthalpy.</p> <p>(f) Electronegativity, Pauling's/ Mulliken's/ Allred Rachow's/ and Mulliken-Jaffé's electronegativity scales. Variation of electronegativity with bond order, partial charge, hybridization, group electronegativity.</p> <p>Trends in the chemistry of the compounds of groups 13 to 17 (hydrides, carbides, oxides and halides) are to be discussed.</p>			
Unit - 3			14
<p><u>Gaseous State</u></p> <p>Elementary aspects of kinetic theory of gases, Ideal and real gases. Boyle temperature (derivation not required), Molecular velocity, collision frequency, collision diameter, Collision cross section, collision number and mean free path and coefficient of viscosity, calculation of σ and η, variation of viscosity with temperature and pressure.</p> <p>Maxwell's Boltzmann distribution law of molecular velocities (Most probable, average and root mean square velocities). Relation between RMS, average and most probable velocity and average kinetic energies. (Mathematical derivation not required), law of equipartition of energy.</p> <p>Behaviour of real gases: Deviation from ideal gas behaviour. Compressibility factor (Z) and its variation with pressure for different gases. Causes of deviation from ideal behaviour, vander Waals equation of stat (No derivation) and application in explaining real gas behaviour. Critical phenomena - Andrews isotherms of CO₂, critical constants and their calculation from van der Waals equation, Continuity of states, Law of corresponding states. Numerical problems.</p> <p><u>Liquid State</u></p>			

<p>Surface Tension: Definition and its determination using stalagmometer, effect of temperature and solute on surface tension</p> <p>Viscosity: Definition, Coefficient of viscosity. Determination of viscosity of a liquid using Oswald viscometer. Effect of temperature, size, weight, shape of molecules and intermolecular forces.</p> <p>Refraction: Specific and molar refraction- definition and advantages. Determination of refractive index by Abbes Refractometer.</p> <p>Additive and constitutive properties.</p> <p>Parachor: Definition, Atomic and structure parachor, Elucidation of structure of benzene and benzoquinone. Viscosity and molecular structure. Molar refraction and chemical constitution.</p> <p>Numerical Problems.</p>	
Unit - 4	14
<p>Liquid Crystals</p> <p>Explanation, classification with examples- Smectic, nematic, cholesteric, disc shaped and polymeric. Structures of nematic and cholesteric phases-molecular arrangements in nematic and cholesteric liquid crystals. Applications of liquid crystals in LCDs and thermal sensing.</p> <p>Solids</p> <p>Forms of solids: Unit cell and space lattice, anisotropy of crystals, size and shape of crystals,</p> <p>Laws of Crystallography: Law of constancy of interfacial angles, Law of rational indices, Law of symmetry (Symmetry elements), Crystal systems, Bravais lattice types and identification of lattice planes.</p> <p>Miller indices and its calculation, X-Ray diffraction by crystals: Bragg's law and derivation of Bragg's equation, Single crystal and powder diffraction methods. Defects in crystals, glasses and liquid crystals. Numerical problems.</p> <p>Distribution Law</p> <p>Nernst Distribution Law - Statement and its derivation. Distribution constant, factors affecting distribution constant, validity of Distribution Law, Modification of distribution law when molecules undergo a) Association b) Dissociation. Application of Distribution Law in Solvent extraction. Derivation for simple and multiple extraction. Principles of distribution law in Parkes Process of desilverisation of lead. Numerical Problems.</p>	

Text Books

1. Concise Inorganic Chemistry: J D Lee, 4th Edn, Wiley, (2021)
2. Fundamentals Concepts of Inorganic Chemistry, Vol 1 and 2, 2nd Edition, Asim K Das, CBS Publishers and Distributors, (2013)
3. Basic Inorganic Chemistry, F A Cotton, G Wilkinson and P. L. Gaus, 3rd Edition. Wiley. India
4. Inorganic Chemistry, 2nd Edn. Catherine E. Housecroft and A.G. Sharpe, Pearson Prentice Hall (2005)
5. Atkins Physical Chemistry. 8th Edition. Peter Atkins & Julio De Paula Oxford University Press.
6. Physical Chemistry by Samuel Glasstone, ELBS (1982).
7. A Text book of Physical Chemistry, A S Negi & S C Anand, New Age International Publishers (2007).
8. Principles of Physical Chemistry, Puri, Sharma & Pathania, Vishal Publishing Co.
9. A Text Book of Physical Chemistry P.L.Soni , O.P. Dharmarhaand and U.N.Dash, Sultan Chand and Sons.
10. Advanced Physical Chemistry, Gurdeep Raj, Goel Publishing House (2018)

References

Pedagogy

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Internal Test	40
Sem End Exam	60
Total	100

Date _____ Course Co-ordinator _____ Subject Committee Chairperson _____

Content of Practical Course 2: List of Experiments to be conducted

PART-A Inorganic Chemistry

TITRIMETRY

1. Determination of carbonate and hydroxide present in a mixture.
2. Determination of oxalic acid and sodium oxalate in a given mixture using standard $\text{KMnO}_4/\text{NaOH}$ solution
3. Standardization of potassium permanganate solution and determination of nitrite in a water sample
4. Standardization of silver nitrate and determination of chloride in a water sample (demonstration)
5. Determination of alkali content in antacids
6. Determination of chlorine in bleaching powder using iodometric method.

GRAVIMETRY

1. Determination of Ba^{2+} as BaSO_4
2. Determination of Cu^{2+} as CuSCN

PART-B Physical Chemistry

1. Safety Practices in the Chemistry Laboratory, Knowledge about common toxic chemicals and safety measures in their handling, cleaning and drying of glassware's
2. Determination of density using specific gravity bottle and viscosity of liquids using Ostwald's viscometer (Ethyl acetate, Toluene, Chloroform, Chlorobenzene or any other non-hazardous liquids)
3. Study of the variation of viscosity of sucrose solution with the concentration of a solute
4. Determination of the density using specific gravity bottle and surface tension of liquids using Stalagmometer (Ethyl acetate, Toluene, Chlorobenzene, any other non-hazardous liquids)
5. Study of variation of surface tension of detergent solution with concentration.
6. Determination of specific and molar refraction by Abbes Refractometer. (Ethyl acetate, Methyl acetate, Ethylene Chloride)
7. Determination of the composition of liquid mixture by refractometry. (Toluene & Alcohol, Water & Sucrose)
8. Determination of partition/distribution coefficient - i) Acetic acid in water and cyclohexane. ii) Acetic acid in Water and Butanol. iii) Benzoic acid in water and toluene.

BSc Semester 2 – Chemistry (Hons) with specialization in Analytical Chemistry
Title of the Course:OE – 2: Molecules of Life

Number of Theory Credits	Number of lecture hours/semester	Number of practical Credits	Number of practical hours/ semesters
3	42	-	42
Content of Theory Course 2			42 Hrs
Unit –1			14
<p>Carbohydrates Classification of carbohydrates, reducing and non-reducing sugars, General properties of glucose and fructose, their open chain structures. Epimers, mutarotation and anomers. Linkage between monosaccharides, structure of disaccharides (sucrose, maltose, lactose) and polysaccharides (starch and cellulose) excluding their structure elucidation.</p> <p>Amino Acids, Peptides and Proteins Classification of amino acids, Zwitterion structure and Isoelectric point. Overview of Primary, Secondary, Tertiary and Quaternary structure of proteins. Determination of primary structure of peptides.</p>			
Unit - 2			14
<p>Enzymes and correlation with drug action Mechanism of enzyme action, factors affecting enzyme action, Co-enzymes and cofactors and their role in biological reactions, Specificity of enzyme action (including stereospecificity), Enzyme inhibitors and their importance, phenomenon of inhibition (Competitive and Non competitive inhibition including allosteric inhibition). Drug action-receptor theory. Structure–activity relationships of drug molecules, binding role of –OH group, –NH₂ group, double bond and aromatic ring</p> <p>Lipids Introduction to lipids, classification. Biological importance of triglycerides, phospholipids, glycolipids, and steroids (cholesterol).</p>			
Unit - 3			14
<p>Nucleic Acids Components of nucleic acids: Adenine, guanine, thymine and cytosine (Structure only), other components of nucleic acids, Nucleosides and nucleotides (nomenclature), Structure of polynucleotides; Structure of DNA (Watson-Crick model) and RNA (types of RNA), Genetic Code, Biological roles of DNA and RNA: Replication, Transcription and Translation.</p> <p>Concept of Energy in Biosystems Calorific value of food. Standard caloric content of carbohydrates, proteins and fats. Oxidation of foodstuff (organic molecules) as a source of energy for cells. Introduction to Metabolism (catabolism, anabolism), ATP: the universal currency of cellular energy, ATP hydrolysis and free energy change. Conversion of food into energy. Outline of catabolic pathways of Carbohydrate- Glycolysis, Fermentation, Krebs Cycle. Overview of catabolic pathways of Fats and Proteins. Interrelationships in the metabolic pathways of Proteins, Fats and Carbohydrates.</p>			

Text Books

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Board of Studies in Commerce



NEW EDUCATION POLICY (NEP) 2020

**CURRICULUM FRAMEWORK FOR B.COM (REGULAR)
COURSE-FIRST AND SECOND YEAR**

COURSE STRUCTURE

FIRST SEMESTER

CODE NO	SUBJECT	TEACHING HOURS
DSC 1.1	FINANCIAL ACCOUNTING	4
DSC1.2	MANAGEMENT PRINCIPLES AND APPLICATIONS	4
DSC1.3	PRINCIPLES OF MARKETING	4
OE 1.5	ACCOUNTING FOR EVERYONE	3
OE 1.5	FINANCIAL LITERACY	3

SECOND SEMESTER


CODE NO	SUBJECT	TEACHING HOURS
DSC 2.1	ADVANCED FINANCIAL ACCOUNTING	4
DSC2.2	BUSINESS MATHEMATICS/CORPORATE ADMINISTRATION	4
DSC 2.3	LAW & PRACTICE OF BANKING	4
OE 2.6	FINANCIAL ENVIRONMENT	3
OE 2.6	INVESTING IN STOCK MARKETS	3

THIRD SEMESTER

CODE NO	SUBJECT	TEACHING HOURS
DSC 3.1	CORPORATE ACCOUNTING	4
DSC3.2	BUSINESS STATISTICS	4
DSC3.3	COST ACCOUNTING	4
DSC3.4	CORPORATE GOVERNANCE	3
OE 3.5	BUSINESS ETHICS	3

FOURTH SEMESTER

CODE NO	SUBJECT	TEACHING HOURS
DSC 4.1	ADVANCED CORPORATE ACCOUNTING	4
DSC4.2	COSTING METHODS AND TECHNIQUES	4
DSC4.3	BUSINESS REGULATORY FRAMEWORK	4
OE 4.6	ENTREPRENEURSHIP SKILLS	3
OE 4.6	ADVERTISING SKILLS	3


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FIRST SEMESTER

- **Financial Accounting**
- **Management Principles and Applications**
- **Principles of Marketing**
- **Accounting for Everyone (OE)**

OR

Financial Literacy


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Name of the Program: Bachelor of Commerce (B.Com.)

Course Code: B.Com. 1.1

Name of the Course: Financial Accounting

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs	56 Hrs

Pedagogy: Classrooms lecture, tutorials, Group discussion, Seminar, Case studies & field work etc.,

Course Outcomes: On successful completion of the course, the Students will be able to

- Understand the theoretical framework of accounting as well accounting standards.
- Demonstrate the preparation of financial statement of manufacturing and non-manufacturing entities of sole proprietors.
- Exercise the accounting treatments for consignment transactions & events in the books of consignor and consignee.
- Understand the accounting treatment for royalty transactions & articulate the Royalty agreements.
- Outline the emerging trends in the field of accounting.

Syllabus:

Hours

Module No. 1: Theoretical Framework of Accounting

10

Introduction-Meaning and Scope of Accounting- Accounting Terminologies- Uses and Users of Accounting information-Accounting Process-Basis of Accounting: Cash and Accrual basis-Branches of Accounting-Accounting Principles-Concepts and Conventions-Accounting Standards-Indian Accounting Standards (IND AS).

Module No. 2: Financial Statements of Sole Proprietors

12

Introduction-Meaning of Sole Proprietor-Financial Statements of Non-Manufacturing Entities: Trading Account-Income Statement/Profit & Loss Account-Balance Sheet; Financial Statements of Manufacturing Entities: Manufacturing Account-Trading Account-Profit & Loss account- Balance Sheet.

Module No. 3: Consignment Accounts

12

Introduction-Meaning of Consignment-Consignment vs Sales-Pro-forma Invoice-Accounts Sales-Types Commission-Accounting for Consignment Transactions & Events in the books of Consignor and Consignee - Treatment of Normal & Abnormal Loss. -Valuation of Closing Stock-Goods sent at Cost Price and Invoice Price.

Module No. 4: Royalty Accounts

14

Introduction-Meaning-Types of Royalty-Technical Terms: Lessee, Lessor, Minimum Rent – Short Workings –Recoupment of Short Working–Accounting Treatment in the books of Lessee and lessor – Journal Entries and Ledger Accounts including minimum rent account.

Module No. 5: Emerging Trends in Accounting

08

Digital Transformation of Accounting-Big Data Analytics in Accounting-Cloud Computing in accounting- Accounting with drones- Forensic Accounting- Accounting for Planet-- Creative Accounting-Outsourced Accounting- Predictive Accounting (Theory Only).

Skill Developments Activities:

- Collect Annual Reports of sole proprietors and identify accounting concepts and conventions followed in the preparation of the annual reports.
- Collect Annual Reports of sole proprietors and identify the different components.
- Preparation of Proforma invoice and accounts sales with imaginary figures.
- Collect Royalty Agreements and draft dummy royalty agreements with imaginary figures.

5. Identify latest innovations and developments in the field of accounting.
6. Any other activities, which are relevant to the course.

Text Books:

1. ICAI Study Materials on Principles & Practice of Accounting, Accounting and Advanced Accounting.
2. SP Iyengar (2005), Advanced Accounting, Sultan Chand & Sons, Vol. 1.
3. Robert N Anthony, David Hawkins, Kenneth A. Merchant, (2017) Accounting: Text and Cases, McGraw-Hill Education, 13th Edition.
4. Charles T. Horngren and Donna Philbrick, (2013) Introduction to Financial Accounting, Pearson Education, 11th Edition.
5. J.R. Monga, Financial Accounting: Concepts and Applications. Mayur Paper Backs, New Delhi, 32nd Edition.
6. S.N. Maheshwari, and. S. K. Maheshwari. Financial Accounting. Vikas Publishing House, New Delhi, 6th Edition.
7. B.S. Raman (2008), Financial Accounting Vol. I & II, United Publishers & Distributors
8. Compendium of Statements and Standards of Accounting. The Institute of Chartered Accountants of India, New Delhi.

Note: Latest edition of text books may be used.


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Name of the Program: Bachelor of Commerce (B.Com.)

Course Code: B.Com. 1.2

Name of the Course: Management Principles and Applications

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs	56 Hrs

Pedagogy: Classrooms lecture, Case studies, Group discussion, Seminar & field work etc.,

Course Outcomes: On successful completion of the course, the Students will be able to

- Understand and identify the different theories of organisations, which are relevant in the present context.
- Design and demonstrate the strategic plan for the attainment of organisational goals.
- Differentiate the different types of authority and chose the best one in the present context.
- Compare and chose the different types of motivation factors and leadership styles.
- Choose the best controlling techniques for better productivity of an organisation.

Syllabus:	Hours
Module No. 1: Introduction to Management	12
Introduction-Meaning and Definitions, Nature and importance of Management, Scope of Management, Levels of Management, Administration V/S Management, Functions of Management, Evolution of Management thought: Contributions of F W Taylor and Henry Fayol.	
Module No. 2: Planning	10
Introduction, Meaning and Definitions, Characteristics and Importance of Planning, Types of planning, Steps in Planning, Importance and Limitations of Strategic Planning; Environmental Analysis: Meaning and importance; Decision-making: Concept, Importance and Process of decision making.	
Module No. 3: Organizing	12
Introduction, Meaning and Definitions, Principles of Organizing, Process of Organizing, Types of Organisation, Formal V/S Informal Organization; Types of Organizational Structure, Departmentation, Authority and Delegation of Authority, Types of Authority, Span of Management and Decentralization	
Module No. 4: Staffing and Leading	12
Staffing: Meaning and Process of Staffing-Staffing Process; Motivation: Meaning and Importance of motivation, Major Motivation theories: Maslow's Need- Hierarchy Theory, Herzberg's Two-factor Theory and Vroom's Expectation Theory; Leadership: Concept and Importance of Leadership, Styles of Leadership; Communication: Meaning and Importance of Communication, Barriers to communication, Overcoming barriers to communication.	
Module No. 5: Controlling and Coordination	12
Control: Meaning and Definitions, Importance of Controlling, Steps in Controlling, Limitations of Controlling, Principles of Effective Control, Major Techniques of control: Budgetary control, PERT, CPM and JIT; Coordination: Meaning and Definitions, Nature and Importance of Coordination, Principles of Coordination.	


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Skill Development Activities:

1. Collect the photographs and bio-data of any three leading contributors of management thoughts.
2. Visit any business organisation and collect the information on types of planning adopted by them.
3. Visit any business organisation and collect different types of authority followed and also the draw the organizational structure.
4. Analyse the leadership styles of any select five companies of different sectors.
5. Visit any manufacturing firm and identify the controlling system followed.
6. Any other activities, which are relevant to the course.

Text Books:

1. Harold Koontz and Heinz Weihrich (2017), Essentials of Management: An International and Leadership Perspective, McGraw Hill Education, 10th Edition.
2. Stephen P Robbins and Madhushree Nanda Agrawal (2009), Fundamentals of Management: Essential Concepts and Applications, Pearson Education, 6th Edition.
3. James H. Donnelly, (1990) Fundamentals of Management, Pearson Education, 7th Edition.
4. B.P. Singh and A.K.Singh (2002), Essentials of Management, Excel Books
5. P C Tripathi & P N Reddy (2005), Principles of Management, TMH Publications, 3rd Edition.
6. Koontz Harold (2004), Essentials of Management, Tata McGraw Hill.

Note: Latest edition of text books may be used.


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Name of the Program: Bachelor of Commerce (B.Com.)

Course Code: B.Com. 1.3

Name of the Course: Principles of Marketing

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs	56 Hrs

Pedagogy: Classrooms lecture, Case studies, Group discussion, Seminar & field work etc.,

Course Outcomes: On successful completion of the course, the Students will be able to

- Understand the basic concepts of marketing and assess the marketing environment.
- Analyse the consumer behaviour in the present scenario and marketing segmentation.
- Discover the new product development & identify the factors affecting the price of a product in the present context.
- Judge the impact of promotional techniques on the customers & importance of channels of distribution.
- Outline the recent developments in the field of marketing.

Syllabus:

Module No. 1: Introduction to Marketing	Hours
12	

Introduction, Nature, Importance and functions of Marketing, Concepts and Approaches of Marketing, Selling vs Marketing, Marketing Environment: Concept, Importance and Components of marketing environment: Marketing Management: Meaning and Importance, Marketing Mix: Concept and Components.

Module No. 2: Consumer Behaviour & Market segmentation	Hours
12	

Consumer Behaviour: Nature and Importance, Consumer buying decision process, Factors influencing consumer buying behavior; Consumerism: Meaning & Elements; **Market Segmentation:** Concept, Importance and Bases of segmentation; Positioning: Concept, Importance and bases.

Module No. 3: Product and Pricing	Hours
12	

Product: Meaning, Importance, Classification of products, Concept of product mix, Product-Support Services, PLC: Meaning and stages of product life-cycle; Stages of New Product Development; Concept of Branding, Packaging and Labeling; **Pricing:** Meaning and significance. Factors affecting price of a product, Pricing methods and strategies.

Module No. 4: Promotion and Distribution	Hours
12	

Promotion Nature and Importance of promotion; Types of promotion, Concept and types of Advertising, Sales promotion, Promotion mix and factors affecting promotion mix decisions. **Distribution Channels:** Meaning and Importance; Types of distribution channels; Functions of middle man; Factors affecting choice of distribution channel; Wholesaling and retailing; Types of Retailers; e-retailing.

Module No. 5: Recent Developments in Marketing	Hours
08	

Social Marketing, Online Marketing, Green Marketing, Search Engine Marketing, Mobile Marketing, Social Media Marketing, Email Marketing, Live Video Streaming Marketing, Affiliate Marketing, Chatbots, Influencer Marketing, Global Marketing, Experiential Marketing, and any other recent developments in Marketing.

Skill Development Activities:

- Analyse the marketing environment of your locality and identify need, wants & purchasing power of customers.

2. Collect consumer behaviour towards home appliances in your locality.
3. Visit any organisation and collect the information towards pricing of the products.
4. Visit any wholesalers/Retailers, collect the role of them in marketing.
5. Identify the recent developments in the field of marketing.
6. Any other activities, which are relevant to the course.

Text Books:

1. Philip Kotler (2015), Principles of Marketing. 13th edition. Pearson Education.
2. Saxena Rajan, (2017) Marketing Management, Tata McGraw-Hill Publishing Company Ltd., New Delhi. Fifth Edition.
3. Kumar Arun & MeenakshiN (2016), Marketing Management, Vikas Publishing House Pvt. Ltd., New Delhi. Third Edition
4. Panda Tapan (2008), Marketing Management, Excel books, New Delhi, Second Edition.
5. Michael, J. Etzel, Bruce J. Walker, William J Stanton and Ajay Pandit. Marketing: Concepts and Cases. (Special Indian Edition)., McGraw Hill Education
6. William D. Perreault, and McCarthy, E. Jerome., Basic Marketing. Pearson Education.
7. Majaro, Simon. The Essence of Marketing. Pearson Education, New Delhi.
8. Iacobucci and Kapoor, Marketing Management: A South Asian Perspective. Cengage Learning.
9. Chhabra, T.N., and S. K. Grover. Marketing Management. Fourth Edition.

Note: Latest edition of text books may be used.


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Name of the Program: Bachelor of Commerce (B.Com)

Course Code: B.Com. 1.5 (Open Elective Course)

Name of the Course: Accounting for Everyone

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	3 Hrs	42 Hrs

Pedagogy: Classrooms lecture, Case studies, Group discussion, Seminar & field work etc.,

Course Outcomes: On successful completion of the course, the Students will be able to

- Analyse various terms used in accounting;
- Make accounting entries and prepare cash book and other accounts necessary while running a business;
- Prepare accounting equation of various business transactions;
- Analyse information from company's annual report;
- Comprehend the management reports of the company.

Syllabus:

Hours

Module No. 1: Introduction to Accounting

08

Meaning, Importance and Need, Its objectives and relevance to business establishments and other organizations, and individuals. Accounting information: meaning, users and utilities, sources of accounting information. Some Basic Terms –Transaction, Account, Asset, Liability, Capital, Expenditure & Expense, Income, Revenue, Gain, Profit, Surplus, Loss, Deficit. Debit, Credit, Accounting Year, Financial Year.

Module No. 2: Transactions and Recording of Transactions

08

Features of recordable transactions and events, Basis of recording – vouchers and another basis. Recording of transactions: Personal account, Real Account and Nominal Account; Rules for Debit and Credit; Double Entry System, journalizing transactions; Preparation of Ledger, Cash Book including bank transactions. (Simple Problems)

Module No. 3: Preparation of Financial Statements

10

Fundamental Accounting Equation; Concept of revenue and Capital; Preparation of Financial Statements. (Simple problems)

Module No. 4: Company Accounts

08

Explanation of certain terms – Public Limited Company, Private Limited Company, Share, Share Capital, Shareholder, Board of Directors, Stock Exchange, Listed Company, Share Price, Sensex - BSE, NSE; Annual report, etc.

Module 5: Management Reports

08

Reports on Management Review and Governance; Report of Board of Directors - Management discussion analysis- Annual Report on CSR – Business responsibility report – Corporate governance report – Secretarial audit report.

Skill Development Activities:

- Download annual reports of business Organisations from the websites and go through the contents of the annual report and present the salient features of the annual report using some ratios and content analysis including textual analysis.
- Prepare accounting equation by collecting necessary data from medium sized firm.
- Prepare financial statements collecting necessary data from small business firms.
- Collect the management reports of any large scale organisation and analyse the same.
- Any other activities, which are relevant to the course.

Text Books:

Name of the Program: Bachelor of Commerce (B.Com)

Course Code: B.Com. 1.5 (Open Elective Course)

Name of the Course: Financial Literacy

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	3 Hrs	42 Hrs

Pedagogy: Classrooms lecture, Case studies, Group discussion, Seminar & field work etc.,

Course Outcomes: On successful completion of the course, the Students will be able to

- Describe the importance of financial literacy and list out the institutions providing financial services;
- Prepare financial plan and budget and manage personal finances;
- Open, avail, and manage/operate services offered by banks;
- Open, avail, and manage/operate services offered by post offices;
- Plan for life insurance and property insurance & select instrument for investment in shares

Syllabus:	Hours
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Module No. 1: Introduction	07
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Meaning, importance and scope of financial literacy; Prerequisites of Financial Literacy – level of education, numerical and communication ability; Various financial institutions – Banks, Insurance companies, Post Offices; Mobile App based services. Need of availing of financial services from banks, insurance companies and postal services.

Module No. 2: Financial Planning and Budgeting	07
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Concept of economic wants and means for satisfying these needs; Balancing between economic wants and resources; Meaning, importance and need for financial planning; Personal Budget, Family Budget, Business Budget and National Budget; Procedure for financial planning and preparing budget; Budget surplus and Budget deficit, avenues for savings from surplus, sources for meeting deficit.

Module No. 3: Banking Services	10
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Types of banks; Banking products and services – Various services offered by banks; Types of bank deposit accounts – Savings Bank Account, Term Deposit, Current Account, Recurring Deposit, PPF, NSC etc.; Formalities to open various types of bank accounts, PAN Card, Address proof, KYC norm; Various types of loans – short term, medium term, long term, micro finance, agricultural etc. and related interest rates offered by various nationalized banks and post office; Cashless banking, e-banking, Check Counterfeit Currency; CIBIL, ATM, Debit and Credit Card, and APP based Payment system; Banking complaints and Ombudsman.

Module No. 4: Financial Services from Post Office	08
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Post office Savings Schemes: Savings Bank, Recurring Deposit, Term Deposit, Monthly Income Scheme, Kishan Vikas Patra, NSC, PPF, Senior Citizen Savings Scheme (SCSS), Sukanya Samridhi Yojana/ Account (SSY/SSA); India Post Payments Bank (IPPB). Money Transfer: Money Order, E-Money order. Instant Money Order, collaboration with the Western Union Financial Services; MO Videsh, International Money Transfer Service, Electronic Clearance Services (ECS), Money gram International Money Transfer, Indian Postal Order (IPO).

Module 5: Protection and Investment Related Financial Services	10
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Insurance Services: Life Insurance Policies: Life Insurance, Term Life Insurance, Endowment Policies, Pension Policies, ULIP, Health Insurance and its Plans, Comparison of

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policies offered by various life insurance companies. Property Insurance: Policies offered by various general insurance companies. Post office life Insurance Schemes: Postal Life Insurance and Rural Postal Life Insurance (PLI/RPLI). Housing Loans: Institutions providing housing loans, Loans under Pradhanmantri Awas Yojana – Rural and Urban.

Investment avenues in Equity and Debt Instruments: Portfolio Management: Meaning and importance; Share Market and Debt Market, Sensex and its significance; Investment in Shares – selection procedure for investment in shares; Risk element; Investment Management - Services from brokers and Institutions, and self-management; Mutual Fund.

Skill Development Activities:

1. Visit banks, post offices, and insurance companies to collect information and required documents related to the services offered by these institutions and to know the procedure of availing of these services.
2. Fill up the forms to open accounts and to avail loans and shall attach photocopies of necessary documents.
3. Prepare personal and family budget for one/six/ twelve month on imaginary figures.
4. Try to open Demat account and trade for small amount and submit the report on procedure on opening of Demat account and factors considered for trading.
5. Any other activities, which are relevant to the course.

Text Books:

1. Avadhani, V. A. (2019). Investment Management. Mumbai: Himalaya Publishing House Pvt. Ltd.
2. Chandra, P. (2012). Investment Game: How to Win. New Delhi: Tata McGraw Hill Education.
3. Kothari, R. (2010). Financial Services in India-Concept and Application. New Delhi: Sage Publications India Pvt. Ltd.
4. Milling, B. E. (2003). The Basics of Finance: Financial Tools for Non-Financial Managers. Indiana: universe Company.
5. Mitra, S., Rai, S. K., Sahu, A. P., & Starn, H. J. (2015). Financial Planning. New Delhi: Sage Publications India Pvt. Ltd.
6. Zokaityte, A. (2017). Financial Literacy Education. London: Palgrave Macmillan.

Note: Latest edition of text books may be used.

Name of the Program: Bachelor of Commerce (B.Com.)

Course Code: B.Com. 2.1

Name of the Course: Advanced Financial Accounting

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs	56 Hrs

Pedagogy: Classrooms lecture, Case studies, Tutorial classes, Group discussion, Seminar & field work etc.,

Course Outcomes: On successful completion of the course, the Students will be able to

- Understand & compute the amount of claims for loss of stock & loss of Profit.
- Learn various methods of accounting for hire purchase transactions.
- Deal with the inter-departmental transfers and their accounting treatment.
- Demonstrate various accounting treatments for dependent & independent branches.
- Prepare financial statements from incomplete records.

Syllabus:

Module No. 1: Insurance Claims for Loss of Stock & Loss of Profit	Hours
	10

Introduction-Meaning of fire-computation of Claim for loss of stock- Computations of Claim for loss of Profit-Average Clause.

Module No. 2: Hire Purchase Accounting	Hours
	10

Introduction-Meaning of hire purchase-difference between hire purchase and instalment-Nature-features-terms used-Ascertainment of Interest-Accounting for hire purchase transactions-Repossession.

Module No. 3: Departmental Accounts	Hours
	12

Introduction-meaning-advantages and disadvantages-methods of departmental accounting-basis of allocation of common expenditure among different departments-types of departments-inter department transfer and its treatment

Module No. 4: Accounting for Branches	Hours
	12

Introduction-difference between branch accounts and departmental accounts-types of branches-Accounting for dependent & independent branches;

Module No. 5: Conversion of Single Entry into Double Entry	Hours
	12

Introduction - Meaning-Limitations of Single Entry System-Difference between Single Entry and Double Entry System - Problems on Conversion of Single Entry into Double Entry.

Skill Developments Activities:

- Identify the procedure & documentations involved in the insurance claims.
- Collect hire purchase agreements and draft dummy hire purchase agreements with imaginary figures.
- Identify the common expenditures of an organisation among various departments.
- Collect the procedure and documentations involved in the establishment of various branches.
- Visit any sole proprietor firm and identify the steps involved in the conversion of single entry into double entry system.
- Any other activities, which are relevant to the course.

Text Books:

- ICAI Study Materials on Principles & Practice of Accounting, Accounting and Advanced Accounting.

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Name of the Program: Bachelor of Commerce (B.Com.)

Course Code: B.Com. 2.2

Name of the Course: Business Mathematics

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs	56 Hrs

Pedagogy: Classrooms lecture, Case studies, Tutorial classes, Group discussion, Seminar & field work etc.,


Course Outcomes: On successful completion of the course, the Students will be able to

- Understand the number system and indices applications in solving basic business problems.
- Apply concept of commercial arithmetic concepts to solve business problems.
- Make use of theory of equation in solving the business problems in the present context.
- Understand and apply the concepts of Set Theory, Permutations & Combinations
- Application of matrix in business problems.

Syllabus:	Hours
Module No. 1: Number System and Indices	12
Introduction - Meaning - Natural Numbers - Even & Odd Numbers - Prime, Rational Number and its features & Irrational Numbers - simple problems on finding sum of natural, Odd and Even numbers- HCF and LCM, problems thereon; Indices-Introduction, Laws of indices, application of laws for simplification, simple problems.	
Module No. 2: Commercial Mathematics	10
Introduction - Meaning of Simple and Compound interest and problems thereon,- Annuities, types & problems on present and future value of annuity; Ratios and Proportions-meaning and problems thereon-problems on speed, time and work.	
Module No. 3: Theory of Equation	12
Introduction - Meaning-Problems on Linear equations and solving pure and adfected quadratic equations (factor and Sridharacharya methods only), problems on Simultaneous equations (Elimination method only).	
Module No. 4: Set Theory, Permutations & Combinations and Matrices	12
Introduction - Meaning & types of sets-Laws of Sets-Venn diagram-problems thereon; Meaning and problems on permutations and combinations;	
Module No. 5: Matrices and Determinants	10
Meaning and types of matrices, operations of Addition, Subtraction and Multiplication of Matrices, Problems on Transpose of a Matrix, Determinants of a Square Matrix, Minor and co-factor of an element, adjoint of a square matrix, Singular and Non-singular of a matrix, Inverse of a square matrix, Cramer's Rule (only Two variables only)	

Skill Developments Activities:

- Show the number of ways in which your telephone number can be arranged to get odd numbers.
- Visit any Commercial Bank in your area and collect the information about types of loans and the rates of interest on loans.
- Use Matrix principles to implement food requirement and protein for two families.
- Measure your classroom with the help of a tape and find the cost of the carpet for the floor area of the classroom.
- Any other activities, which are relevant to the course.


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Name of the Program: Bachelor of Commerce (B.Com.)

Course Code: B.Com. 2.2

Name of the Course: Corporate Administration

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs	56 Hrs

Pedagogy: Classrooms lecture, Case studies, Group discussion, Seminar & field work etc.,

Course Outcomes: On successful completion of the course, the Students will be able to

- Understand the framework of Companies Act of 2013 and different kind of companies.
- Identify the stages and documents involved in the formation of companies in India.
- Analyse the role, responsibilities and functions of Key management Personnel in Corporate Administration.
- Examine the procedure involved in the corporate meeting and the role of company secretary in the meeting.
- Evaluate the role of liquidator in the process of winding up of the company.

Syllabus: **Hours**

Module No. 1: Introduction to Company **12**

Introduction - Meaning and Definition – Features – Highlights of Companies Act 2013 - - Kinds of Companies – One Person Company-Private Company-Public Company-Company limited by Guarantee-Company limited by Shares- Holding Company-Subsidiary Company-Government Company-Associate Company- Small Company-Foreign Company-Global Company-Body Corporate-Listed Company.

Module No. 2: Formation of Companies **12**

Introduction - **Promotion Stage:** Meaning of Promoter, Position of Promoter & Functions of Promoter, **Incorporation Stage:** Meaning & contents of Memorandum of Association & Articles of Association, Distinction between Memorandum of Association and Articles of Association, Certificate of Incorporation, **Subscription Stage** – Meaning & contents of Prospectus, Statement in lieu of Prospects and Book Building, **Commencement Stage** – Document to be filed, e-filing, Register of Companies, Certificate of Commencement of Business; Formation of Global Companies: Meaning – Types –Features – Legal Formalities– Administration.

Module No. 3: Company Administration **12**

Introduction - Key Managerial Personnel – Managing Director, Whole time Directors, the Companies Secretary, Chief Financial Officer, Resident Director, Independent Director, Auditors – Appointment – Powers - Duties & Responsibilities. Managing Director – Appointment – Powers – Duties & Responsibilities. Audit Committee, CSR Committee. Company Secretary - Meaning, Types, Qualification, Appointment, Position, Rights, Duties, Liabilities & Removal or dismissal.

Module No. 4: Corporate Meetings **10**

Introduction - Corporate meetings: types – Importance - Distinction; Resolutions: Types – Distinction; Requisites of a valid meeting – Notice – Quorum –Proxies - Voting - Registration of resolutions; Role of a company secretary in convening the meetings.

Module No. 5: Winding Up **10**

Introduction – Meaning- Modes of Winding up –Consequence of Winding up – Official Liquidator – Role & Responsibilities of Liquidator – Defunct Company – Insolvency Code.

Skill Development Activities:

1. Collect the Companies Act 2013 from the Ministry of Corporate Affairs website and

- prepare the highlights of the same.
2. Visit any Registrar of the Companies, find out the procedure involved in the formation of the companies.
 3. Visit any Company and discuss with Directors of the same on role and responsibilities and prepare report on the same.
 4. Collect the copy of notice of the Meeting and Resolutions, Prepare the dummy copy of Notice and resolutions.
 5. Contact any official liquidator of an organisation and discuss the procedure involved on the same and prepare report.
 6. Any other activities, which are relevant to the course.

Text Books:

1. S.N Maheshwari, Elements of Corporate Law, HPH.
2. Balchandran, Business Law for Management, HPH
3. Dr. P.N. Reddy and H.R. Appanaiah, Essentials of Company Law and Secretarial Practice, HPH.
4. K. Venkataramana, Corporate Administration, SHBP.
5. N.D. Kapoor: Company Law and Secretarial Practice, Sultan Chand.
6. M.C. Bhandari, Guide to Company Law Procedures, Wadhwa Publication.
7. S.C. Kuchal, Company Law and Secretarial Practice.
8. S.C. Sharm, Business Law, I.K. International Publishers

Note: Latest edition of text books may be used.


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Name of the Program: Bachelor of Commerce (B.Com.)

Course Code: B.Com. 2.3

Name of the Course: Law and Practice of Banking

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs	56 Hrs

Pedagogy: Classrooms lecture, Case studies, Tutorial classes, Group discussion, Seminar & field work etc.,

Course Outcomes: On successful completion of the course, the Students will be able to

- Summarize the relationship between Banker & customer and different types of functions of banker.
- Analyse the role, functions and duties of paying and collecting banker.
- Make use of the procedure involved in opening and operating different accounts.
- Examine the different types of negotiable instrument & their relevance in the present context.
- Estimate possible developments in the banking sector in the upcoming days.

Syllabus:

Module No. 1: Introduction to Banking **12**

Introduction- Meaning – Need – Importance – Primary, Secondary & Modern functions of banks - Origin of banking- Banker and Customer Relationship (General and special relationship) - Origin and growth of commercial banks in India – Types of Banks in India– Banks’ Lending - changing role of commercial banks. RBI: History-Role & Functions.

Module No. 2: Paying and Collecting Banker **12**

Paying banker: Introduction - Meaning – Role – Functions - Duties - Precautions and Statutory Protection and rights - Dishonor of Cheques – Grounds of Dishonor – Consequences of wrongful dishonor of Cheques; **Collecting Banker:** Introduction - Meaning – Legal status of collecting banker - Holder for value -Holder in due course – Duties & Responsibilities - Precautions and Statutory Protection to Collecting Banker.

Module No. 3: Customers and Account Holders **10**

Introduction - Types of Customers and Account Holders - Procedure and Practice in opening and operating accounts of different customers: Minors - Joint Account Holders- Partnership Firms - Joint Stock companies - Executors and Trustees - Clubs and Associations and Joint Hindu Undivided Family.

Module No. 4: Negotiable Instruments **12**

Introduction – Meaning & Definition – Features – Kinds of Negotiable Instruments: Promissory Notes - Bills of Exchange - Chques - Crossing of Cheques – Types of Crossing; Endorsements: Introduction - Meaning - Essentials & Kinds of Endorsement – Rules of Endorsement.

Module No. 5: Recent Developments in Banking **10**

Introduction - New technology in Banking – E-services – Debit and Credit cards - Internet Banking-Electronic Fund Transfer- MICR – RTGS - NEFT –ECS- Small banks-Payment banks- Digital Wallet-Crypto currency- KYC norms – Basel Norms - Mobile banking-E-payments - E-money.

Skill Development Activities:

- Refer RBI website and identify the different types of banks operating in India.
- Visit any Public sector bank & discuss with the branch manager about the role and functions as a paying and collecting banker.
- Collect and fill dummy account opening forms as different types of customer.
- Draft specimen of Negotiable instruments: bill of exchange, Promissory Notes and Cheques.

5. Identify and prepare report on pros and cons of recent development in the field of banking sector.
6. Any other activities, which are relevant to the course.

Text Books:

1. Gordon & Natarajan, Banking Theory Law and Practice, HPH, 24th Edition
2. S. P Srivastava (2016), Banking Theory & Practice, Anmol Publications
3. Maheshwari. S.N. (2014), Banking Law and Practice, Kalyani Publishers, 11 edition
4. Shekar. K.C (2013), Banking Theory Law and Practice, Vikas Publication, 21st Edition.
5. Dr. Alice Mani (2015), Banking Law and Operation, SBH.

Note: Latest edition of text books may be used.


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3. Collect last five years fiscal policy of Indian Government and analyse the impact of the same on rural poor.
4. Collect last five year data on inflation, unemployment rate and labour market conditions and critically prepare the report.
5. Identify the recent financial sector reforms in India.

Any other activities, which are relevant to the course.

Text Books:

1. V K Puri and S K Mishra, Indian Economy, HPH.
2. Datt and Sundharam's, Indian Economy, S Chand
3. Ramesh Singh, Indian Economy, McGraw Hill education.
4. Khan and Jain, Financial Services, McGraw Hill Education, 8th edition
5. RBI working papers
6. Mistry of Finance, GOI of working papers
7. SEBI Guidelines Issued from time to time.

Note: Latest edition of text books may be used.


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Name of the Program: Bachelor of Commerce (B.Com)

Course Code: B.Com. 2.6 (Open Elective Course)

Name of the Course: Investing in Stock Markets

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	3 Hrs	42 Hrs

Pedagogy: Classrooms lecture, Case studies, Tutorial classes, Group discussion, Seminar & field work etc.,

Course Outcomes: On successful completion of the course, the Students will be able to

- Explain the basics of investing in the stock market, the investment environment as well as risk & return;
- Analyse Indian securities market;
- Examine EIC framework and conduct fundamental analysis;
- Perform technical analysis;
- Invest in mutual funds market.

Syllabus:

Module No. 1: Basics of Investing **Hours** **10**

Basics of Investment & Investment Environment. Risk and Return, Avenues of Investment - Equity shares, Preference shares, Bonds & Debentures, Insurance Schemes, Mutual Funds, Index Funds. Indian Security Markets - Primary Market, Secondary Market and Derivative Market. Responsible Investment.

Module No. 2: Fundamental Analysis **Hours** **08**

Top down and bottom up approaches, Analysis of international & domestic economic scenario, Industry analysis, Company analysis (Quality of management, financial analysis: Both Annual and Quarterly, Income statement analysis, position statement analysis including key financial ratios, Cash flow statement analysis, Industry market ratios: PE, PEG, Price over sales, Price over book value, EVA), Understanding Shareholding pattern of the company.

Module No. 3: Technical Analysis **Hours** **08**

Trading rules (credit balance theory, confidence index, filter rules, market breath, advances vs declines and charting (use of historic prices, simple moving average and MACD) basic and advanced interactive charts. Do's & Don'ts of investing in markets.

Module No. 4: Indian Stock Market **Hours** **08**

Market Participants: Stock Broker, Investor, Depositories, Clearing House, Stock Exchanges. Role of stock exchange, Stock exchanges in India- BSE, NSE and MCX. Security Market Indices: Nifty, Sensex and Sectoral indices, Sources of financial information. Trading in securities: Demat trading, types of orders, using brokerage and analyst recommendations

Module 5: Investing in Mutual Funds **Hours** **08**

Concept and background on Mutual Funds: Advantages, Disadvantages of investing in Mutual Funds, Types of Mutual funds- Open ended, close ended, equity, debt, hybrid, index funds and money market funds. Factors affecting choice of mutual funds. CRISIL mutual fund ranking and its usage, calculation and use of Net Asset Value.

Skill Development Activities:

- Work on the spreadsheet for doing basic calculations in finance.
- Learners will also practice technical analysis with the help of relevant software.
- Practice use of Technical charts in predicting price movements through line chart, bar chart, candle and stick chart, etc., moving averages, exponential moving average.
- Calculate of risk and return of stocks using price history available on NSE website.
- Prepare equity research report-use of spreadsheets in valuation of securities,

fundamental analysis of securities with the help of qualitative and quantitative data available in respect of companies on various financial websites, etc.

6. Any other activities, which are relevant to the course.

Text Books:

1. Chandra, P. (2017). Investment Analysis and Portfolio Management. New Delhi: TataMcGraw Hill Education.
2. Kevin, S. (2015). Security Analysis and Portfolio Management. Delhi: PHI Learning.Ranganatham,
3. M., & Madhumathi, R. (2012). Security Analysis and Portfolio Management. UttarPradesh: Pearson (India) Education.
4. Pandian, P. (2012). Security Analysis and Portfolio Management. New Delhi: Vikas Publishing House.

Note: Latest edition of text books may be used.


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Name of the Program: Bachelor of Commerce (B.Com.)		
Course Code: B.Com.3.1		
Name of the Course: Corporate Accounting		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs	56 Hrs
Pedagogy: Classroom lectures, Case studies, Tutorial Classes, Group discussion, Seminar & field work etc.,		
Course Outcomes: On successful completion of the course, the Students will be able to		
a) Understand the treatment of underwriting of shares.		
b) Comprehend the computation of profit prior to incorporation.		
c) Know the valuation of intangible assets.		
d) Know the valuation of shares.		
e) Prepare the financial statements of companies as per companies act, 2013.		
Syllabus:		Hours
Module No. 1: Underwriting of Shares		10
Introduction -Meaning of Underwriting – SEBI regulations regarding underwriting; Underwriting commission. Underwriter – functions - Advantages of Underwriting, Types of underwriting - Marked and Unmarked Applications –Determination of Liability in respect of underwriting contract – when fully underwritten and partially underwritten – with and without firm underwriting problem.		
Module No. 2: Profit Prior to Incorporation		10
Introduction - Meaning – calculation of sales ratio – time ratio – weighted ratio – treatment of capital and revenue expenditure – Ascertainment of pre-incorporation and post-incorporation profits by preparing statement of Profit and Loss and Balance Sheet as per schedule III of companies Act, 2013.		
Module No. 3 Valuation of Intangible Assets		10
Introduction - Valuation of Goodwill –factors influencing goodwill, circumstances of valuation of goodwill- Methods of Valuation of Goodwill: Average Profit Method, Capitalization of average Profit Method, Super Profit Method, Capitalization of Super Profit Method - Problems. Brand valuation and Intellectual Property Rights (IPR) Theory only.		
Module No. 4: Valuation of Shares		10
Introduction - Meaning – Need for Valuation – Factors Affecting Valuation – Methods of Valuation: Intrinsic Value Method, Yield Method, and Earning Capacity Method, Rights Issue and Valuation of Rights Issue.		
Module 5: Financial Statements of Companies		16
Statutory Provisions regarding preparation of financial statements of companies as per schedule III of companies act, 2013 and IND AS-1 – Treatment of Special Items – Tax deducted at source – Advance payment of Tax – Provision for Tax – Depreciation – Interest on debentures – Dividends – Rules regarding payment of dividends – Transfer to Reserves – Preparation of Statement of profit and loss and Balance Sheet.		

Skill Development Activities:

1. Compile the list of Indian companies which have issued shares through IPO / FPO in the current financial year.
2. Determine Underwriters' Liability in case of an IPO, with imaginary figures.
3. Present the format of 'Statement of Profit and Loss', 'Balance Sheet' and 'Statement of Changes in Equity', with imaginary figures
4. Collect financial statement of a company and calculate intrinsic value of an equity share.
5. Collect annual report of a Company and List out its assets and Liabilities.
6. Collection of latest financial statements of a company and find out the intrinsic value of shares
7. Collect the annual reports of company and calculate the value of goodwill under different methods

Note: Any other activities, which are relevant to the course.

Text Book

1. J.R. Monga, Fundamentals of Corporate Accounting. Mayur Paper Backs, NewDelhi.
2. M.C. Shukla, T.S. Grewal, and S.C. Gupta. Advanced Accounts. Vol.-II. S. Chand & Co., New Delhi.
3. S.N. Maheshwari, and S. K. Maheshwari. Corporate Accounting. Vikas PublishingHouse, New Delhi.
4. Ashok Sehgal, Fundamentals of Corporate Accounting. Taxman Publication, NewDelhi.
5. V.K. Goyal and Ruchi Goyal, Corporate Accounting. PHI Learning.
6. Jain, S.P. and K.L. Narang. Corporate Accounting. Kalyani Publishers, New Delhi.
7. Bhushan Kumar Goyal, Fundamentals of Corporate Accounting, InternationalBook House
8. P. C. Tulsian and Bharat Tulsian, Corporate Accounting, S.Chand
9. Amitabha Mukherjee, Mohammed Hanif, Corporate Accounting, McGraw HillEducation
10. Arulanandam& Raman ; Corporate Accounting –II
11. Madegowda J – Advanced corporate accounting, HPH
12. Soundarajan. A & K. Venkataramana, Corporate Accounting, VBH.
13. S. P. Jain and K. L. Narang – Corporate Accounting
14. S. Bhat- Corporate Accounting.

Note: Latest edition of text books may be used.

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Name of the Program: Bachelor of Commerce (B.Com.)		
Course Code: B.Com. 3.2		
Name of the Course: Business Statistics		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs	56 Hrs
Pedagogy: Classroom lectures, Case studies, Tutorial Classes, Group discussion, Seminar & field work etc.,		
Course Outcomes: On successful completion of the course, the Students will be able to		
<ul style="list-style-type: none"> a) Familiarize the basic concepts of statistics b) Understand the concept of central tendency c) Comprehend the measures of variation and measures of skewness. d) Validate the application of correlation in business decisions. e) Validate the application of Regression in business decisions. 		
Syllabus:		Hours
ModuleNo.1: Introduction to Statistics		12
Meaning and Definition of Statistics, Function, Scope and Limitation of Statistics. Collection and Classification of data; Tabulation of data- Problems there on. Frequency Distribution- Ungrouped and Grouped Data-Problems there on.		
ModuleNo.2: Measures of Central Tendency		12
Meaning, Definition, Types of Averages- Mathematical averages including arithmetic mean Properties and applications. Positional Averages-Mode and Median (including graphic determination).		
ModuleNo.3: Measures of Variation and Skewness		12
Measures of Variation: absolute and relative measures of Range, Quartile deviation, Standard deviation. Skewness: Meaning, Measurement using Karl Pearson and Bowley's measures.		
ModuleNo.4: Correlation Analysis		10
Meaning of Correlation:-Types of correlation, Karl Pearson's co-efficient of Correlation; Correlation and Probable error; (Simple and Grouped Correlation)		
Module5: Regression Analysis		10
Meaning, Correlation V/s Regression, Determination of Regression Co-efficient, Regression equations (Simple and Grouped Regression)		


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Skill Development Activities:

1. Application of MS Excel Functions in statistical decision making and students should submit output of the same.
2. Collect 50 Income tax payers in your locality and prepare frequency distribution table.
3. Collect data relating to prices of shares of two companies for ten days and ascertain which company's share price is more stable.
4. Collect the age statistics of 10 new married couples calculate Correlation coefficient.
5. Identify the applicability of regression in business decision making.

Text Books:

1. Gupta, S.P., and Archana Agarwal. Business Statistics, Sultan Chand and Sons, New Delhi.
2. Vohra N. D., Business Statistics, McGraw Hill Education.
3. Gupta, S.C. Fundamentals of Statistics. Himalaya Publishing House.
4. Anderson, Sweeney, and Williams, Statistics for Students of Economics and Business, Cengage Learning.
5. DN Elhance - Fundamentals of statistics
6. Sen Chetty and Kapoor - Mathematical statistics

Note: Latest edition of text books may be used.


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Name of the Program: Bachelor of Commerce (B.Com.)		
Course Code: B.Com. 3.3		
Name of the Course: Cost Accounting		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs	56 Hrs
Pedagogy: Classrooms lecture, Case studies, Tutorial classes, Group discussion, Seminar & field work etc.,		
Course Outcomes: On successful completion of the course, the students will be able to		
<ul style="list-style-type: none"> a) Understand concepts of cost accounting & Methods of Costing. b) Outline the Procedure and documentations involved in procurement of materials & compute the valuation of Inventory. c) Make use of payroll procedures & compute idle and over time. d) Discuss the methods of allocation, apportionment & absorption of overheads. e) Prepare cost sheet & discuss cost allocation under ABC. 		
Syllabus:		Hours
Module No. 1: Introduction to Cost Accounting		12
Introduction- Meaning and definition- Objectives, Importance and Uses of Cost Accounting, Difference between Cost Accounting and Financial Accounting; Various Elements of Cost and Classification of Cost; Cost object, Cost unit, Cost driver, cost centre; Cost reduction and Cost control; Methods and Techniques of Costing (Meanings Only); Use of IT in Cost Accounting; Limitations of Cost Accounting; Cost Sheet: Meaning and Cost heads in a Cost Sheet, Presentation of Cost Information in Cost Sheet . Problems on Cost Sheet, Tenders and Quotations.		
Module No. 2: Material Cost		12
Materials: Meaning, Importance and Types of Materials – Direct and Indirect Material Materials material control. - Inventory control Technique of inventory control, problems on level setting and EOQ. Procurement- Procedure for procurement of materials and documentation involved in materials accounting – Material Storage: Duties of Store keeper, pricing of material issues, preparation of Stores Ledger Account – FIFO, LIFO, Simple Average Price and Weighted Average Price Methods – Problems.		
Module No. 3: Employee Cost		10
Introduction – Employee Cost – types of labour cost -Labour Cost Control – time keeping and time booking and Payroll Procedure -Preparation of Payroll: Idle Time Causes and Treatment of Normal and Abnormal Idle time, Over Time Causes and Treatment -Labour Turnover- Meaning, Reasons and Effects of Labour turnover. Methods of Wage Payment: Time rate system and piece rate system, and the Incentive schemes- Halsey plan, Rowan plan and Taylor differential piece rate system-problems.		
Module No. 4: Overheads Cost		12

Introduction- Meaning and Classification of Overheads; Accounting and Control of Manufacturing Overheads: Estimation and Collection, Cost Allocation, Apportionment, Re-apportionment and Absorption of Manufacturing Overheads; Problems on Primary and Secondary overheads distribution using Reciprocal Service Methods (Repeated Distribution Method); Absorption of Overheads: Meaning and Methods of Absorption of Overheads; Problems on Machine Hour Rate.

Module No. 5: Reconciliation of Cost and Financial Accounts

10

Introduction – meaning of reconciliation, Reasons for differences in Profits under Financial and Cost Accounts; Procedure for Reconciliation – Ascertainment of Profits as per Financial Accounts and Cost Accounts and Reconciliation of Profits of both sets of Accounts – Preparation of Reconciliation Statement – Problems.

Skill Developments Activities:

1. Visit any Manufacturing entity, collect the method of inventory valuation adopted & procedure involved in procuring inventory.
2. Draw the format of five documents used for material accounting
3. Prepare dummy Payroll with imaginary figures.
4. Visit any large-scale organization, identify the techniques used for controlling administrative, Selling & distribution overheads.
5. Visit any manufacturing entity and collect the cost data and prepare the cost sheet.

Note: Any other activities, which are relevant to the course.

Text Books:

1. Charles T. Horngren, Srikant M. Datar, Madhav V. Rajan, Cost Accounting: A Managerial Emphasis, Pearson Education.
2. Jawahar Lal, Cost Accounting., McGraw Hill Education
3. Madegowda J, Cost Accounting, HPH.
4. Rajiv Goel, Cost Accounting, International Book House
5. Jain, S.P. and K.L. Narang. Cost Accounting: Principles and Methods. Kalyani Publishers
6. Arora, M.N. Cost Accounting – Principles and Practice, Vikas Publishing House, New Delhi.
7. Maheshwari, S.N. and S.N. Mittal. Cost Accounting: Theory and Problems. Shri Mahavir Book Depot, New Delhi.
8. Iyengar, S.P. Cost Accounting, Sultan Chand & Sons
9. Mariyappa B Cost Accounting, HPH

Note: Latest edition of text books may be used.

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Name of the Program: Bachelor of Commerce (B.Com.)		
Course Code: B.Com. 3.5 (OEC)		
Name of the Course: Advertising Skills		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	3 Hrs	42 Hrs
Pedagogy: Classrooms lecture, Case studies, Tutorial classes, Group discussion & Seminar etc.,		
Course Outcomes: On successful completion of the course, the students will be able to		
<ul style="list-style-type: none"> a) Familiarize with advertising concepts. b) Able identify effective media choice for advertising. c) Develop ads for different media. d) Measure the advertising effectiveness. e) Analyze the role of advertising agency. 		
Syllabus:		Hours
Module No. 1: Introduction		10
Communication Process; Advertising as a tool of communication; Meaning, nature and importance of advertising; Types of advertising; Advertising objectives. Audience analysis; Setting of advertising budget: Determinants and major methods.		
Module No. 2: Media Decisions		07
Major media types - their characteristics, internet as an advertising media, merits and demerits; Factors influencing media choice; media selection, media scheduling, Advertising through the Internet-media devices.		
Module No. 3: Message Development		08
Advertising appeals, Advertising copy and elements, Preparing ads for different media. Namely television. News papers and Facebook.		
Module No. 4: Measuring Advertising Effectiveness		10
Evaluating communication and sales effects; Pre- and Post-testing techniques.		
Module No. 5: Advertising Agency		07
<ul style="list-style-type: none"> a) Advertising Agency: Role, types and selection of advertising agency. b) Social, ethical and legal aspects of advertising in India. 		
Skill Development Activities:		
<ul style="list-style-type: none"> 1. Analyze the audience feedback on advertisement of FMCG. 2. List out any ten products/services advertised through internet. 3. Design any two ads for print media. 4. Examine the legal aspects of advertising in India and submit the report. 		
Note: Any other activities, which are relevant to the course.		

Name of the Program: Bachelor of Commerce (B.Com.) Course Code: B.Com.3.5(OEC) Name of the Course: Business Ethics		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3Credits	3Hrs	42Hrs
Pedagogy: Class rooms lecture, Case studies, Tutorial classes, Group discussion, Seminar etc.,		
Course Outcomes : On successful completion of the course , the students will be able to <ol style="list-style-type: none"> Explain the concepts of business ethics and its approaches. Examine the business and organizational ethics in the present context. Analyze the ethical aspects in marketing and HR areas. Analyze the ethical aspects in finance and IT areas. Examine the impact of globalization non business ethics. 		
Syllabus:		Hours
Module No.1:Business Ethics		08
Introduction, Concepts and theories: Introduction, definitions, importance and need for Business ethics, Values and morals. Management and ethics, Normative Theories, –Gandhian Approach, Friedman’s Economic theory, Kant’s Deonto logical theory, Mill & Bentham’s Utilitarianism theory.		
Module No.2:Business & Organizational Ethics		10
The Indian Business scene, Ethical Concerns, LPG & Global trends in business ethics, Business ethics rating in India. Organizations & Organization culture, Types of Organization, Corporate code of ethics –Formulating, Advantages, implementation Professional is and professional ethics code.		
Module No.3:Ethical Aspects in Organization-I		08
Marketing ethics and Consumer ethics–Ethical issues in advertising, Criticisms in Marketing ethics, Ethics in HRM: Selection, Training and Development–Ethics at workplace–Ethics in Performance Appraisal.		
Module No.4:Ethical Aspects in Organization-II		08
Ethics in Finance: Insider trading - Ethical investment - Combating Frauds. Ethical issues in Information Technology: Information Security and Threats–Intellectual Property Rights–Cybercrime.		
Module No.5:Globalization and Business Ethics		08
Growth of Global Corporations, Factors facilitating Globalization, Impact of globalization on Indian corporate and social culture, Advantages and disadvantages of MNC’s to the Host Country, International codes of Business Conduct, Whistle Blowing and its codes.		

M. V. S. S.

Skill Development Activities:

1. The students may be asked to conduct the survey of any two organizations to study the ethical practices.
2. List out any five most ethical rating of Indian companies.
3. Collect the information on unethical practices in marketing and HR area.
4. Collect the information on unethical practices in finance and IT area.
5. Analyze and submit the report on the impact of globalization on Indian business houses in the context of ethical aspects.

Note: Any other activities, which are relevant to the course.

Text Books:

1. Laura P Hartman,T, Perspectives in Business Ethics, Tata McGraw Hill.
2. B.H. Agalgatti& R.P. Banerjee, Business Ethics–Concept & Practice, Nirali Publication.
3. R.P. Banerjee, Ethics in Business & Management, Himalaya Publication
4. Crane, Business Ethics, Pub. By Oxford Press
5. C S V Murthy, Business Ethics, Himalaya Publishing House

Note: Latest edition of text books may be used.


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Name of the Program: Bachelor of Commerce (B.Com.)		
Course Code: B.Com. 4.1		
Name of the Course: Advanced Corporate Accounting		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs	56 Hrs
Pedagogy: Classroom lectures, Case studies, Tutorial classes, Group discussion & Seminar etc.,		
Course Outcomes: On successful completion of the course, the Students will be able to		
<ul style="list-style-type: none"> a) Know the procedure of redemption of preference shares. b) Comprehend the different methods of Mergers and Acquisition of Companies c) Understand the process of internal reconstruction. d) Prepare the liquidators final statement of accounts. e) Understand the recent developments in accounting and accounting standards. 		
Syllabus:		Hours
Module No. 1: Redemption of Preference Shares		10
Meaning – legal provisions – treatment regarding premium on redemption – creation of Capital Redemption Reserve Account– Fresh issue of shares – Arranging for cash balance for the purpose of redemption – minimum number of shares to be issued for redemption - issue of bonus shares – Post Bonus Issue Balancesheet (Schedule III to Companies Act2013) after redemption.		
Module No. 2: Mergers and Acquisition of Companies		16
Meaning of Amalgamation and Acquisition – Types of Amalgamation – Amalgamation in the nature of Merger – Amalgamation in the nature of Purchase - Methods of Calculation of Purchase Consideration (Ind AS 103), Net asset Method - Net Payment Method, Accounting for Amalgamation (Problems on pooling of interest method and purchase method) – Journal Entries and Ledger Accounts in the Books of Transferor Company and Journal Entries in the books of Transferee Company – Preparation of Balance Sheet after Merger. (Schedule III to Companies Act 2013).		
Module No. 3: Internal Reconstruction of Companies		10
Meaning of Capital Reduction; Objectives of Capital Reduction; Provisions for Reduction of Share Capital under Companies Act, 2013. Forms of Reduction. Accounting for Capital Reduction. Problems on passing Journal Entries, preparation of Capital Reduction Account and Balance sheet after reduction (Schedule III to Companies Act 2013).		
Module No. 4: Liquidation of Companies		12
Meaning of Liquidation, Modes of Winding up – Compulsory Winding up, Voluntary Winding up and winding up subject to Supervision by Court. Order of payments in the event of Liquidation. Liquidator’s Statement of Account. Liquidator’s remuneration. Problems on preparation of Liquidator’s Statement of Account.		
Module No. 5: Recent Developments in Accounting and Accounting Standards.		08

Human Resource Accounting – Environmental Accounting Discloser as per Global Reporting Initiative (GRI) Reporting of variables – Social Responsibility Accounting, Indian Accounting Standards- Meaning- objectives-Significance of Accounting standards in India- Process of setting Accounting Standards in India- List of Indian accounting standards. (IND AS).

Skill Development Activities:

1. List out legal provisions in respect of Redemption of Preference shares.
2. Calculation of Purchase consideration with imaginary figures.
3. List any five cases of amalgamation in the nature of merger or acquisition of JointStock Companies.
4. List out legal provisions in respect of internal reconstruction.
5. List out any five Indian Accounting Standards.

Note: Any other activities, which are relevant to the course.

Text Books:

1. Arulanandam & Raman ; Corporate Accounting-II, HPH
2. Anil Kumar.S Rajesh Kumar.V and Mariyappa.B Advanced Corporate Accounting, HPH
3. Dr. Venkataraman. R – Advanced Corporate Accounting
4. S.N. Maheswari , Financial Accounting, Vikas publishing
5. Soundarajan A & K. Venkataramana, Advanced Corporate Accounting, SHBP.
6. RL Gupta, Advanced Accountancy, Sultan Chand
7. K.K Verma – Corporate Accounting.
8. Jain and Narang, Corporate Accounting.
9. Tulsian, Advanced Accounting,
10. Shukla and Grewal – Advanced Accountancy, Sultan Chand
11. Srinivas Putty, Advanced Corporate Accounting, HPH.

Note: Latest edition of text books may be used.


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Name of the Program: Bachelor of Commerce (B.Com.)		
Course Code: B.Com. 4.2		
Name of the Course: Costing Methods and Techniques		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs	56 Hrs
Pedagogy: Classroom lectures, Case studies, Tutorial classes, Group discussion & Seminar etc.,		
Course Outcomes: On successful completion of the course, the Students will be able to		
<ul style="list-style-type: none"> a) Understand the application of contract costing. b) Evaluate the benefits of process costing. c) Examine the importance and apply of service costing. d) Know the application of marginal costing. e) Prepare flexible and cash budget with imaginary figures & Analyze the processes involved in standard costing. 		
Syllabus:		Hours
Module No. 1: Contract Costing		12
Introduction - Meaning, features of contract costing, applications of contract costing, similarities and dissimilarities between job costing and contract costing, recording of contract costs, meaning of terms used in contract costing; treatment of profit on incomplete contracts-Problems.		
Module No. 2: Process Costing		12
Introduction - Meaning, features and applications of Process Costing; advantages and disadvantages of process costing; treatment of process losses and gains in cost accounts;, preparation of process accounts – Problems. (Except Joint and By-products and inter process profits)		
Module No. 3: Service Costing		10
Introduction to service costing; Application of Service costing; Service costing v/s product costing; Cost units for different service sectors; Service cost statement; Determination of costs for different service sectors - Transport services, Hospitals - problems on preparation of service cost statements for these service sectors.		
Module 4: Marginal Costing		12
Meaning and Definition of marginal cost, marginal costing, features of marginal costing- terms used in marginal costing – P/V ratio, BEP, Margin of Safety, Angle of Incidence. Break Even Analysis assumptions and uses. Break Even Chart. (Theory). Problems on CVP analysis.		


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Module No 5:Standard Costing and Variance Analysis	10
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Standard Costing: Introduction–Uses and limitations, Variance analysis-Material variances, Labour variances and Overhead variances-problems on Material and Labour variances only.

Skill Development Activities:

1. Naming the appropriate method of costing with justification for each of the following Industries-Paper Mill, Printing, Sugar Mill, Rice Mill, Hospital, Oil Refinery, Pickle Manufacturing, KSRTC and Hotel.
2. List out the modern costing tools in accounting field.
3. Prepare flexible Budget and cash budget with imaginary figures
4. Narrate the steps involved in standard costing. System.
5. Prepare a report, which explains the conditions that are necessary for the successful implementation of a JIT manufacturing system.
6. Explain ABC. Illustrate how ABC can be applied.

Note: Any other activities, which are relevant to the course.

Text Books:

1. John K Shank and Vijaya Govindarajan; Strategic Cost Management; FreePress Publication; New York
2. S P Jain and K L Narang, Advanced Cost Accounting, Kalyani Publications,
3. Robert S Kaplan and Anthony A Atkinson, Advanced ManagementAccounting, PHI, New Delhi.
4. Shank and Govindrajan, Strategic Cost Management, Simon and Schuster,36 New York.
5. Lin Thomas, Cases and Readings in Strategic Cost Management, McGrawHill Publications, New York.
6. Mariyappa B Methods and Techniques of Costing. HPH.

Note: Latest edition of Text books may be used.

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Name of the Program: Bachelor of Commerce (B.Com.) Course Code: B.Com. 4.3 Name of the Course: Business Regulatory Framework		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hrs	56 Hrs
Pedagogy: Classroom lectures, Case studies, Tutorial classes, Group discussion, Seminar & fieldwork etc.,		
Course Outcomes: On successful completion of the course, the Students will be able to <ol style="list-style-type: none"> a) Recognize the laws relating to Contracts and its application in business activities. b) Acquire knowledge on bailment and indemnification of goods in a contractual relationship and role of agents. c) Comprehend the rules for Sale of Goods and rights and duties of a buyer and a seller. d) Distinguish the partnership laws, its applicability and relevance. e) Rephrase the cyber law in the present context. 		
Syllabus:		Hours
Module No. 1: Indian Contract Act, 1872		16
Introduction – Definition of Contract, Essentials of Valid Contract, Offer and acceptance, consideration, contractual capacity, free consent. Classification of Contract, Discharge of a contract, Breach of Contract and Remedies to Breach of Contract.		
Module No. 2: The Sale of Goods Act, 1930		10
Introduction - Definition of Contract of Sale, Essentials of Contract of Sale, Conditions and Warranties, Transfer of ownership in goods including sale by a non- owner and exceptions- Performance of contract of sale - Unpaid seller, rights of an unpaid seller against the goods and against the buyer.		
Module No. 3: Competition and Consumer Protection Act		12
The Competition Act 2002 – Objectives of Competition Act, Features of Competition Act, CAT, Offences and Penalties under the Act, Competition Commission of India. Consumer Protection Act 2019 – Introduction, Need for the new act - Objectives, Applicability, Definitions of the terms – Consumer, Consumer Dispute, Defect, Deficiency, Unfair Trade Practices, and Services, Rights of Consumer - Consumer Redressal Agencies – Structure of District Forum, State Commission and National Commission – Mediation cell – Central Consumer protection authority-E-filing of complaints- Product liability and penal consequences.		
Module No. 4: WTO Patent Rules		08
Indian Patent Act, 1970 – Meaning and Scope of Intellectual Property Rights (IPR), Procedure to get Patent for Inventions and Non-Inventions.		
Module 5: Environment and Cyber Laws		10

Environment Protection Act 1986 – Objectives of the Act, Definitions of Important Terms – Environment, Environment Pollutant, Environment Pollution, Hazardous Substance and Occupier, Types of Pollution, Powers of Central Government to protect Environment in India. **Cyber Law:** Definition, Introduction to Indian Cyber Law, Cyber space and Cyber Security.

Skill Development Activities:

1. Discuss the case of “Carlill vs Carbolic Smoke Ball Company” case
2. Discuss the case of “Mohori Bibee v/s Dharmodas Ghose”.
3. Discuss any one case law relating to minor.
4. State the procedure for getting patent for ‘inventions’ and / or ‘non-inventions’.
5. List at least 5 items which can be categorized as ‘hazardous substance’ according to Environment Protection Act.
6. List out any top upcoming jobs in cyber security and examine the skills required for the same.

Note: Any other activities, which are relevant to the course.

Text Books:

1. M.C. Kuchhal, and Vivek Kuchhal, Business Law, Vikas Publishing House, New Delhi.
2. Avtar Singh, Business Law, Eastern Book Company, Lucknow.
3. Ravinder Kumar, Legal Aspects of Business, Cengage Learning
4. SN Maheshwari and SK Maheshwari, Business Law, National Publishing House, New Delhi.
5. Aggarwal S K, Business Law, Galgotia Publishers Company, New Delhi
6. Bhushan Kumar Goyal and Jain Kinneri, Business Laws, International Book House
7. Sushma Arora, Business Laws, Taxmann Publications.
8. Akhileshwar Pathak, Legal Aspects of Business, McGraw Hill Education, 6th Ed.
9. P C Tulsian and Bharat Tulsian, Business Law, McGraw Hill Education
10. Sharma, J.P. and Sunaina Kanojia, Business Laws, Ane Books Pvt. Ltd., New Delhi
11. K. Rama Rao and Ravi S.P., Business Regulatory Framework., HPH
12. N.D. Kapoor, Business Laws, Sultan Chand Publications

Latest edition of text books may be used.


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Name of the Program: Bachelor of Commerce (B.Com.) Course Code: B.Com. 4.6 (OEC) Name of the Course: Entrepreneurship Skills		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	3 Hrs	42 Hrs
Pedagogy: Classrooms lecture, Case studies, Tutorial classes, Group discussion & Seminar etc.,		
Course Outcomes: On successful completion of the course, the Students will be able to <ol style="list-style-type: none"> a) Discover their strengths and weaknesses in developing the entrepreneurial mind-set. b) Identify the different Government Institutions/Schemes available for promoting Entrepreneurs. c) Understand the various aspects to set-up Enterprises. d) Familiarize Mechanism of Monitoring and maintaining an Enterprises. e) Know the various features for successful/unsuccessful entrepreneurs. 		
Syllabus:		Hours
Module No. 1: Introduction		10
Need of becoming entrepreneur- ways to become a good entrepreneur-Enabling environment available to become an entrepreneur. Self-discovery, Idea Generation-Idea Evaluation-Feasibility analysis- Finding team-Preparation of business model.		
Module No. 2: Promoting Entrepreneur		08
Introduction-Different Government institutions/schemes promoting entrepreneurs: Gramin banks, PMMY-MUDRA Loan, DIC, SIDA, SISI, NSIC, and SIDO, etc.,		
Module No. 3: Enterprise Set-up		08
Introduction – Ways to set up an enterprise and different aspects involved: legal compliances, marketing aspect, budgeting etc.,		
Module No. 4: Monitoring and Maintaining an Enterprise		10
Introduction – Day to day monitoring mechanism for marinating an enterprise-Different Government Schemes supporting entrepreneurship.		
Module No. 5: Case Studies		06
Examples of successful and unsuccessful entrepreneur of MUDRA Loan, Gramin banks, SISI and NSIC etc., ,(at least one each example on entrepreneurs availed MUDRA loan, loan from Gramin banks etc.)		
Skill Development Activities:		
<ol style="list-style-type: none"> 1. List out the discovery and evaluation of viable business ideas for new venture creation. 2. Practice critical talents and traits required for entrepreneurs such as Problem solving, creativity, communication, business math, sales, and 		

negotiation

3. List out practical issues in setting-up of different enterprises.
4. Analyze the impact of various Government schemes in promotion of entrepreneurs.

Note: Any other activities, which are relevant to the course.

Text Books:

1. Entrepreneurship - Starting, Developing, and Management a new Enterprise –Hisrich and –Peters-Irwin
2. Fayolle A (2007) Entrepreneurship and new value creation. Cambridge, CambridgeUniversity Press
3. Hougard S. (2005) The business idea. Berlin, Springer
4. Lowe R & S Mariott (2006) Enterprise: Entrepreneurship & Innovation. Burlington, Butterworth Heinemann

Note: Latest edition of text books may be used.


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Name of the Program: Bachelor of Commerce (B.Com.)		
Course Code: B.Com. 4.6 (OEC)		
Name of the Course: Corporate Governance		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	3 Hrs	42Hrs
Pedagogy: Class rooms lecture, Case studies, Tutorial classes, Group discussion, Seminar etc.,		
Course Outcomes: On successful completion of the course, the Students will be able to		
a) Identify the importance of corporate governance.		
b) Know the rights, duties and responsibilities of Directors.		
c) Analyse the legal & regulatory framework of corporate governance.		
d) Outline the importance and role of board committee.		
e) Understand the major expert committees' Reports on corporate governance.		
Syllabus:		Hours
Module No. 1: Corporate Governance		10
Introduction, Its importance, Principles of corporate governance, OECD Principles of corporate governance, Theories of corporate governance-Agency theory and stewardship theory, Models of corporate governance around the world, Need for good corporate governance - Evolution of Corporate Governance - Ancient and Modern Concept - Concept of Corporate Governance, Generation of Value from Performance - Principles of Corporate Governance.		
Module No. 2: Corporate and Board Management		10
Corporate Business Ownership Structure - Board of Directors - Role, Composition, Systems and Procedures - Fiduciary relationship - Types of Directors-Promoter/Nominee/Shareholder/Independent - Rights, Duties and Responsibilities of Directors; Role of Directors and Executives - Responsibility for Leadership, Harmony between Directors and Executives -Training of Directors-need, objective, methodology -Scope and Responsibilities and competencies for directors - Executive Management Process, Executive Remuneration - Functional Committees of Board - Rights and Relationship of Shareholders and Other Stakeholders.		
Module No. 3: Legal and Regulatory Framework of Corporate Governance		08
Need for Legislation of Corporate Governance - Legislative Provisions of Corporate Governance in Companies Act 1956, Securities (Contracts and Regulations) Act, 1956 (SCRA), Depositories Act 1996, Securities and Exchange Board of India Act 1992, Listing Agreement, Banking Regulation Act, 1949 and Other Corporate Laws - Legal Provisions relating to Investor Protection.		
Module No. 4: Board Committees and Role of Professionals		
Board Committees - Audit Committee, Remuneration Committee, Shareholders' Grievance Committee, other committees - Need, Functions and Advantages of Committee Management -Constitution and Scope of Board Committees - Board Committees' Charter - Terms of Reference and Accountability and Performance Appraisals - Attendance and participation in committee meetings - Independence		

of Members of Board Committees - Disclosures in Annual Report; Integrity of Financial Reporting Systems - Role of Professionals in Board Committees - Role of Company Secretaries in compliance of Corporate Governance.

Module No. 5: Corporate Governance - Codes and Practices

06

Introduction - Major Expert Committees' Reports of India - Study of Codes of Corporate Governance - Best Practices of Corporate Governance - Value Creation through Corporate Governance - Corporate Governance Ratings.

Skill Development Activities:

1. Collect the annual reports of any two companies, find out the corporate governance aspects in the reports.
2. Collect any two companies Board of Directors names and find out their nature of directorship.
3. Prepare report on the applicability of different models of Corporate Governance.
4. Critically compare the recommendations of various corporate governance committee.

Note: Any other activities, which are relevant to the course.

Text Books:

1. Bairs N. and D Band, Winning Ways through Corporate Governance, Macmillan London.
2. Charkham J, Keeping Good Company: A Study of Corporate Governance in Five Countries, Oxford University Press, London.
3. Subhash Chandra Das, Corporate Governance in India – An Evaluation (Third edition), PHI Learning Private Limited.
4. Clark T. and E Monk House, Rethinking the Company, Pitman, London.
5. Fernando A.C, Corporate Governance, Pearson Education.
6. Prentice D.D. and PRJ Holland, Contemporary Issues in Governance, Clarendon Press.
7. Report of the Cadbury Committee on Financial Aspects of Corporate Governance, London Stock Exchange, London.
8. Report on Corporate Governance, Confederation of India Industries and Bombay.

Note: Latest edition of text books may be used.


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Kuvempu University

Department of Post-Graduate Studies and Research in Commerce

Jnana Sahyadri, Shankaraghatta 577 451 (Shivamogga District, Karnataka)

e-mail: commerce@kuvempu.ac.in

Minutes of the Meeting of Board of Studies in Commerce (UG) held on Friday, 29 December 2017 at 11 am in the DoS in Commerce, Kuvempu University, Jnana Sahyadri

Members:

- | | |
|-----------------------|----------------------------|
| (1) Sri Umapathi K G | (4) Smt V Shalini |
| (2) Sri Poornesh K | (5) Sri B Malleshi Naik |
| (3) Sri B R Dayananda | (6) J. Madegowda: Chairman |

After the formal welcome by the chairman, the Board took up the subjects listed in the Agenda for discussion and after discussion resolved appropriately as presented below.

(1) Review of Question Papers set for April/November 2017 examinations

The Board reviewed the question papers set for April/November 2017 examinations of B.Com (both regular and distance mode) and found them in order.

(2) Preparation and approval of Panels of Examiners for April/November 2018 examinations of B.Com (both regular and DDE)

The Board prepared and approved the Panels of Examiners for B.Com examinations, 2018 (both regular and distance mode), and authorized the Chairman to send the same to the Registrar (Eval) separately (**Appendix – 1**).

(3) Revision and approval of curricula of B.Com (regular) programme

The Board prepared and approved the thoroughly revised and comprehensive course curricula B.Com programme (Regular). Further, the Board resolved to recommend to the Faculty of Commerce for its consideration and approval (**Appendix – 2**).

(4) Any other subject with the permission of the Chairman: Question Papers

Members of the Board discussed the issue of translating the question papers of quantitative courses from English to Kannada from the points of view of its utility to the students, time and cost factors, and resolved to have the question papers of quantitative courses only in English.

Signature of Members:

- | | |
|----------------------|-------------------------|
| (1) Sri Umapathi K G | (3) Sri B R Dayananda |
| (2) Sri Poornesh K | (4) Sri B Malleshi Naik |

(J. Madegowda)

Chairman

Principal
D.V.S. College of Arts & Science
Shimoga.

Appendix - 2



Kuvempu University

Department of Post-Graduate Studies and Research in Commerce

Jnana Sahyadri, Shankaraghatta 577 451 (Shivamogga District, Karnataka)

e-mail: commerce@kuvempu.ac.in



B. Com Curricula, 2018-19

[prepared and approved by the Board of Studies in Commerce (UG) in its meeting held on
29 December 2017]



Structure of B.Com Programme

Sl. No.	Academic Programme, Semester and Title of the Course	Weekly Teaching Hours	Examination Duration (hours)	Maximum Marks		
				CAP ¹	SEE ²	Total
B.Com, Semester - I						
101	Language – I, Course - I	4	3	20	80	100
102	Language – II, Course – I	4	3	20	80	100
103	Financial Accounting – I	4	3	20	80	100
104	Business Environment and Government Policy	4	3	20	80	100
105	Principles of Business Management	3	3	20	80	100
106	Market Behaviour and Cost Analysis	4	3	20	80	100
Total, Semester - I				120	480	600
B.Com, Semester - II						
201	Language – I, Course – II	4	3	20	80	100
202	Language – II, Course – II	4	3	20	80	100
203	Financial Accounting – II	5	3	20	80	100
204	Human Resource Management	4	3	20	80	100
205	Mathematics for Business	4	3	20	80	100
206	Indian Financial System	4	3	20	80	100
Total, Semester - II				120	480	600
B.Com, Semester - III						
301	Language – I, Course – III	4	3	20	80	100
302	Language – II, Course – III	4	3	20	80	100
303	Corporate Accounting – I	4	3	20	80	100
304	Marketing Management	4	3	20	80	100
305	Small Business Management	4	3	20	80	100
306	Corporation Administration	4	3	20	80	100
307	Environmental Science	4	3	20	80	100
Total, Semester - III				140	560	700
B.Com, Semester - IV						
401	Language – I, Course – IV	4	3	20	80	100
402	Language – II, Course – IV	4	3	20	80	100
403	Corporate Accounting – II	5	3	20	80	100
404	Management of Banking Operations	4	3	20	80	100
405	Computer Applications in Business	4	3	20	80	100
406	Business Regulations	3	3	20	80	100
407	Indian Constitution	4	3	20	80	100
Total, Semester - IV				140	560	700

¹ Continuous Assessment Programme² Semester-end Examination

B.Com, Semester - V						
501	Financial Management	4	3	20	80	100
502	Income Tax – I	4	3	20	80	100
503	Business Statistics - I	4	3	20	80	100
504	Cost Accounting	4	3	20	80	100
505	Advanced Accounts	4	3	20	80	100
506	Goods and Services Tax	4	3	20	80	100
507	Specialization Stream, Course – I	4	3	20	80	100
508	Logical and Analytical Reasoning	2	1½	10	40	50
Total, Semester - V				150	600	750
B.Com, Semester - VI						
601	International Financial Reporting Standards	4	3	20	80	100
602	Income Tax – II	4	3	20	80	100
603	Business Statistics – II	4	3	20	80	100
604	Cost Accounting – Methods and Techniques	4	3	20	80	100
605	Management Accounting	5	3	20	80	100
606	Principles and Practice of Auditing	3	3	20	80	100
607	Specialization Stream, Course – II	4	3	20	80	100
608	Soft Skills	2	1½	10	40	50
Total, Semester - VI				150	600	750
Grand Total				820	3,280	4,100

Specialization Stream – A: Finance Stream

507A Advanced Financial Management

607A Security Analysis and Portfolio Management

Specialization Stream – B: Marketing Stream

507B Product and Sales Management

607B Retail Management

Specialization Stream – C: Banking and Insurance Stream

507C Advanced Bank Management

607C Life and General Insurance

Specialization Stream – D: E-Commerce Stream


507D E-Commerce – 1

607D E-Commerce – 2

Specialization Stream – E: Quantitative Techniques Stream

507E Quantitative Techniques – 1

607E Quantitative Techniques – 2


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B.Com, Semester – I**Course – 104: Business Environment and Government Policy**

Course Objective: To acquaint students with the business environment and government policy

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit Course Inputs

- I. **Introduction to Business Environment** (14 hours): Meaning, Objectives of Business, Features of Business, Business Environment, Internal and External Environment - Economic Environment, Social Environment, Cultural Environment, Demographic Environment, Legal Environment, Technological Environment, and Emerging Scenario and Business Policy.
- II. **Business Ethic** (13 hours): Principles of Business Ethics, Unethical Practices and Good Ethics of Business; Social Responsibility of Business, Doctrine of Social Responsibility, Rational of Social Responsibility and Unfair Trade Practices.
- III. **Technology in Business** (12 hours): Introduction, Need and Importance, Technological Factors influencing Business, Benefits and Limitations of Modern Technology to Business.
- IV. **Business and Government** (12 hours): Introduction, Government Intervention and Economic Growth, Regulatory Growth, Promotional Growth, Inter Personal Growth and Planning Growth.
- V. **Business Policy** (13 hours): Importance of Business Policy, Essentials of Business Policy, Classifications of Business Policy, Production Policy, Personal Policy, Financial Policy and Marketing Policy.

Skill Development Activities:

- (1) Draw a Business Tree
- (2) Prepare a Partnership Deed
- (3) Prepare Memorandum and Articles of Association of any company
- (4) Discuss the impact of globalization on Indian Business and Industry
- (5) State the impact of technology on Indian Business

Recommended Books for Reference:

- (1) Dr. Aswathappa Essentials of Business, Himalaya Publishing House
- (2) Francis Cherunilam; Economic Environment Business, Prentice Hall of India
- (3) P. Subba Rao, International Business, HPH
- (4) Amarchand, Business and Government
- (5) Vivek Mittall, Business Environment
- (6) Raj Agarwal, Business Environment

B.Com, Semester – I**Course – 105: Principles of Business Management**

Course Objective: To acquaint students with the principles of managing of business concerns

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit Course Inputs

- I. **Nature and Functions of Management** (14 hours): Meaning and Definition, Functions and Scope of Management, Levels of Management, Management vs Administration; Scientific Management, Evolution of Management Thought, Contributions of F W Taylor, Henry Fayol, Elton Mayo, and C.K Prahlad; and

- Management as Science, Art and Profession.
- II. **Planning and Decision Making** (14 hours): Nature and Importance of Planning, Types, Steps involved in Planning, Planning Premises, Planning Process. Decision Making - Meaning, Role, Steps involved in Decision Making Process, Significance of Decision Making, and Guidelines for effective Decision Making.
 - III. **Organizing** (16 hours): Nature, Principles, Types, Structure of Organization, Line and Staff Organization, Formal vs Informal Organization, Delegation of Authority, Principles of Delegation, Barriers to effective Delegation, Guidelines for Making effective Delegation, Span of Control, Authority and Responsibility, Authority vs Power, and Forms of Organization Structure.
 - IV. **Directing, Motivation and Control** (10 hours): Meaning, Nature, Significance and Techniques of Directing: Motivation - Meaning and Importance; Control - Meaning, Steps in Control, Features of effective Control System, Controlling Tools and Techniques, and Essentials of Effective Control.
 - V. **Leadership and Modern Management Techniques** (10 hours): Meaning of Leadership, Leadership Styles and Importance of Leadership: Modern Management Techniques - MBO, MBE, TQM, ISO, Stress Management (only meaning of modern management techniques).

Skill Development Activities:

- (1) Draft an Organization Chart
- (2) Narrate the steps in Selection Process
- (3) List out F W Taylor's Principles of Management
- (4) Narrate the steps in effective Control System
- (5) Mention the features of Modern Management Techniques

Recommended Books for Reference:

- (1) Principles of Management, Koontz and O'Donnell
- (2) Business Management, Gupta C B, Sultan Chand
- (3) Principles and Practice of Management, Prasad L M, Sultan Chand
- (4) Management, Stoner A F and Freeman R.E, Prentice Hall
- (5) Professional Management, Theo Haimann
- (6) Management Concepts and Practice, B P Singh and T N Chhabra

B.Com, Semester – I

Course – 106: Market Behaviour and Cost Analysis

Course Objective: To acquaint students with the different dimensions of market behaviour and role of cost analysis in decision making

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Firms and Decisions** (14 hours): Firms - Meaning and Goals, Profit Maximization vs Wealth Maximization Dynamics, Decision Making – Features, Process, Strategy, Tactical and Operational Decisions, Game Theory, and Problems.
- II. **Market Forces** (12 hours): Demand - Meaning, Law of Demand, Nature of Elasticity of Demand, Determinants of Elasticity of Demand, Derived Demand Relations. Demand Forecasting - Meaning and Methods (Problems on Trend Projection by Method Least Squares); Supply - Law of Supply, and Determinants of Supply.
- III. **Production and Cost Analysis** (16 hours): Production Function – Concept and Importance, Cost Analysis - Meaning of Short-run and Long-run Costs, Fixed and

Variable Costs, Explicit and Implicit Costs, Opportunity Cost and Incremental Costs (concepts only). Total Cost, Average Cost and Marginal Cost Behavior in Short-run and Long-run (including problems). CVP Analysis – Assumptions, Uses, P/V Ratio, BEP, BE Chart, Margin of Safety and Problems.

- IV. **Pricing Practices and Strategies** (12 hours): Price – Pricing, Pricing Policy, Objectives and Determinants of Pricing Policy, Pricing Methods - Marginal Cost Pricing, Target Rate Pricing, Product Line Pricing, Administered Pricing, Competitive Bidding, Dual Pricing, Transfer Pricing; Price Discrimination - Requirements, Types and Dumping Strategies; Pricing over Product Life Cycle - Skimmed Pricing, Penetration Pricing, Product Line Pricing and Price Leadership; Linear Programming Problems – Problems on Profit Maximization and Cost Minimization using Graphic Method with two Variables.
- V. **Location of a Firm** (10 hours): Locating the Firm, Basic Principles, Selecting an Industrial Location, Primary and Secondary Factors; Sources of Capital, Internal and External Sources; Risk and Uncertainty – Concepts, and Investment Decisions under Uncertainty (Models).

Skill Development Activities:

- (1) A case study on decision making under market uncertainties
- (2) A practical example with graphical presentation of Elasticity of Demand
- (3) Construct a table with imaginary figures showing the relationship of Fixed Cost, Variable Cost, Total Cost, Average Fixed Cost, Average Variable Cost, Average Cost and Marginal Cost.
- (4) Practical analysis of product life cycle of a product
- (5) List out factors to be considered for location of a new firm

Recommended Books for Reference:

- (1) Dr. B. Mariyappa: Market Behaviour and Cost Analysis, Himalaya Publishing House, New Delhi
- (2) P L Mehta: Managerial Economics, Sultan Chand & Sons, New Delhi
- (3) D. M. Mithani: Managerial Economics, Himalaya Publishing House, New Delhi
- (4) R. L Varshney and K.L Maheshewari: Managerial Economics, Sultan Chand & Sons, New Delhi
- (5) H. L Ahuja: Business Economics, S. Chand & Company Ltd., New Delhi
- (6) Reddy and Appananiah: Economics for Business
- (7) K. M. Pandey and others: Economics for Managerial Decisions
- (8) K P M Sundaram: Micro Economics, Sultan Chand & Sons, New Delhi
- (9) M L Jhingan & J K Stephen: Managerial Economics, Vrinda Publishing (P) Ltd, Delhi.
- (10) Manoj Kumar Mishra: Managerial Economics, Voyu Education of India, New Delhi

B.Com, Semester – II

Course – 203: Financial Accounting – II

Course Objective: To acquaint students with the different accounting practices in the company

Pedagogy: combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Hire Purchase System** (16 hours): Meaning of Hire Purchase and Installment Purchase System; Differences between Hire Purchase and Installment Purchase, Important Definitions – Hire Purchase Agreement, Hire Purchase Price, Cash Price,

- Hire Purchase Charges, Net Hire Purchase Price, Net Cash Price; Calculation of Interest, Calculation of Cash Price; and Journal Entries and Ledger Accounts in the books of Hire Purchaser and Hire vendor (Asset Accrual Method only).
- II. **Departmental Accounts** (8 hours): Meaning, Objectives, Basis of Allocation of Expenses, Trading and Profit and Loss Account in Columnar Form and Balance Sheet.
 - III. **Branch Accounts** (14 hours): Introduction, Meaning, Objectives, Types of Branches - Dependent Branches, Features; Supply of Goods at Cost Price and Invoice Price; Branch Account in the books of Head Office, Debtors System only and Problems.
 - IV. **Fire Insurance Claims** (10 hours): Introduction, Need, Steps for ascertaining Fire Insurance Claim, Treatment of Salvage, Average Clause, Treatment of Abnormal Items, Computation of Fire Insurance Claims and Problems on Loss of Stock.
 - V. **Royalty Accounts** (16 hours): Meaning and Definition, Technical Terms – Royalty, Landlord, Tenant, Minimum Rent, Short Workings, Recoupment of Short Working, Recoupment within the life of the Lease, Treatment of Strike and Stoppage of Work, Accounting Treatment in the books of Lessee and Lessor, and Journal Entries and Ledger Accounts including Minimum Rent Account.

Skill Development Activities:

- (1) Collect Hire Purchase Agreement – analyze and prepare a note on the same
- (2) List out the basis of apportionment of common expenses
- (3) Collect transactions relating to any branch and prepare a Branch Account
- (4) Prepare a Claim Statement with imaginary figures to submit to insurance company
- (5) Collect Royalty Agreement with regard to any suitable situation – analyze and prepare a note on the same

Recommended Books for Reference:

- (1) J Madegowda and Dr Giridhar, K V, Advanced Financial Accounting (Volume – II), Himalaya Publishing House, Mumbai
- (2) Dr. B. Mariyappa, Advanced Financial Accounting, HPH
- (3) Arulanandam and Raman, Financial Accounting – I, HPH
- (4) Dr. S. N. Maheswari: Financial Accounting, Vikas Publications
- (5) S P Jain and K. L. Narang, Financial Accounting - I, Kalyani Publishers
- (6) Radhaswamy and R. L. Gupta, Advanced Accounting , Sultan Chand
- (7) Soundarrajan and K. Venkataramana, Financial Accounting, SHBP

B.Com, Semester – II

Course – 204: Human Resource Management

Course Objective: To acquaint students with different dimensions of HRM in the organizations

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction to Human Resource Management** (12 hours): Meaning and Definition of HRM, Evolution of HRM in India, Scope, Objectives, Concepts, Functions and its Strategic Role, and Recent trends in HRM and HRD.
- II. **Employment and Development** (12 hours): Human Resource Planning, Job Analysis and Job Design, and Recruitment and Selection Process including E–Recruitment and Selection.
- III. **Executive Development** (14 hours): Meaning of Training, Need for Training, Importance, Steps in Training Programme, Methods of Training. Performance

- Appraisal – Terminology Used, Evaluation Process, Methods and Problems.
- IV. **Compensation Management** (14 hours): Meaning, Nature and Purpose, Wage Levels and Structures, Wage Determination Process, Theory of Wages, Principles and Factors influencing Wage and Salary Structure and Administration, Rewards and Incentives.
- V. **Human Relations** (12 hours): Meaning, Importance, Objectives, Motivation Theories, Employee Morale, Communication, Leadership, Employee Welfare, Health and Safety, Maintenance of HR Data Base, Challenges and Opportunities in Globalized Era, and Outsourcing of HR Functions.

Skill Development Activities:

- (1) Draft an advertisement for recruitment of candidates for an organization
- (2) Prepare a report for training procedure followed in an organization of your choice
- (3) Draft a format of performance appraisal of an employee
- (4) List out wage and salary structure of any five companies
- (5) Write a model of pay roll accounting of a company of your choice
- (6) List out the measures provided under Labour Act for employee welfare, health and safety

Recommended Books for Reference:

- (1) Dr. K. Ashwathappa, Human Resource Management – HPH
- (2) Dr. Appanaiah, Human Resource Management, HPH
- (3) Rao and T.V. Verma, Human Resource Development
- (4) Jean Marleen, Performance Oriented Human Resource Development
- (5) Lalitha Balakrishna and Others, Human Resource Development

B.Com, Semester – II
Course – 205: Mathematics for Business

Course Objective: To acquaint students with the application of mathematical techniques in modern business

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit **Course Inputs**

- I. **Theory of Indices** (6 hours): Introduction, Meaning of Index, Basic Laws of Indices (statement only), Definition of Zero Index, Fractional Index and Negative Index and Problems on Simplification.
- II. **Progressions** (8 hours): Arithmetic Progression, Finding the n^{th} Term of AP and Sum to n^{th} Term of AP; Insertion of Arithmetic Mean; Geometric Progression – Finding the n^{th} Term of GP and Sum to n^{th} Term GP and Insertion of Geometric Mean.
- III. **Mathematics of Finance, Ratios, Proportions and Variations** (14 hours): Simple Interest, Problems on Simple Interest, Compound Interest, Annuities, Present and Future Value of Annuity, Discounting Bills of Exchange (Present Worth, Future Face Value, Trade Discount and Banker Discount, Bankers Gain and Amount Receivable); Equality of Ratios; Proportions – Fourth Proportional – Third Proportional and Mean Proportional – Continued Proportion, Direct and Inverse Proportions, Problems; Variations - Problems on Speed, Time and Work Completion.
- IV. **Theory of Sets** (10 hours): Meaning, Elements of a Set, Methods of Describing a Set, Types of Sets and Operations, Demargan's Laws Venn Diagram and their Application to Theory of Sets.
- V. **Theory of Equations** (14 hours): Simple Linear Equations, Simultaneous Linear Equation (Elimination, Substitution and Cross Multiplication Methods only),

Quadratic Equation, Pure Quadratic, General Form of Quadratic Equations, Factorization and Sridharacharya's Methods and Problems.

- VI. **Matrices and Determinants** (12 hours): Meaning of Matrix, Types of Matrices, Operations of Addition, Subtraction and Multiplication of Matrices, Problems, Transpose of A Matrix, Determinants of a Square Matrix, Minor of an Element, Co-Factor of an Element, Ad Joint of a Square Matrix, Singular and Non-singular of a Square Matrix, Inverse of a Square Matrix. Solutions of System of Linear Equations in two Variables using Cramer's Rule and Problems.

Skill Development Activities:

- (1) Collect details from your nearest trading concern regarding normal discount and prepare a note on the same
- (2) Collect information from a financial company or firm regarding rate of interest charged on advances and deposits and how the bills are discounted by the business firms and banks - prepare a note on the same
- (3) Develop an amortization table for loan amount – EMI Calculation
- (4) Secondary Overhead Distribution Summary using Simultaneous Equations Method
- (5) Preparation of Bank Statement
- (6) Application of Matrix in business problems

Recommended Books for Reference:

- (1) Dr. Sancheti & Kapoor: Business Mathematics and Statistics, Sultan Chand
- (2) Zamarudeen: Business Mathematics, Vikas
- (3) R.S Bhardwaj :Mathematics for Economics & Business
- (4) Madappa, Mahadi Hassan, M. Iqbal Taiyab, Business Mathematics
- (5) G.R. Veena and Seema, Business Mathematics and Statistics, I. K. Intl Publishers

B.Com, Semester – II

Course – 206: Indian Financial System

Course Objective: To acquaint students with the requisite knowledge about present Indian Financial System

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction to Financial System** (12 hours): Meaning, Role and Classification of Financial System, Organizational Structure of Indian Financial System, Major Components - Financial Institutions, Intermediaries and Financial Instruments.
- II. **Financial Markets in India** (16 hours): Capital Market, Role and Importance, Development Initiatives and Reforms – Narasimham Committee Reports 1991 and 1998; Primary Market - Meaning, Instruments, Players and Problems; Secondary Market – Meaning, Function; Stock Exchange, Listing of Securities and Benefits, Types of Securities, Types of Dealings. Indian Stock Exchange (BSE, NSE, OTCET) Online Trading, and Demat Accounting.
- III. **Money Market and Regulatory Institutions** (12 hours): Meaning, Features, Organized and Unorganized Money Market Instruments – Treasury Bills, Certificate of Deposits, Commercial Papers, Call Money, Commercial Bills; Emerging Structure of Indian Money Market; Reserve Bank of India (RBI) - Objectives and Functions; Monetary Policy of RBI, SEBI and IRDI – Role and Functions.
- IV. **Co-operative Banking and Non-Banking Financial Institutions** (12 hours): Evaluation of Co-operative as Financial Institutions in India, Structure, Role and

Importance of Co-operative Banks, Agricultural and Non-agricultural Co-operative Banks, NBFIs – Importance, Role and Types of NBFIs In India, IDBI, ICICI, SFCs, SIDCs, LIC And NABARD.

- V. **Financial Services** (12 hours): Meaning, Importance of Financial Services, Insurance, Mutual Funds, Lease Finance, Merchant Banking, Venture Capital Financing, Factorizing, Credit Rating Agencies, Micro Finance and Self Help Groups, Financial Inclusion Programs in India.

Skill Development Activities:

- (1) Draft a chart showing the financial services in the Indian Financial System
- (2) List the instrument traded in the financial markets
- (3) Collect and record the foreign exchange rates of different currencies
- (4) Collect the different schemes of mutual funds offered by various financial institutions
- (5) Make a list of institutions providing housing and vehicle finance in your area

Recommended Books for Reference:

- (1) Principles of Bank Management by Vasantdesai, Himalaya Publishing House
- (2) Indian Financial System by Bharti, Pathak, Pearson Education
- (3) Financial Markets and Services, E. Gordon and K. Natarajan, Himalaya Publishing House
- (4) Indian Financial System, K Gupta, N. Garwal, Kalyani Publications.
- (5) The Indian Financial System – Markets, Institutions, and Services, Pearson, New Delhi
- (6) Financial Institutions and Markets, Growth and Innovation, Bhole L. M: Tata McGraw-Hill, New Delhi

B.Com, Semester – III

Course – 303: Corporate Accounting – I

Course Objective: To acquaint students with the procedure of preparing the accounts of corporate enterprises with the help of principles and regulations

Pedagogy: combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit **Course Inputs**

- I. **Profit Prior To Incorporation** (10 hours): Meaning, Calculation of Time Ratio, Sales Ratio and Weighted Ratio, Treatment of Capital and Revenue Expenditure, and Ascertainment of Pre-incorporation and Post-incorporation Profit by preparing Profit and Loss Account and Balance Sheet.
- II. **Valuation of Shares** (8 hours): Meaning, Need for Valuation of Shares, Factors affecting Valuation of Shares, Methods of Valuation - Intrinsic Value Method, Yield Method & Earning Capacity Method and Calculation of Fair Value of Shares.
- III. **Valuation of Goodwill** (8 hours): Meaning, Circumstances of Valuation of Goodwill, Factors influencing the Value of Goodwill, Methods of Valuation of Goodwill - Average Profit Method, Super Profit Method, Capitalization of Average Profit Method, Capitalization of Super Profit Method, and Annuity Method and Problems.
- IV. **Company Final Accounts** (20 hours): Statutory Provisions regarding preparation of Company Final Accounts, Treatment of Special Items – Tax Deducted at Source, Advance Payment of Tax, Provision for Tax, Depreciation, Interest on Debentures; Dividends – Rules regarding payment of Dividends, Transfer to Reserves; Preparation of Profit and Loss Account, and Balance Sheet in Vertical Form (as per Companies Act, 2013).
- V. **Underwriting of Shares and Debentures** (12 hours): Meaning, Underwriting

Commission; Underwriter – Functions, Advantages of Underwriting, Types of Underwriting – Marked and Unmarked Applications; – Problems on Underwriting including Firm Underwriting.

- VI. **Recent Trends in Company Accounts** (6 hours): Buy Back of Shares, Issue of Bonus Shares and Right Issue and Problems

Skill Development Activities:

- (1) Collect and fill the share application form of a limited company
- (2) Collect Prospectus of a company and identify its salient features, and prepare a note on the same
- (3) Collect annual report of a company and List out its assets and Liabilities
- (4) Collection of latest final accounts of a company and find out the intrinsic value of shares
- (5) Collect the annual reports of company and calculate the value of goodwill under different methods

Recommended Books for Reference:

- (1) J Madegowda, Dr Giridhar, K V, and Inchara P M Gowda, Corporate Accounting (Financial Accounting, Volume – III), Himalaya Publishing House, Mumbai
- (2) Dr. B. Mariyappa, Corporate Accounting, HPH
- (3) Arulanandam & Raman, Corporate Accounting – II
- (4) Dr. S. N. Maheswari, Financial Accounting
- (5) S. P. Jain and K. L. Narang, Corporate Accounting
- (6) S. Bhat- Corporate Accounting
- (7) S P Iyengar, Advanced Accountancy, Sultan Chand
- (8) R L Gupta, Advanced Accountancy
- (9) Shukla and Grewal, Financial Accounting

B.Com, Semester – III

Course – 304: Marketing Management

Course Objective: To acquaint students with different dimensions of present day marketing management

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction to Marketing** (10 hours): Meaning and Definition, Goals, Concepts of Marketing, Approaches to Marketing and Functions of Marketing.
- II. **Marketing Environment** (Macro) (10 hours): Meaning, Demographic, Economic, Natural, Technological, Political, Legal, and Socio-Cultural Environment.
- III. **Marketing Mix** (22 hours): Meaning, Elements, Product, Product Mix, Product Line, Product Lifecycle, Product Planning, New Product Development, Failure of new Product; Branding, Packing and Packaging; Pricing – Objectives, Factors influencing Pricing Policy and Methods of Pricing; Physical Distribution – Meaning, Factors affecting Channel Selection, Types of Marketing Channels; Promotion – Meaning and Significance of Promotion, Personal Selling and Advertising.
- IV. **Market Segmentation and Consumer Behavior** (10 hours): Meaning and Definition, Bases of Market Segmentation, Requisites of Sound Market Segmentation; Consumer Behaviour – Factors influencing Consumer Behaviour and Buying Decision Process.
- V. **Customer Relationship Management and Recent Trends in Marketing** (12 hours): Meaning and Definition, Role of CRM, Advantages and Disadvantages, Consumer

Protection Act 1986 and Recent Trends in Marketing; e-Business –Tele-Marketing, M-Business, Green Marketing, Relationship Marketing; Retailing – Concept Marketing and Virtual Marketing.

Skill Development Activities:

- (1) Identify the product of your choice and describe in which stage of the product life cycle it is positioned
- (2) Suggest strategies for development of a product
- (3) Study of consumer behavior for a product of your choice
- (4) Develop an advertisement copy for a product
- (5) Prepare a chart for distribution network for different products

Recommended Books for Reference:

- (1) Philip Kotler, Marketing Management
- (2) Bose Biplab, Marketing Management
- (3) Bholanath Datta, Marketing Management
- (4) J.C. Gandhi, Marketing Management
- (5) Ramesh and Jayanti Prasad: Marketing Management, I.K. International
- (6) Stanton W.J. Michael and Walker, Fundamentals of Management.
- (7) P N Reddy and Appannaiah, Marketing Management
- (8) Sontakki, Marketing Management

B.Com, Semester – III

Course – 305: Small Business Management

Course Objective: To acquaint students with different aspects managing small business units

Pedagogy: combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction** (10 hours): Meaning of Small Business, Small Business Management, Importance, Role, Characteristics and Types of Small Business, Scope and Role of Government in promoting Micro, Small Scale Industries.
- II. **Woman Entrepreneurs** (12 hours): Concept, Types of Woman Entrepreneurs, Suitability of Business, Problems faced by Woman Entrepreneurs in India, Measures taken by the Governments for the development of Woman Entrepreneurs.
- III. **Rural Entrepreneurs** (10 hours): Definitions, Risk faced by Rural Entrepreneurs, Strategies for development of Rural Entrepreneurship, and Scope of Rural Entrepreneurship.
- IV. **Project Identification and Formulation** (12 hours): Meaning of Project, Project Identification and Project Reports, Importance of Project Report, Contents of Project Report, and General Format of Project Report.
- V. **Problems of Small Scale Industries** (12 hours): Types of Problems, Causes and Remedies, Sickness in Small Scale Industries, Symptoms, Reasons for Sickness and Remedial Measures.
- VI. **Institutions engaged in Financing Small Business** (8 hours): SIDBI, ICICI, DICs, IDBI, KSFC, RRBs, NABARD, Commercial Banks and their Functions.

Skill Development Activities:

- (1) Visit five small scale units in your area and collect the details regarding the nature of business, sources of capital, employees and raw materials – prepare a note
- (2) Visit DIC and list out the schemes of Government of Karnataka for rural industries
- (3) Visit the financial institutions in your area and collect the information about the loan

- sanctioned by them
- (4) Collect the details about the institutions engaged in providing training for small entrepreneurs
 - (5) Prepare a simple project report required to start a small unit

Recommended Books for Reference:

- (1) Entrepreneur Development, K Natarajan
- (2) Small Scale Industries and Entrepreneurship, Vasant Desai
- (3) Small Scale Industries and Entrepreneurship, S. V Murthy
- (4) Entrepreneurial Development, Arora

B.Com, Semester – III

Course – 306 Corporate Administration

Course Objective: To familiarize students with the essentials of corporate administration

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction to Indian Companies Act, 1956** (14 hours): Company –Definition and Characteristics, Kinds of Companies - Private, Public Company, Statutory Company, Foreign Company, Holding Company, Subsidiary Company, and Licensed Companies, Government Company, Foreign Company, Global Company, Listed Company, Body Corporate, Corporate Veil and Lifting of Corporate Veil.
- II. **Formation of a Company**(14 hours) Promoter - Meaning, Functions, Fiduciary Position and Remuneration, Stages Involved in formation (in brief), Basic Documents of a Company - Memorandum Association, Articles of Association, Prospectus, and Statement in Lieu of Prospectus, and Misleading Prospectus and its Consequences.
- III. **Corporate Administration** (8 hours): Company Secretary – Meaning and Definition of Company Secretary, Legal Position, Qualification and Appointment, Duties, Rights and Liabilities of a Company Secretary; Managing Director - Qualification, Powers, Duties and Liabilities.
- IV. **Shares and Membership of a Company Equity** (16 hours): Shares, Kinds of Shares - Equity Shares, (including Sweat Equity Shares) and Preferences Shares Issue and Allotment of Shares, Legal Rules for Allotment of Shares, Essentials of Valid Allotment, Shares Certificate – Physical Form and Electronic Form, Buyback of Shares – Legal Provisions Relating to Buy Back of Shares; Transfer and Transmission of Shares – Distinction, Electronic Transfer, Demat Account, Membership - Member and Share Holder – Distinction, Mode of Acquiring Membership, and Register of Members - Contents And Closer.
- V. **Corporate Meetings** (8 hours): Meetings and Types – Statutory Meeting, Board Meetings, Annual General Meeting, Extra-Ordinary General Meeting – Statutory Requirements of Valid Meeting - Notice of a Meeting, Agenda, Quorum, Proxy, Resolutions–Ordinary and Special Resolutions, and Distinction Between Ordinary and Special Resolutions; and Meaning of Minutes and its Contents.
- VI. **Highlights of Company Act 2013** (4 hours): New Concepts – One-man Company, Women Director, Corporate Social Responsibility and Other Amendments (brief).

Skill Development Activities:

- (1) Drafting of Memorandum of Association
- (2) Drafting of Articles of Association

- (3) Draft the following – Notice of annual general meeting, Extra ordinary general meeting and board meetings
- (4) Drafting resolutions of meetings - Annual general meeting, extra ordinary general meeting
- (5) Collect and fill Demat account opening form

Recommended Books for Reference:

- (1) Company Law and Secretarial Practice – M.C. Kuchal
- (2) Company Law and Secretarial Practice- N. D. Kapoor
- (3) Elements of Corporate Law, S.N Maheshwari
- (4) Corporate administration- K Venkataramana
- (5) The companies Act 2013, Taxman
- (6) Business Law- B.S Raman
- (7) Corporate Administration Dr. B.G Bhaskar, K.R Mahesh Kumar

B.Com, Semester – III

Course – 307: Environment Science

Course Objective: To acquaint students with the ecological structure of environment

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **The Multidisciplinary Nature of Environmental Studies** (2 hours): Meaning, Definition, Scope and Importance, and Need for Public Awareness.
- II. **Natural Resources** (8 hours): Renewable and Non-Renewable Resources; Natural Resources and Associated Problems; Forest Resources - Use and Over-exploitation, Deforestation, Case Studies; Timber Extraction, Mining Dams and their effects on Forests and Tribal People; Water Resources - Use and Over-utilization of Surface and Ground Water, Floods, Drought, Conflicts over Water; Dams - Benefits and Problems; Mineral Resources - Use and Exploitation, Environmental effects of Extraction and using Mineral Resources, Case Studies; Food Resources - World Food Problems, Changes caused by Agriculture and Overgrazing, Effects of Modern Agriculture, Fertilizer-Pesticide Problems, Water Logging, Salinity, Case Studies; Energy Resources - Growing Energy Needs, Renewable and Non-Renewable Energy Sources, Use of Alternate Energy Sources, Case Studies; Land Resources - Land as a Resource, Land Degradation, Man-induced Landslides, Soil Erosion and Desertification, Role of an individual in Conservation of Natural Resources; and Equitable Use of Resources for Sustainable Lifestyles.
- III. **Ecosystems** (6 hours): Concept of an Ecosystem, Structure and Function of an Ecosystem, Producers, Consumers and Decomposers, Energy Flow in the Ecosystem, Ecological Succession, Food Chains, Food Webs and Ecological Pyramids, Introduction, Types, Characteristic Features, Structures and Functions of the Following Ecosystem - Forest Ecosystem, Grassland Ecosystem, Desert Ecosystem, Aquatic Ecosystem (Ponds, Streams, Lakes, Rivers, Oceans, Sanctuaries).
- IV. **Biodiversity and its Conservation** (8 hours): Introduction, Definition, Genetic, Species and Ecosystem Diversity, Biogeographically Classification of India, Value of Biodiversity, Consumptive Use, Productive Use, Social Ethical Aesthetic and Option Values; Biodiversity at Global, National and Local Levels; India as a Mega-Diversity Nation; Hot-Spots of Biodiversity; Threats to Biodiversity; Habitual Loss, Poaching of Wildlife, Man-Wildlife Conflicts, Endangered and Endemic Species of India,

- Conservation of Biodiversity, in-Situ and Ex-Situ Conservation of Biodiversity.
- V. **Environmental Pollution** (8 hours): Meaning, Definition, Causes, Effects and Control Measures of Air Pollution, Water Pollution, Soil Pollution, Marine Pollution, Noise Pollution, Thermal Pollution, and Nuclear Pollution; Solid Waste Management - Causes, Effects and Control Measures of Urban and Industrial Wastes; Role of an individual in prevention of Pollution, Pollution Case Studies; Disaster Management - Floods, Earthquake, Cyclone and Landslides.
- VI. **Social Issues and the Environment** (12 hours): From Unsustainable to Sustainable Development, Urban Problems related to Energy. Water Conservation, Rain Water Harvesting, Water Shed Management, Resettlement and Rehabilitation of People - Its Problems and Concern, Case Studies; Environmental Ethics - Issues and Possible Solutions, Climate Change, Global Warming, Acid Rain Ozone Layer Depletion, Wasteland Reclamation Consumerism and Waste Products, Environment Protection Act, Air (Prevention and Control of Pollution) Act, Water (Prevention and Control of Pollution) Act, Wild Life Protection Act, Forest Conservation Act, Issues involved in Enforcement of Environmental Legislation, and Public Awareness.
- VII **Human Population and the Environment** (6 hours): Population Growth, Variation among Nations, Population Explosion – Family Welfare Programme, Environment and Human Health, Human Rights, Value Education, HIV/AIDS, Women and Child Welfare, Role of Information Technology in Environment and Human Health, and Case Studies

Skill Development Activities:

- (1) Visit to a local polluted site -urban/rural/industrial/agriculture
- (2) Visit to local area to document environmental assets – rivers/forests/grassland/hill/mountain
- (3) Study of common plants, insects, birds
- (4) Study of simple ecosystems - pond, river, hill, slopes etc (field work equal to 5 lecture hours)
- (5) Each student has to submit a field report on any one of the above topics which forms the basis for evaluation of field work

Recommended Books for Reference:

- (1) Aggarwal K.C, Environmental Biology, Nidhi Publications Ltd, Bikaner
- (2) Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd
- (3) Brunnet R.C, Hazardous Waste incineration, McGraw Hill Inc
- (4) Clark R.S. marine Pollution, Canderson Press, Oxford (TB)
- (5) De A.K. Environmental Chemistry, Wiley Eastern ltd.
- (6) Down to Earth, Centre for Science and Environment
- (7) Gleick H.P, Water in Crisis, Pacific Institute for Studies in Dev. Environment and Security, Stockholm Env. Instt, Oxford Univ. Press
- (8) Hawkins R.E. Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay
- (9) Heywood VII and Watson, R.T. 1995, Global Biodiversity Assessment, Cambridge Univ. Press
- (10) Jadhav II and Bhosale V.M. 1995, Environmental Protection Laws, Himalaya Publishing House, Delhi
- (11) Sharma B.K. 2001, Environmental Chemistry, Goel Pub. House, Meerut
- (12) Trivedi. R.K, Handbook of Environmental Laws Rules, Guidelines, Compliances and Standards Vol I and II Enviro Media

(13) Wagner K.D, Environmental Management, W.B. Saunders Co Philandering, USA

B.Com, Semester – IV

Course – 403: Corporate Accounting – II

Course Objective: To enable the students to understand principles and procedure of preparing accounts of specialized corporate sectors

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 5 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Liquidation of Companies** (8 hours): Meaning, Types of Liquidation, Order of Payment, Calculation of Liquidator's Remuneration, and Preparation of Liquidators Final Statement of Account.
- II. **Banking Company Final Accounts** (16 hours): Business of Banking Companies, Some Important Provisions of Banking Regulation Act of 1949 – Minimum Capital and Reserves, Restriction on Commission, Brokerage, Discounts, Statutory Reserves – Cash Reserves, Books of Accounts, Special features of Bank Accounting, Final Accounts - Balance Sheet and Profit and Loss Account – Interest on Doubtful Debts – Rebate on Bill Discounted, Acceptance, Endorsement and other Obligations and Problems as per New Provisions
- III. **Life Insurance Company Final Accounts** (20 hours): Meaning of Life Insurance, Accounting Concepts relating to Insurance Companies, Preparation of Final Accounts of Life Insurance Companies – Revenue Account and Balance Sheet, and Calculation of Profit by preparing Valuation Balance Sheet.
- IV. **General Insurance Company Final Accounts** (14 hours): Meaning of General Insurance, Differences between Life Insurance and General Insurance – Fire Insurance, Marine Insurance and Accident Insurance; and Preparation of Revenue Account, Profit and Loss Account and Balance Sheet (vertical format).
- V. **Social Responsibility Accounting** (6 hours): Meaning and Definition, Features and Objectives of Social Responsibility Accounting (theory only).

Skill Development Activities:

- (1) Collect and fill the share application form of a limited company
- (2) Collect Prospectus of a company and identify its salient features
- (3) Collect annual report of a company and list out its assets and liabilities
- (4) Collection of latest final accounts of a company and find out the intrinsic value of shares
- (5) Collect the annual reports of a company and calculate the value of goodwill under different methods

Recommended Books for Reference:

- (1) J Madegowda, Dr Giridhar, K V, and Inchara P M Gowda, Advanced Financial Accounting (Volume – IV), Himalaya Publishing House, Mumbai
- (2) Arulanandam and Raman, Corporate Accounting –II
- (3) Anil Kumar, Dr B. Mariyappa, Financial Accounting, HPH
- (4) Dr. S.N. Maheswari, Financial Accounting
- (5) Soundarajan. A and K. Venkataramana, Corporate Accounting, VBH
- (6) S. P. Jain and K. L. Narang, Corporate Accounting
- (7) S. Bhat Corporate Accounting.
- (8) S P Iyengar, Advanced Accountancy, Sultan Chand
- (9) R L Gupta, Advanced Accountancy.

(10) Shukla and Grewal, Financial Accounting

B.Com, Semester – IV

Course – 404: Management of Banking Operations

Course Objective: To acquaint students with the different banking operations

Pedagogy: combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit Course Inputs

- I. **Banker and Customer** (16 hours): Introduction, Meaning and Definition of Banker and Customer, General and Special relationship between Banker and Customer, Special types of Customers – Minor, Joint Account, Partnership, Joint Stock Company, Trustee, Clubs and Associations.
- II. **Types of Accounts and Lending of Fund** (14 hours): Savings Bank Account, Current Account and Fixed Deposit Account – Features, Procedure for opening these Accounts; Lending of Funds – Different types of Loans, Overdrafts, Discounting of Bills, Cash Credit and Principles of Bank Lending.
- III. **Negotiable Instruments** (14 hours): Introduction, Meaning and Definition, Features, Kinds of Negotiable Instruments - Meaning, Definition and Features of Promissory Notes, Bills of Exchange and Cheques; Crossing of Cheques, Types of Crossing, Material Alteration, Endorsements - Meaning, Essentials and Kinds of Endorsement.
- IV. **Banking Operations** (12 hours): Collecting Banker – Meaning, Duties and Responsibilities of Collecting Banker, Holder for Value, Holder in Due Course, Statutory Protection to Collecting Banker; Paying Banker – Meaning, Precautions, Statutory protection to the Paying Banker, Dishonor of Cheques, Grounds for Dishonor, and Consequences of wrongful Dishonor of Cheques.
- V. **Banking** (8 hours): New Technology in Banking, e-Services, Debit and Credit Cards, Internet Banking, ATM, Electronic Fund Transfer, MICR, RTGS, NEFT, DEMAT. e-Banking, Core Banking and Mobile Banking.

Skill Development Activities:

- (1) Collect and fill account opening form of SB Account or Current Account
- (2) Collect and fill pay in slip of SB Account or Current Account
- (3) Draw specimen of Demand Draft
- (4) Draw different types of endorsement of cheques
- (5) Draw specimen of Travellers Cheques/Gift cheques/Credit cheques
- (6) List various customer services offered by atleast two banks of your choice

Recommended Books for Reference:

- (1) Gordon and Natarajan, Banking Theory Law and Practice, HPH
- (2) S. P Srivastava, Banking Theory and Practice, Anmol Publications
- (3) Tandan M.L, Banking Law and Practice in India, Indian Law House
- (4) Sheldon H.P, Practice and Law of Banking
- (5) K. Venkataramana, Banking Operations, SHBP
- (6) Kothari N. M, Law and Practice of Banking
- (7) Neelam C Gulati, Principles of Banking Management
- (8) Maheshwari. S.N, Banking Law and Practice, Vikas Publication
- (9) Shekar. K.C, Banking Theory Law and Practice, Vikas Publication
- (10) Dr. Alice Mani, Banking Law and Operation, SBH

B.Com, Semester – IV
Course – 405: Computer Applications in Business

Course Objective: To enable the students to learn the Accounting Package Tally and SQL Programs.

Pedagogy: combination of lectures, assignments, practical and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction** (10 hours): Meaning and Definition, Characteristics of Computers, Types of Computers, Application of Computers in Business Operating System – Meaning and Functions of Operating System; Introduction to Windows OS, Computer Memory – Primary and Secondary, RAM and ROM.
- II. **Tally ERP 9.0** (14 hours): Introduction, Features, Advantages, Basic Rules - Real, Personal and Nominal Accounts, Assets and Liabilities, Debtors and Creditors, Menus in Tally, Company Creation, Company Info Menu, Creating Inventory of Products, Company Features (F11) and Configuration of Tally (F12), Gateway of Tally Menu, Master, Transaction, Import and Report.
- III. **Software Support for GST** (8 hours): Introduction, Features, Concept, Supporting Software, GST Working Principles in Tally, Power and Functions, GST Group Creation in Tally, GST adapting in Goods or Stock Creation Section, Creating CGST, SGST, IGST, Ledgers, and GST Entry System in Tally.
- IV. **Accounting Ledger and Vouchers** (12 hours): Predefined Accounting Groups, Primary Groups and Sub Groups, Steps for Creating - Alter and Delete Ledgers and Groups, Types of Ledgers, Types of Vouchers, Rules of Vouchers Entry, Balance Sheet, Profit and Loss Account, Trial Balance, Stock Summary, Computation of GST and TDS, and Exercises for making Voucher Entries.
- V. **Introduction to ORACLE** (14 hours): SQL Meaning, Concepts, Commands, Data Definition Commands, Data Manipulation Commands, SQL*Plus Editing Commands, Create Table, Insert Integrity Constraints, Primary Key, Secondary Key, Aggregate Functions, Select, Delete Form, and Update Order Commands.
- VI. **SQL *Plus Reports** (6 hours): Additional Operators: Like Between, in, Referential Integrity, on Delete Cascade, Join Operation - Inner Join, Outer Join, Alter Table, SQL Clauses - Where Clause, Order By, Group by Clause, Having Clause, Sub Queries, Introduction to PL/SQL, and Simple Programs.

Skill Development Activities:

- (1) Write steps for creating a new company in Tally
- (2) Solve the two exercise problems with GST
- (3) Simple Programs - Mathematical Calculation, Simple and Compound Interest, Area of Circle, Triangle, Biggest and Smallest number
- (4) Write down the student data base table in SQL Query
- (5) Steps for creating GST in Tally with example

Recommended Books for Reference:

- (1) Ashok K Nandani, Advanced Tally 9.0 ERP, 2017 Edition.
- (2) Niranjana Shrivastava, Computer Application In Management (Dreamtech Press)
- (3) P. Mohan, Computer Application Business (Himalaya Publication)
- (4) Sanjay Saxena, A First Course in Computers (Vikas Publishing House)
- (5) Ivan Bayross: Oracle – 7 (BPB Publications)

- (6) S.S Gulshan, Business Law
- (7) S.C. Sharma, Business Law, I.K International Publishers
- (8) Tulsion Business Law, TMH

B.Com, Semester – IV
Course – 407: Indian Constitution

Course Objective: To acquaint students with essential knowledge about Indian Constitution

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit **Course Inputs**

- I. **Framing of the Constitution and Major Features** (14 hours): Constituent Assembly at Work, Preamble and Salient Features, Citizenship, Fundamental Rights, Directive Principles of State Policy, and Fundamental Duties.
- II. **Union and State Legislatures** (16 hours): Composition, Powers and Functions; Presiding Officers, Law Making Process, Committees of Parliament, Decline of Legislatures, and Reforms.
- III. **Union and State Executive** (16 hours): President and Vice-President – Elections, Powers and Functions; Prime Minister and Council of Ministers – Powers and Functions; Governor, Chief Minister and Council of Ministers – Powers and Functions; and Debate over Parliamentary and Presidential Forms of Government.
- IV. **Judiciary** (14 hours): Supreme Court and High Courts – Composition, Jurisdiction and Functions; and Judicial Activism.

Skill Development Activities:

- (1) List out the powers and functions of different levels of government
- (2) Understand the Union-State relations in India

Recommended Books for Reference:

- (1) D.D. Basu, Introduction to the Indian Constitution
- (2) A.S. Narang, Indian Constitution, Government and Politics
- (3) Nani Palkhivala, We, the People, UBS Publishers, New Delhi
- (4) A.G. Noorani, Indian Government and Politics
- (5) J.C. Johari, Indian Government and Politics Vol. I and II, Vishal, New Delhi
- (6) Gran Ville Austin, The Indian Constitution – Corner Stone of a Nation, Oxford, New Delhi
- (7) M.U. Pylee, Constitutional Government in India
- (8) K.K. Ghai, Indian Constitution

B.Com, Semester – V
Course – 501: Financial Management

Course Objective: To acquaint students with the principles of mobilizing and utilizing financial resources by the industrial enterprises

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit **Course Inputs**

- I. **Introduction to Financial Management** (10 hours): Introduction – Meaning of Finance, Business Finance, Finance Function, Aims of Finance Function; Organization Structure of Finance Department, Financial Management, Goals of Financial Management, Financial Decisions, Role of Financial Manager, Financial Planning - Steps in Financial Planning, Principles of sound Financial Planning, and Factors influencing sound Financial Plans.

- II. **Time Value of Money** (12 hours): Introduction – Meaning and Definition, Need, Future Value (Single Flow – Uneven Flow and Annuity), Present Value (Single Flow – Uneven Flow and Annuity), Doubling Period, Concept of Valuation - Valuation of Bonds, Debentures and Shares and Simple Problems.
- III. **Capital Structure** (12 hours): Introduction – Meaning of Capital Structure, Factors influencing Capital Structure, Optimum Capital Structure, Computation and Analysis of EBIT, EBT, EPS, Leverages and Simple Problems.
- IV. **Capital Budgeting** (16 hours): Introduction – Meaning and Definition of Capital Budgeting, Features, Significance, Process, Techniques - Payback Period, Accounting Rate of Return, Net Present Value, Internal Rate of Return and Profitability Index, and Simple Problems.
- V. **Dividend Policy** (8 hours): Introduction – Meaning and Definition, Determinants of Dividend Policy, Types of Dividends, Bonus Share, Dividend Theories - M.M Model, Walter's Model and Gordon's Model and Problems.
- VI. **Working Capital Management** (6 hours): Introduction, Concept of Working Capital, Significance of adequate Working Capital, Evils of excess or inadequate Working Capital, Determinants of Working Capital, Sources of Working Capital and Problems on determination of Working Capital.

Skill Development Activities:

- (1) Draw the organization chart of finance function of a company
- (2) Evaluate the NPV of an investment made in any one of the capital projects with imaginary figures for five years
- (3) Capital structure analysis of companies in different industries
- (4) Using imaginary figures, prepare an estimate of working capital requirements
- (5) Calculate dividend under MM Model with imaginary figures

Recommended Books for Reference:

- (1) Dr. B. Mariyappa, Financial Management, HPH
- (2) S N Maheshwari, Financial Management, Sultan Chand
- (3) Dr. Aswathanarayana T, Financial Management, VBH
- (4) K. Venkataramana, Financial Management, SHBP
- (5) Roy, Financial Management, HPH
- (6) Khan and Jain, Financial Management, TMH
- (7) S. Bhat, Financial Management
- (8) Sharma and Sashi Gupta, Financial Management, Kalyani Publication
- (9) I M Pandey, Financial Management. Vikas Publication
- (10) Prasanna Chandra, Financial Management, TMH
- (11) P.K Simha, Financial Management
- (12) M. Gangadhar Rao and Others, Financial management

B.Com, Semester – V
Course – 502: Income Tax – I

Course Objective: To acquaint students with the application with principles and provisions of IT Act 1961 relating to assessment

Pedagogy: Combination of lectures, assignments and group discussions.

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Brief History of Indian Income Tax** (10 hours): Brief History of Income Tax, Definition, Assessment Year, Previous Year (including Exceptions), Assesse, Person,

- Income, Casual Income, Gross Total Income, Agricultural Income - Meaning and Classification of Capital and Revenue.
- II. **Exempted Income** (12 hours): Introduction, Exempted Incomes U/S 10 - restricted to Individual Assesse.
 - III. **Residential Status** (12 hours): Residential Status of an Individual, Determination of Residential Status, Incidence of Tax and Problems.
 - IV. **Income from Salary** (16 hours): Meaning, Definition, Basis of Charge, Advance Salary, Arrears of Salary, Allowances, Perquisites, Provident Fund, Profits in Lieu of Salary, Gratuity, Commutation of Pension, Encashment of Earned Leave, Compensation for Voluntary Retirement; Deductions from Salary U/S 16 and Problems on Income from Salary.
 - V. **Deduction** (8 hours): Under Sections 80C to 80U--80C, 80CCD, 80D, 80DD, 80E, 80G, 80GG, 80GGA, 80QQB, 80U and Problems on 80 C to 80 G only.
 - VI. **Income Tax Authorities** (6 hours): Income Tax Authorities - Powers and Functions of CBDT, CIT and A.O.

Skill Development Activities:

- (1) Form No. 49A (PAN) and 49B
- (2) Filling of Income Tax Returns
- (3) List of enclosures to be made along with IT returns (with reference to salary)
- (4) Preparation of Form 16
- (5) Computation of Income Tax and the Slab Rates
- (6) Computation of Gratuity

Recommended Books for Reference:

- (1) Dr. B. Mariyappa, Income Tax – I, HPH
- (2) Dr. Vinod K. Singhania: Direct Taxes – Law and Practice, Taxman Publication
- (3) B.B. Lal: Direct Taxes, Konark Publisher (P) ltd.
- (4) Dr. Mehrotra and Dr. Goyal: Direct Taxes – Law and Practice, Sahitya Bhavan Publication
- (5) Dinakar Pagare: Law and Practice of Income Tax, Sultan Chand and Sons
- (6) Gaur and Narang, Income Tax
- (7) Dr. V. Rajesh Kumar and Dr. R. K. Sreekantha, Income Tax – I, Vittam Publications
- (8) 7 Lectures, Income Tax – I, VBH

B.Com, Semester – V**Course – 503: Business Statistics – I**

Course Objective: To acquaint students with fundamental techniques and tools of business statistics

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction to Statistics** (10 hours): Meaning, Definitions, Functions, Scope and Limitations of Statistics and Distrust of Statistics.
- II. **Data and its Collection** (12 hours): Types of Data – Primary and Secondary Data – Methods for Collection of Primary Data – Sources of Secondary Data – Classification – Meaning and Types; Tabulation – Meaning, Rules for Construction of Tables, Parts of Statistical Table and Problems on Tabulation.
- III. **Diagrammatic and Graphic Representation of Statistical Data** (14 hours): Meaning, Types of Diagrams, Simple, Multiple, Subdivided and Percentage,

- Histogram – Location of Mode through Histogram and Frequency Polygon; and Ogive Curves – Location of Median and Quartiles through Ogive Curves.
- IV. **Measures of Central Tendency** (16 hours): Meaning and Definition, Types of Averages – Arithmetic Mean (Simple and Weighted), Median, Mode (excluding missing Frequency problems).
- V. **Measures of Dispersion** (6 hours): Meaning, Absolute and Relative Measures of Dispersion, Types of Dispersion – Range, Quartile Deviation, Standard Deviation, and Co-Efficient of each Method.
- VI. **Skewness** (6 hours): Meaning, Types of Skewness, Measures of Skewness, Absolute and Relative Measures of Skewness, Karl Pearson's Coefficient of Skewness and Bowley's Coefficient of Skewness.

Skill Development Activities:

- (1) Draw a blank table showing different attributes
- (2) Collect marks scored by 50 students in an examination and prepare a frequency distributions table
- (3) Collect data relating to prices of shares of two companies for ten days and ascertain which company's share prices is more stable
- (4) Collect the run scored by the two batsmen in ten one-day international cricket matches, find who is better run getter and who is more consistent
- (5) Select 10 items of daily-consumed products and collect base year quantity, base year price and current year price. Calculate Cost of Living Index

Recommended Books for Reference:

- (1) Anand Sharma, Statistics For Management, HPH
- (2) S P Gupta: Statistical Methods- Sultan Chand, Delhi
- (3) D.P Apte, Statistical Tools for Managers
- (4) Dr. B N Gupta, Statistics (Sahitya Bhavan), Agra
- (5) S.C Gupta: Business Statistics, HPH
- (6) N.V.R Naidu : Operation Research I.K. International Publishers
- (7) Ellahance: Statistical Methods, Kitab Mahal
- (8) Sanchethi and Kapoor: Business Mathematics, Sultan Chand
- (9) Veerachamy: Operation Research I.K. International Publishers
- (10) S. Jayashankar: Quantitative Techniques for Management
- (11) Chikoddi and Satya Prasad: Quantitative Analysis for Business Decision, HPH
- (12) Dr. Alice Mani: Quantitative Analysis for Business Decisions - I, SBH

B.Com, Semester – V

Course – 504: Cost Accounting

Course Objective: To acquaint students with elements of cost and also the reconciliation procedure

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction to Cost Accounting** (8 hours): Meaning and Definition of Cost, Costing, Cost Accounting and Cost Accountancy, Objectives, Scope, Advantages and Limitations of Cost Accounting, Differences between Financial Accounting and Cost Accounting, Methods and Techniques of Cost Accounting.
- II. **Elements of Cost** (12 hours): Cost Unit, Cost Centre, Classification of Costs, Problems on Cost Sheet (including Job and Batch Cost Sheet), Tenders and

Quotations.

- III. **Material Cost Control** (12 hours): Materials - Meaning and Types, Material Cost Control - Meaning and Objectives, Purchase of Materials – Centralized and Decentralized Purchasing, Purchase Procedure, Stores Control - Meaning and Techniques, Fixation of Stock Levels, EOQ, ABC Analysis, VED Analysis, Just in Time, Perpetual Inventory System, Bin Card, Stores Ledger, Pricing of Material Issues - FIFO, LIFO, Simple Average and Weighted Average Methods, and Problems thereon.
- IV. **Labour Cost Control** (12 hours): Labour - Meaning and Types; Cost Control, Time Keeping and Time Booking, Treatment of Idle Time and Over Time, Labour Turnover, Methods of Wage Payment - Time Rate, Piece Rate and Incentives Plans - Halsey Plan, Rowan Plan, Emerson's Efficiency Plan; Statement of Wage Sheet, and Problems thereon.
- V. **Overhead Cost Control** (12 hours): Meaning, Classification of Overheads, Allocation and Apportionment of Overheads, Primary Overhead Distribution Summary, Secondary Overhead Distribution Summary, Re-apportionment of Overheads - Direct Distribution, Step Ladder Method; Absorption of Overheads – Methods of Absorption - Problems on Allocation, Apportionment, Re-apportionment and Absorption of Overhead Expenses including Machine Hour Rate.
- VI. **Reconciliation of Cost and Financial Accounts** (8 hours): Meaning of Reconciliation, Need for Reconciliation, Reasons for differences in Profit or Loss shown by Cost Accounts and Financial Accounts, and Problems on Reconciliation Statement including Memorandum Reconciliation Account.

Skill Development Activities:

- (1) Identification of elements of cost in services sector by visiting any service provider/ providing unit
- (2) Cost estimation for making a proposed product
- (3) Draft the specimen of any two documents used in material account
- (4) Collection and classification of overheads in an organization on the basis of functions
- (5) Prepare a reconciliation statement with imaginary figures

Recommended Books for Reference:

- (1) J. Made Gowda, Cost Accounting, Himalaya Publishing House
- (2) M V Shukla – Cost and Management Accounting
- (3) N.K. Prasad: Cost Accounting, Books Syndicate Pvt. Ltd.
- (4) Nigam and Sharma: Cost Accounting, HPH
- (5) Khanna Pandey and Ahuja – Practical Costing, S Chand
- (6) Soundarajan A and K. Venkataramana, Cost Accounting, SHBP

B.Com, Semester – V

Course – 505: Advanced Accounts

Course Objective: To acquaint students with accounting for corporate restructuring

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Mergers and Acquisitions** (22 hours): Meaning of Amalgamation and Acquisition, Types of Amalgamation – Amalgamation in the nature of Merger – Amalgamation in the nature of Purchase - Methods of Purchase Consideration – Calculation of Purchase Consideration (Ind AS 103) (Old AS14), Net Asset Method - Net Payment Method,

- Accounting for Amalgamation - Entries and Ledger Accounts in the Books of Transferor Company and Transferee Company and Preparation of New Balance Sheet (Vertical Format).
- II. **Internal Reconstruction** (10 hours): Meaning – Objective – Procedure – Form of Reduction – Passing of Journal Entries – Preparation of Reconstruction Accounts – Preparation of Balance Sheet after Reconstruction (Vertical Format) and Problems.
 - III. **Holding Company Accounts** (16 hours): Meaning of Holding Company and Subsidiary Companies – Concepts of Minority Interest – Majority Interest – Capital Profit – Revenue Profit – Cost of Control – Unrealized Profit included in Stock and Problems on Holding Company Accounts (excluding Cross and Chain Holding).
 - IV. **Investment Accounting** (12 hours): Introduction – Classification of Investment – Cost of Investment – Cum-Interest and Ex-Interest – Securities – Bonus Shares - Right Shares – Disposal of Investment – Valuation of Investments – Procedures of Recording Shares and Problems.
 - V. **Human Resources Accounting** (4 hours): Meaning, Objectives, Methods, Advantages and Limitations and problems thereon.

Skill Development Activities:

- (1) Calculation of purchase consideration with imaginary figures
- (2) List any five cases of amalgamation in the nature of merger or acquisition of Joint Stock Companies
- (3) List out legal Provisions in respect of internal reconstruction
- (4) Narrate the steps for preparation of consolidated balance sheet

Recommended Books for Reference:

- (1) Dr. B. Mariyappa – Advanced Corporate Accounting, HPH
- (2) Arulanandam and Raman; Corporate Accounting-II, HPH
- (3) Roadmap to IFRS and Indian Accounting Standards by CA Shibarama Tripathy
- (4) S.N. Maheswari , Financial Accounting, Vikas
- (5) Soundarajan A and K. Venkataramana, Advanced Corporate Accounting, SHBP
- (6) RL Gupta, Advanced Accountancy, Sultan Chand
- (7) K.K Verma – Corporate Accounting
- (8) Jain and Narang, Corporate Accounting
- (9) Tulsian, Advanced Accounting,
- (10) Shukla and Grewal – Advanced Accountancy, Sultan Chand

B.Com, Semester – V

Course – 506: Goods and Services Tax

Course Objective: To equip students with the principles and provisions of Goods and Services Tax (GST) - implemented from 2017 under the notion of One Nation, One Tax and One Market. And also to provide an insight into practical aspects and apply the provisions of GST laws to various situations.

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction to Goods and Services Tax (GST)** (8 hours): Introduction to GST, Meaning and Definition, Objectives and basic scheme of GST, Salient features of GST – Subsuming of taxes – Benefits of implementing GST – Constitutional amendments - Structure of GST (Dual Model) – Central GST – State/Union Territory GST – Integrated GST; GST Council - Structure, Powers and Functions, and

Provisions for amendments.

- II. **Goods and Services Act, 2017** (8 hours): CGST Act, SGST Act (Karnataka State), and IGST Act - Salient features of CGST Act, SGST Act (Karnataka State), IGST Act. Meaning and Definition: Aggregate turnover, Adjudicating authority, Agent, Business, Capital goods, Casual Taxable Person, Composite supply, Mixed supply, Exempt supply, Outward supply, Principal Supply, Place of Supply, Supplier, Goods, Input Service Distributor, Job work, Manufacture, Input tax, Input tax credit, Person, Place of business, Reverse charge, Works contract, Casual taxable person, Non-resident person; Export of goods or services, Import of goods or services, Intermediary, Location of supplier of service, Location of recipient of service and simple problems on Composite Supply and Mixed Supply
- III. **Procedure and Levy under GST** (32 hours): Registration under GST, Procedure for registration, Persons liable for registration, Persons not liable for registration, Compulsory registration, Deemed registration, Special provisions for Casual taxable persons and Non-resident taxable persons; Exempted goods and services, Rates of GST.
 Procedure relating to Levy (CGST and SGST): Scope of supply, Tax liability on Mixed and supply, Time of supply of goods and services Value of taxable supply, Computation of taxable value and tax liability on Goods and Services.
 Procedure relating to Levy: (IGST): Inter-state supply, intra-state supply, Zero rates supply, Value of taxable supply – Computation of taxable value and tax liability; Input tax Credit - Eligibility, Apportionment, Inputs on capital goods, Distribution of credit by Input Service Distributor (ISD) – Transfer of Input tax credit and simple problems on utilization of input tax credit.
- IV. **Assessment and Returns** (10 hours): Meaning, types of assessment - First return, Claim of input tax credit, Matching reversal and reclaim of input tax credit, Annual return and Final return and Problems on Assessment of tax and tax liability.
- V. **GST and Technology** (6 hours): GST Network: Structure, Vision and Mission, Powers and Functions; Goods and Service Tax Suvidha Providers (GSP): Concept, Framework and Guidelines and architecture to integrate with GST system; and GSP Eco System. (theory only).

Skill Development Activities:

- (1) Collect GST Returns form and fill with imaginary figures
 GSTR-3B (Monthly Returns)
 GSTR-1 (Details of Outward supplies of Goods or Services)
 GSTR-2 (Inward Supplies received by tax payer)
- (2) Visit your locality shops and collect information relating to tax rate applicable to them
- (3) Collect information about different tax rates for goods and services and write five examples for each tax rate
- (4) Visit Bank and Insurance Company, collect information relating to GST applicable to them for different services
- (5) Collect information relating to RCM (Reverse Charge Mechanism) for different expenditures

Recommended Books for Reference:

- (1) GST Act 2017, Karnataka Law and Journal Publications
- (2) GST, Taxman Publications
- (3) Introduction to GST, Department of GST New Delhi
- (4) Introduction to GST, Dr B G Bhaskar

- (5) Introduction to GST, Dr M Mariyappa

B.Com, Semester – V

Course – 508: Logical and Analytical Reasoning

Course Objective: To acquaint students with reasoning and analytical ability

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 2 Maximum Marks: 50 Examination Duration: 1½ hours

Unit Course Inputs

- I. **Logical Reasoning** (6 hours): Venn Diagram, Logical Sufficiency and Seating Arrangement.
- II. **Intellectual Reasoning** (7 hours): Blood Relations, D Calendar, Series, Coding and Decoding.
- III. **Verbal and Non-verbal Reasoning** (4 hours): Verbal Alphabetical Analogy, Puzzles and Abstract Reasoning.
- IV. **Analytical Reasoning** (5 hours): Cause and Effective Conclusions, Statement and Arguments and Statement and Assumptions.
- V. **Mathematical Reasoning** (6 hours): Problems related to Wages, Speed – Distance, Percentage and Average, Ratio and Proportion.
- VI. **Data Interpretation** (4 hours): Problems on Tables and Graph.

Skill Development Activities:

- (1) Draw Venn Diagram with imaginary Figures
- (2) Draw Coding and Decoding programs with imaginary figures
- (3) Calculate speed of a train with imaginary figures
- (4) Draw Tables and Chart with Imaginary figures

Recommended Books for Reference:

- (1) Agarwal, Quantitative Reasoning.
- (2) Dr. Giridhar K.V. Logical and Analytical Reasoning, 5th Edition, College Book House
- (3) M. N. Tyra, Speed Mathematics

B.Com, Semester – VI

Course – 601: International Financial Reporting Standards

Course Objective: To acquaint students with recent accounting standards

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit Course Inputs

- I. **Introduction to IFRS** (8 hours): Meaning and Scope of IFRS, Need for IFRS, GAAP Vs IAS, IAS Vs IFRS, Nature and Operations of IASB and IFRIC, Status and use of IFRS around the World.
- II. **Profit Presentation** (8 hours): Presentation of Financial Statements (IAS - 1) Revenue (IAS - 18) and Accounting Policies, Changes in Accounting Estimates and Errors (IAS - 8)
- III. **Group Accounting** (12 hours): Consolidated Financial Statements and Accounting for Investment in Subsidiaries (IAS - 27), Accounting for Investments in Associates (IAS - 28), Joint Ventures (IAS - 31), and Business Combinations (IFRS - 3)
- IV. **Disclosure** (14 hours): Related Party Disclosures (IAS - 24), Earning per Share (IAS - 33) and Interim Financial Reporting (IAS - 34), and First Time Adoption of IFRS (IFRS - 1)
- V. **Asset Recognition and Measurement** (14 hours): Property, Plant and Equipment

(IAS - 16), Intangible Assets (IAS - 38), Investment Property (IAS - 40), Inventories (IAS - 2), and Leases (IAS - 17).

- VI. **Accounting for Liabilities** (8 hours): Share Based Payment (IFRS - 2), Provisions, Contingent Assets and Contingent Liabilities (IAS - 37), and Events after the Reporting Period (IAS - 10).

Skill Development Activities:

- (1) Prepare a note on convergence of Indian Accounting Standards with IFRS
- (2) Analysis of published financial statements for at-least two types of stakeholders
- (3) Comment on recent developments/exposure draft in IFRS
- (4) Preparation of notes to accounts for non-current assets
- (5) Assignment on social reporting
- (6) Preparation of Consolidated Financial Statement of any two existing companies
- (7) Disclosure of change in equity in the annual reports of any two select companies

Recommended Books for Reference:

- (1) IFRSs, Taxman Publications (Blue book)
- (2) IFRS, Barry Larking, Taxman Publications
- (3) IFRS, T.P. Ghosh, Taxman Publications
- (4) IFRS and Ind AS, Kamal Garg, Bharat publishers
- (5) International Accounting, Mohapatra A.K. Das

B.Com, Semester - VI
Course – 602: Income Tax – II

Course Objective: To acquaint students about the computation of different sources of income

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Income from House Property** (14 hours): Basis of Charge – Deemed Owners – Exempted Incomes from House Property – Annual Value – Determination of Annual Value – Treatment of Unrealized Rent – Loss Due to Vacancy – Deductions from Annual Value and Problems on Income from House Property.
- II. **Profits and Gains of Business and Profession** (Individual Assesse) (16 hours): Meaning and Definition of Business, Profession – Vocation - Expenses expressly Allowed – Allowable Losses – Expenses expressly Disallowed – Expenses Allowed on Payment Basis - Problems on Business relating to Sole Trader and Problems on Profession relating to Chartered Accountant, Advocate and Medical Practitioner.
- III. **Capital Gains** (12 hours): Basis of Charge – Capital Assets – Transfer of Capital Assets – Computation of Capital Gains –Exemptions U/S 54, 54B, 54D, 54EC, 54F and Problems on Capital Gains.
- IV. **Income from other Sources** (10 hours): Incomes – Taxable under the head ‘Other Sources’ – Securities – Kinds of Securities – Rules for Grossing Up – Ex-Interest Securities – Cum-Interest Securities – Bond Washing Transactions and Problems on Income from Other Sources.
- V. **Set-off and Carry Forward of Losses, Computation of Total Income and Tax Liability** (8 hours): Meaning – Provision for Set-off and Carry Forward of Losses (theory only); Computation of Total Income and Tax Liability of an Individual Assessee (excluding Salary Income).
- VI. **Filing of Returns and Assessment Procedure** (4 hours): PAN, TAN, E-Filing and IT Challan.

Skill Development Activities:

- (1) Table of rates of Tax deducted at source
- (2) Filing of IT returns of individuals
- (3) List of enclosures for IT returns
- (4) Due date for filing of returns
- (5) Income tax proposal as per the recent union budget

Recommended Books for Reference:

- (1) Dr. B. Mariyappa, Income Tax- II, HPH
- (2) Dr. Vinod K. Singhanian: Direct Taxes – Law and Practice, Taxman publication
- (3) B.B. Lal: Direct Taxes, Konark Publisher (P) ltd
- (4) Dr. Mehrotra and Dr. Goyal: Direct Taxes – Law and Practice, Sahitya Bhavan Publication
- (5) Dinakar Pagare: Law and Practice of Income Tax, Sultan Chand and sons
- (6) Gaur and Narang: Income Tax
- (7) Lectures on Income Tax – I, VBH
- (8) Dr. V. Rajesh Kumar and Dr. R. K. Sreekantha: Income Tax – I, Vittam Publications.

B.Com, Semester – VI**Course – 603: Business Statistics – II**

Course Objective: To acquaint students about practical application of statistical tools

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Correlation Analysis** (14 hours): Meaning – Methods of Studying Correlation, Karl Pearson's Co-efficient of Correlation (Simple Correlation and Table Correlation) and Probable Error.
- II. **Regression Analysis** (18 hours): Meaning - Correlation *Vs* Regression, Determination of Regression Co-efficient, Framing Regression Equations, Simple Regression and Regression for Grouped Data.
- III. **Index Numbers** (12 hours): Meaning and Definition – Uses – Classification – Construction of Index Numbers – Methods of constructing Index Numbers – Simple Aggregative Method – Simple Average of Price Relative Method – Weighted Index Method – Fisher's Ideal Method (including TRT and FRT) – Consumer Price Index and Problems.
- IV. **Interpolation and Extrapolation** (12 hours): Meaning – Utility – Algebraic Methods – Binomial and Newton's Methods only.
- V. **Association of Attributes** (4 hours): Meaning – Correlation *Vs* Association of Attributes, Methods of Studying Association – Yule's Method only
- VI. **Statistical Quality Control** (4 hours): Meaning – Objectives – Control Charts and their Uses, Types of Control Charts, Construction Charts, Construction of Mean and Range Charts only.

Skill Development Activities:

- (1) Collect age statistics of 10 newly married couples and compute correlation coefficient
- (2) Collect age statistics of 10 newly married couples and compute regression equations; estimate the age of bride when age of bridegroom is given
- (3) Select 10 items of daily consumed products and collect base year quantity, base year price and current year price. Calculate Cost of Living Index
- (4) Collect the sales or production statistics of a company for five years and extrapolate

the production or sales for the 6th year

- (5) Draw a mean chart of any company to ascertain the quality of the product

Recommended Books for Reference:

- (1) Anand Sharma : Statistics for Management, HPH
- (2) S P Gupta: Statistical Methods- Sultan Chand, Delhi
- (3) D.P Apte, Statistical Tools for Managers
- (4) Dr. B N Gupta: Statistics, Sahitya Bhavan, Agra.
- (5) S.C Gupta: Business Statistics, HPH
- (6) N.V.R Naidu: Operation Research I.K. International Publishers
- (7) Ellahance: Statistical Methods, Kitab Mahal
- (8) Sanchethi and Kapoor: Business Mathematics, Sultan Chand
- (9) Veerachamy: Operation Research I.K. International Publishers
- (10) S. Jayashankar: Quantitative Techniques for Management
- (11) Chikoddi and Satya Prasad: Quantitative Analysis for Business Decision, HPH
- (12) Dr. Alice Mani: Quantitative Analysis for Business Decisions - I, SBH

B.Com, Semester - VI

Course – 604: Cost Accounting - Methods and Techniques

Course Objective: To acquaint students about methods and techniques of cost accounting

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Contract Costing** (10 hours): Meaning, Nature and Types of Contract, Difference between Contract Costing and Job Costing, Concepts of Escalation Clause, Retention Money, Profit on Incomplete Contracts and Problems.
- II. **Process Costing** (12 hours): Meaning, Nature and Applicability, By-Products and Joint Products and Problems on Process Costing including Joint Products and By-Products.
- III. **Operating Costing** (10 hours): Meaning and Applicability of Operating Costing, Operating Cost and its Classification, Problems on Preparation of Operating Cost Sheet (only Transport Undertakings).
- IV. **Marginal Costing** (14 hours): Meaning, Basic Concepts, Assumptions, Marginal Cost Statements, Contribution, BE Analysis, P/V Ratio, BEP, Margin Of Safety and Problems.
- V. **Standard Costing** (10 hours): Meaning, Definitions, Differences between Standard Costing and Budgetary Control, Analysis of Variances, Problems on Material Cost Variance - Material Price Variance, Material Usage Variance; Labour Cost Variance, Labour Rate Variance, and Labour Efficiency Variance.
- VI. **Activity Based Costing and Learning Curve Theory** (8 hours): Concept of Activity Based Costing, Cost Drivers and Cost Pools, Allocation of Overheads under ABC – Characteristics, Implementation and Benefits of ABC; Concept and Phases of Learning Curve, Graphical Representation, Learning Curve Applications and Factors affecting Learning Curve (theory only)

Skill Development Activities:

- (1) Listing of industries located in your area and methods of costing adopted by them
- (2) List out materials used in any two organizations
- (3) Preparation with imaginary figures composite job cost statement
- (4) Preparation of activity based cost statement

- (5) Prepare a chart showing the apportionment of overheads under ABC

Recommended Books for Reference:

- (1) J. Madegowda, Cost Accounting, Himalaya Publishing House
- (2) J. Madegowda, Marginal Costing for Managerial Decisions, Prateeksha Publications
- (3) J. Madegowda, Cost Management, Himalaya Publishing House
- (4) S P Iyengar, Cost Accounting
- (5) Nigam and Sharma, Advanced Costing
- (6) B.S. Raman, Cost Accounting
- (7) Dr. B. Mariyappa, Cost Accounting Methods - HPH
- (8) M.N. Arora, Cost Accounting
- (9) Ashish K Bhattacharyya: cost accounting for business managers
- (10) N. Prasad, Costing
- (11) Palaniappan and Hariharan: Cost Accounting, I.K. International Publishers
- (12) Jain and Narang, Cost Accounting
- (13) Ravi M. Kishore – Cost Management
- (14) Charles T Horngren, George Foster, Srikant M. Data, Cost Accounting: A Managerial Emphasis
- (15) Rathnam: Cost Accounting

B.Com, Semester - VI

Course – 605: Management Accounting

Course Objective: To acquaint students with necessary knowledge of practical aspects of Management Accounting

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 5 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Management Accounting** (10 hours): Meaning and Definition of Management Accounting, Scope and Objectives of Management Accounting – Differences between Management Accounting and Financial Accounting – Management Accounting and Cost Accounting and Limitations of Management Accounting.
- II. **Analysis of Financial Statements** (10 hours): Meaning and Definition of Financial Statements – Financial Analysis – Types of Financial Analysis, Techniques of Financial Analysis - Common Size Statements, Comparative Statements and Trend Analysis and Problems.
- III. **Ratio Analysis** (14 hours): Meaning and Objectives – Types of Ratios – Re-arrangement of Income Statements and Balance Sheet – (A) Profitability Ratios – GP Ratio, NP Ratio, Operating Ratio – Operating Profit Ratio - Return on Capital Employed Ratio – EPS; (B) Turnover Ratios – Debtors Turnover Ratio – Creditors Turnover Ratio; (C) Financial Ratios, Current Ratio - Liquidity Ratio, Debt-Equity Ratio, Capital Generating Ratio and Advantages and Limitations of Ratios.
- IV. **Fund Flow Analysis** (10 hours): Meaning, Concepts of Funds – Meaning and Definition of Fund Flow Statements – Uses and Limitations – Procedure for Preparation of Funds Flow Statement – Statement of Changes in Working Capital, Statement of Funds from Operations, and Statements of Sources and Application of Funds.
- V. **Cash Flow Statements** (10 hours): Meaning, Definition, Uses and Limitations- Differences between Fund Flow Statement and Cash Flow Statement – Preparation of Cash Flow Statements (Ind AS - 7): Direct Method and Indirect Method.

- VI. **Budgetary Control** (10 hours): Meaning of Budget, Budgeting and Budgetary Control, Types of Budgets, Limitations of Budgetary Control, Problems on Sales Budget and Flexible Budget.

Skill Development Activities:

- (1) Preparation of common size financial statements, trend percentages and comparative financial statements of an organization at least for two years
- (2) Calculation of ratios based on the above financial statements – gross profit ratio, net profit ratio, operation profit ratio, current ratio and operations
- (3) Identify current assets, current liabilities, and non-current liabilities from the above financial statements
- (4) Preparation of fund flow statement and determination fund from operations with imaginary figures
- (5) Preparation of flexible budget with imaginary figures
- (6) Visit an organization, collect information regarding budgets prepared by them, and prepare budget based on the given information

Recommended Books for Reference:

- (1) Advanced Management Accounting: J. Madegowda, 2nded, Himalaya Publishing House
- (2) Management Accounting: J. Madegowda, Himalaya Publishing House
- (3) Management Accounting: Dr. S.P. Gupta
- (4) Management Accounting :M.Y. Khan And P.K. Jain
- (5) Management Accounting: Dr. S.N. Maheshwari
- (6) Management Accounting: B.S. Raman
- (7) Management Accounting; Howard And Brown
- (8) Management Accounting : S.M. Goyal And Dr. Manmohan
- (9) Management Accounting-Dr, B. Mariyappa

B.Com, Semester – VI

Course – 606: Principles and Practice of Auditing

Course Objective: To acquaint students with auditing principles and different dimensions of Auditing

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 3 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction to Auditing** (12 hours): Meaning, Definition, Objectives, Types of Audit, Advantages and Disadvantages of Audit, Preparation before Commencement of New Audit, Audit Note, Audit Working Paper, Audit Programme, Recent Trends in Auditing, Nature and Significance of Tax Audit, Cost Audit and Management Audit.
- II. **Internal Check** (10 hours): Meaning, Objectives, Fundamental Principles, Internal Check as Regards Wage Payment, Cash Book, Purchases, Cash Sales; Merits of Internal Check, Differences between Internal Check and Internal Audit.
- III. **Vouching** (14 hours): Definition, Importance, Objectives, Routine Checking and Vouching - Types of Vouchers, Vouching Receipts, Cash Sales, Receipts from Debtors, Proceeds of Sales, Sale of Investment, Vouching of Payments, Cash Purchase and Payment to Creditors.
- IV. **Verification and Valuation of Assets and Liabilities** (14 hours): Meaning and Objectives of Verification and Valuation - Position of an Auditor as regards the Valuation of Assets - Verification and Valuation of different Items - Land and

Building, Plant and Machinery, Goodwill – Investments - Stock in Trade, Bills Payable and Sundry Creditors.

- V. **Company Audit and Others** (10 hours): Company Auditor – Appointment – Qualifications - Powers – Duties and Liabilities; Types of Audit Report - Clean and Qualified Report, Audit of Educational Institutions, Audit of Insurance Company and Audit of Cooperative Societies.
- VI. **Audit Standards** (4 hours): Audit of Computerized Accounts - Audits in an EDP - General EDP Controls, EDP Application Controls and Computer Assist Auditing Techniques

Skill Development Activities:

- (1) Draft an audit programme
- (2) Draft an investigation report on behalf of a public limited company
- (3) Visit an audit firm, write about the procedure followed by them in auditing the books of account of a firm
- (4) Formulate internal check system for cash sales
- (5) Prepare qualified/clean audit report

Recommended Books for Reference:

- (1) Auditing - T.R Sharma
- (2) Principles of Auditing - Dr. Nanjgowda
- (3) Principles and Practice of Auditing - M.S Ramaswamy
- (4) Principles and Practice of Auditing –R.G Sexena
- (5) Auditing – B.S Raman
- (6) Practical auditing – B.N Tandon
- (7) Auditing – Kamal Gupta

B.Com, Semester - VI

Course – 608: Soft Skills

Course Objective: To acquaint students with the essential of communication

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 2 Maximum Marks: 50 Examination Duration: 1½ hours

Unit

Course Inputs

- I. **Elements of Communication** (4 hours): Meaning, Importance, Objectives and Principles of Communication, Types and Forms of Communication, Process, Impediments of Effective Communication, and Strategies for Effective Communication.
- II. **Non-verbal Communication**(8 hours): Body Language, Gestures, Postures, Facial Expressions, Dress Codes, Cross Cultural Dimensions of Business Communication, Listening and Speaking, Techniques of Eliciting Response, Probing Questions, Observation, Business and Social Etiquettes.
- III. **Public Speaking** (8 hours): Principles of Effective Speech and Presentations, Technical Speeches and Non-Technical Presentations, Speech of Introduction of a Speaker - Speech of Vote of Thanks - Occasional Speech - Theme Speech; Moderating Programs and Use of Technology
- IV. **Interview Techniques** (6 hours): Importance of Interviews, Art of Conducting and Giving Interviews, Placement Interviews - Discipline Interviews - Appraisal Interviews and Exit Interviews.
- V. **Meetings** (6 Hours): Importance, Meetings Opening and Closing Meetings Participating and Conducting Group Discussions, Brain Storming, and E- Meetings,

Career Counseling, and Resume Preparation.

Skill Development Activities:

- (1) Conduct a mock meeting and draft minutes of the meeting
- (2) Draft a letter of enquiry to purchase a laptop
- (3) Draft your bio-data

Recommended Books for Reference:

- (1) Soft Skills of Personality Development: C.G.G Krishnamacharyulu and Lalitha
- (2) Lesikar, R.V. and Flatley, M.E. Basic Business Communication Skills for Empowering the Internet Generation, TMH, New Delhi.
- (3) Rai and Rai: Business Communication Himalaya Publishing House
- (4) Ludlow, R. and Panton, F. (1998). The Essence of Effective Communications, Prentice Hall of India Pvt. Ltd
- (5) M.S. Rao : Soft Skills – Enhancing Employability I.K. International
- (6) Rao and Das: Communication Skills
- (7) Adair, J. (2003). Effective Communication. Pan McMillan.
- (8) Thill, J.V. and Bovee, G. L, Excellence in Business Communication, TMH, New York.
- (9) Bowman, J.P. and Branchaw, P.P, Business Communications: From Process to Product. Dryden Press, Chicago.
- (10) Sharma S.P and Others, Business Communication
- (11) Rajkumar, Basic of Business Communication
- (12) Banerjee: Soft Skills Business and Professional Communication, I.K. International

Specialization Stream – A: Finance Stream

B.Com, Semester – V

Course – 507A: Advanced Financial Management

Course Objective: To acquaint students with the ways of mobilizing and using of financial resources by industrial enterprises

Pedagogy: Combination of lectures, assignments and group discussions.

Weekly Teaching Hours:4 Maximum Marks: 100 Examination Duration: 3 hours

Unit **Course Inputs**

- I. **Investment Decisions and Risk Analysis** (14 hours): Risk Analysis – Types of Risks – Risk and Uncertainty – Techniques of Measuring Risks – Risk Adjusted Discount Rate Approach – Certainty Equivalent Approach – Sensitivity Analysis - Probability Approach - Standard Deviation and Co-efficient of Variation – Decision Tree Analysis and Problems,
- II. **Sources of Capital** (12 hours): Long Term Sources – Meaning – Equity Shares – Preference Shares – Debentures – Differences between Shares and Debentures – Retained Earnings – Long Term Loans and Loans From Financial Institutions.
- III. **Capital Structure Theories** (10 hours): Introduction – Capital Structure – Capital Structure Theories - Net Income Approach - Net Operating Income Approach - Traditional Approach – MM Approach and Problems.
- IV. **Dividend Theories** (12 hours): Introduction – Irrelevance Theory – MM Model; Relevance Theories - Walter Model - Gordon Model and Problems on Dividend Theories.
- V. **Planning and Forecasting of Working Capital** (14 hours): Concept of Working Capital – Determinants of Working Capital – Estimating Working Capital Needs – Operating Cycle – Cash Management – Motives of Holding Cash – Cash Management

Techniques – Preparation of Cash Budget, Receivables Management – Preparation of Ageing Schedule and Debtors Turnover Ratio; Inventory Management Techniques and Problems on EOQ.

Skill Development Activities:

- (1) Preparation of a small project report of a small business concern covering all components - Finance, Marketing, Production, Human Resources, General administration (any one component can be selected as the title of the report)
- (2) Designing a capital structure for a trading concern
- (3) Preparing a blue print on working capital of a small concern
- (4) Prepare a chart on modes of cash budget
- (5) List out different modes of Dividend Policy
- (6) List out the companies which have declared dividends recently along with the rate of dividend

Recommended Books for Reference:

- (1) Narendra Singh, Advanced Financial Management
- (2) K. Venkataramana, Advanced Financial Management, SHBP.
- (3) Ghousia Khatoon, Mahanada B. C., Advanced Financial Management, VBH
- (4) S N Maheshwari, Financial Management Principles and Practice, Sultan Chand
- (5) Khan and Jain, Financial Management, Tata McGraw Hill
- (6) Sudhindra Bhat, Financial Management, Prentice Hall of India
- (7) Sharma and Sashi Gupta, Financial Management, Kalyani Publication
- (8) I M Pandey, Financial Management, Vikas Publication
- (9) Prasanna Chandra, Financial Management, Tata McGraw Hill
- (10) R.M Srivastava, Financial Management & Policy, Sterling publishers

Specialization Stream – A: Finance Stream

B.Com, Semester - VI

Course – 607A: Security Analysis and Portfolio Management

Course Objective: To acquaint students with investment decisions and portfolio management

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction to Investment Management** (15 hours): Meaning of Investment – Selection of Investment – Classification of Securities – Risk and Uncertainty – Types of Risks – Risk and Expected Return – Measurement of Portfolio Risk – Benefits of Diversification – Investment Strategies – Types of Companies and Stocks – Matrix Approach in Investment Decision and Investment Avenues
- II. **Security Analysis** (15 hours): Introduction – Fundamental Analysis – Economic Analysis – Industry Analysis – Company Analysis; Technical Analysis – Dow Theory – Advanced Declined Theory and Chartism Assumptions of Technical Analysis.
- III. **Modern Portfolio Theory** (14 hours): Introduction – Mean – Variance Model – Capital Market Line – Market Portfolio – Capital Asset Pricing Model – Security Market Line – Beta Factor – Alpha and Beta Coefficient and Arbitrage Pricing Model.
- IV. **Portfolio Management** (10 hours): Markowitz Model – Sharpe Model – Jensen and Treynor Model.
- V. **Global Markets** (10 hours): Global Investment Benefits - Introduction to ADRs, GDRs, FCCBs, Foreign Bonds, Global Mutual Funds – Relationship between Trends

in Global Markets and Domestic Markets.

Skill Development Activities:

- (1) Prepare an imaginary investment portfolio for salaried man whose income as ` 10 lakhs per annum and estimate savings is ` 2 lakhs per annum
- (2) Make a list of 30 companies which have gone for IPO very recently
- (3) Prepare a statement showing the ups and downs in the BSE index for the last one year

Recommended Books for Reference:

- (1) Avadhani, Investment Analysis and Portfolio Management, HPH
- (2) Preeti Singh - Security Analysis and Portfolio Management, HPH
- (3) K. Venkataramana, Security Analysis and Portfolio Management, SBHP
- (4) Kevin, Investment and Portfolio Management
- (5) Prasanna Chandra, Investment Analysis and Portfolio Management, McGraw-Hill
- (6) Sudhindra Bhat, Security Analysis and Portfolio Management - Fischer and Jordan, Security Analysis and Portfolio Management, Prentice Hall
- (7) A.P. Dash, Security Analysis and Portfolio Management, I.K. Intl
- (8) Rohini Singh, Security Analysis and Portfolio Management
- (9) Punithvathy Pandian, Security analysis & portfolio Management

Specialization Stream – B: Marketing Stream

B.Com, Semester – V

Course – 507B: Product and Sales Management

Course Objective: To acquaint students with adequate knowledge of product and sales management

Pedagogy: Combination of lectures, assignments and group discussions.

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction to Product Management** (12 hours): Meaning, Definition of Product, Market - Market focused Organization; Functionally focused Organization; Product Management – Facts *Vs* Fiction; Changes affecting Product Management; and Product Strategy.
- II. **Product Planning and Management** (12 hours): Meaning, Definition and Objectives of Product Planning; Frequent mistakes in Planning; Planning Process; Components of a good Plan; Product Life Cycle; Market Growth; Product Attractiveness - Factors influencing a Product; Threat of New Entrants, Product Differentiation; Bargaining Power of Buyers and Suppliers; Pressure from Substitutes; Environment Analysis; and Product Line Management.
- III. **New Product Development** (12 hours): Meaning, Definition and Organization for New Product Development; Idea Generation and Screening; Concept of Development and Evaluation; New Product Development and Evaluation; Product Modification; Product Variants; Brand Extension; Test Marketing, Evaluation for Market Acceptance; Commercialization and Product Failure.
- IV. **Salesman** (14 hours): Meaning, Definition and Qualities of a good Salesman, Recruitment of Salesmen in the Organization, Product, Knowledge, Planned Selling, Approach - Pre-Approach-Meeting, Objectives, Closing the Sale-Scales Call; Customer Psychology - Buying Motives of our Customer, Effective Speaking, Consumer Products *Vs* Industrial Products Selling - Trade Relations –Sales Personnel Recruitment, Selection, Training, and Remuneration.

- V. **Sales and Marketing System** (14 hours): Meaning, Definition, Objectives of Sales, Promotion Schemes and Situations in which they Launched. 42 Direct Premiums (Branded Packs, Price Rebates, Quantity Deals, Sampling, *etc*), Criteria for Judging the Success or Failure of Sales Promotion Schemes, What Sales Promotion can achieve and its Limitations; Consumer Contests, Interim Action Premiums (Coupon, Offers, *etc*), Self-Liquidating Premium; Survey of Gift Scheme Window Display, Types of Dealer Promotion Schemes, Wholesale and Retail Trade (Discount and Bonus Incentives for the Trade Sales Promotion and Industrial Products - Merchandising and Display - Sales Aids and Dealers Aids. Marketing System - Marketing Channels Behavioral Process in Marketing Channels, Designing Channels, Channels of Distribution and Promotion, Physical Distribution; and Factors affecting Channel Choice.

Skill Development Activities:

- (1) Select any product and examine the features of channels selected for distribution
- (2) Visit any organization and understand about remuneration and incentives to salesman
- (3) Chart out product planning process
- (4) Chart Sales Promotion schemes of two consumer durable products and two non-consumer durable products
- (5) Identify a product and position it in the market – chart it out

Recommended Books for Reference:

- (1) Lehmann R. Donald & Winer. S. Russell; Product Management; Tata McGraw-Hill Edition; 3rd Edition
- (2) Still R. Richard, Cundiff W. Edward and Govoni A P Norman, Sales Management Decisions, Strategies and Cases; Prentice Hall of India (P) Ltd; New Delhi
- (3) Ramanujam and Majumdar, Product management
- (4) Chunawalla S.A, Product management.
- (5) Aswathappa, Product management
- (6) Verma and Agarwal, Sales management

Specialization Stream – B: Marketing Stream

B.Com, Semester – VI

Course – 607B: Retail Management

Course Objective: To acquaint students about the consumer behavior in retail management

Pedagogy: Combination of lectures, assignments and group discussions.

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction to Retail Business** (12 hours): Definition – Functions of Retailing - Types of Retailing – Forms of Retail Business Ownership; Retail Theories – Wheel of Retailing – Retail Life Cycle; Retail Business in India: Influencing Factors – Present Indian Retail Scenario and International Perspective in Retail Business.
- II. **Consumer Behavior in Retail Business** (14 hours): Buying Decision Process and its Implications on Retailing – Influence of Group and Individual Factors, Customer Shopping Behaviour, Customer Service and Customer Satisfaction; Retail Planning Process: Factors to consider in preparing a Business Plan – Implementation and Risk Analysis.
- III. **Retail Operations** (12 hours): Factors influencing Location of Store - Market Area Analysis – Trade Area Analysis – Rating Plan Method - Site Evaluation; Retail Operations: Stores Layout and Visual Merchandising, Stores Designing, Space

Planning, Inventory Management, Merchandise Management, and Category Management.

- IV. **Retail Marketing Mix** (16 hours): Introduction; Product: Decisions related to selection of Goods (Merchandise Management Revisited) – Decisions related to Delivery of Service; Pricing: Influencing Factors – Approaches to Pricing – Price Sensitivity - Value Pricing – Markdown Pricing; Place: Supply Channel – SCM Principles – Retail Logistics – Computerized Replenishment System – Corporate Replenishment Policies; Promotion: Setting Objectives – Communication Effects - Promotional Mix; Human Resource Management in Retailing – Manpower Planning – Recruitment and Training – Compensation and Performance Appraisal Methods.
- V. **Impact of Information Technology in Retailing** (10 hours): Non Store Retailing (E-Retailing) - Impact of Information Technology in Retailing - Integrated Systems and Networking – EDI – Bar Coding – Electronic Article Surveillance – Electronic Shelf Labels – Customer Database Management System; Legal aspects in Retailing, Social Issues in Retailing, and Ethical Issues in Retailing.

Skill Development Activities:

- (1) Draw a retail life cycle chart and list the stages
- (2) Draw a chart showing a store operations
- (3) List out the major functions of a store manager diagrammatically
- (4) List out the current trends in e-retailing
- (5) List out the factors influencing in the location of a New Retail outlet

Recommended Books for Reference:

- (1) Suja Nair; Retail Management, HPH
- (2) Karthic – Retail Management, HPH
- (3) S.K. Poddar & others – Retail Management, VBH
- (4) R.S Tiwari ; Retail Management, HPH
- (5) Barry Bermans and Joel Evans: "Retail Management – A Strategic Approach", 8th edition, PHI
- (6) A.J. Lamba, The Art of Retailing, 1st edition, Tata McGraw-Hill, New Delhi
- (7) Swapna Pradhan, Retailing Management, TMH
- (8) K. Venkataramana, Retail Management, SHBP
- (9) James R. Ogden and Denise T., Integrated Retail Management
- (10) A Sivakumar Retail Marketing , Excel Books

Specialization Stream – C: Banking and Insurance Stream

B.Com, Semester – V

Course – 507C: Advanced Bank Management

Course Objective: To acquaint students about the advanced aspects of banking system

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Branch Operation and Core Banking** (14 hours): Introduction and Evolution of Bank Management – Technological Impact on Banking Operation – Total Branch Computerization – Concept of Opportunities – Centralized Banking – Concept, Opportunities, Challenges and Implementation.
- II. **Delivery Channels** (14 hours): Delivery Channels – Automated Teller Machine (ATM) – Phone Banking – Call Centers – Internet Banking – Mobile Banking – Payment Gateways – Card Technologies and MICR Electronic Clearing.

- III. **Back Office Operations** (12 hours): Bank Back Office Management – Inter Branch Reconciliation – Treasury Management – Forex Operations – Risk Management – Data Center Management – Network Management – Knowledge Management (MIS/DSS/EIS) and Customer Relationship Management (CRM).
- IV. **Inter Bank Payment System** (12 hours): Interface with Payment System Network – Structured Financial Messaging System – Electronic Fund Transfer – RTGSS – Negotiated Dealing Systems and Securities Settlement Systems – Electronic Money and E- Cheques.
- V. **Contemporary Issues in Banking Techniques** (12 hours): Analysis of Rangarajan Committee Reports – E Banking Budgeting and Banking Software.

Skill Development Activities:

- (1) Filling of application for opening a Bank Account
- (2) Preparations of Bank Reconciliation Statement
- (3) Identify and compare the banking delivery channels of nationalized banks and private banks
- (4) List out the boons and the banes of computerization of banks operations
- (5) Current issues in banking technology to be discussed in class

Recommended Books for Reference:

- (1) Kaptan S S and Choubey N S, E-Indian Banking in Electronic Era, Sarup & Sons, New Delhi
- (2) Vasudeva, E-Banking, Common Wealth Publishers, New Delhi
- (3) Chandramohan: Fundamental of Computer Network I.K. International Publishers
- (4) Effraim Turban, Rainer R. Kelly, Richard E. Potter, Information Technology, John Wiley & Sons Inc
- (5) Andrew S. Tanenbaum, Computer Networks, Tata McGraw Hill,
- (6) Padwal & Godse : Transformation of Indian Banks with Information Technology

Specialization Stream – C: Banking and Insurance Stream

B.Com, Semester – VI

Course – 607C: Life and General Insurance

Course Objective: To acquaint students about the principles of managing and administration of insurance business

Pedagogy: Combination of lectures, assignments and group discussions.

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction to Life Insurance** (14 hours): Introduction to Life Insurance - Principles of Life Insurance - Life Insurance Products, Pensions and Annuities - Life Insurance Underwriting - Need for Selection - Factors affecting Rate of Mortality - Sources of Data - Concept of Extra Mortality - Numerical Methods of Undertaking and Occupational Hazards.
- II. **Legal Aspects of Life Insurance** (14 hours): Legal Aspects of Insurance - Indian Contract Act, Special Features of Insurance Contract; Insurance Laws, Insurance Act, LIC Act, and IRDA Act.
- III. **Claim Management and Re-Insurance** (12 hours): Claim Management - Claim Settlement - Legal Framework - Third Party Administration, Insurance Ombudsman - Consumer Protection Act - Re-Insurance in Life Insurance - Retention Limits - Methods of Re-Insurance.
- IV. **Introduction to General Insurance** (12 hours): Introduction to General Insurance;

Principles of General Insurance, Types of General Insurance - Personal General Insurance Products (Fire, Personal Liability, Motors, Miscellaneous Insurance); Terminology, Clauses and Covers, Risk Assessment, Underwriting and Ratemaking, Product Design, Development and Evaluation and Loss of Provincial Control.

- V. **Insurance Industry** (12 hours): Insurance Industry - Brief History - Pre Nationalization and Post Nationalization - Current Scenario, and Re-Insurance – Functions.

Skill Development Activities:

- (1) Calculation of policy premium with imaginary figures
- (2) Calculation of fair claims with imaginary figures
- (3) Preparation of list occupational hazards under life insurance
- (4) List out top 10 private life insurance companies
- (5) Write a note on the current developments under IRDA Act

Recommended Books for Reference:

- (1) Annie Stephen L, HPH
- (2) P. Perya Swamy, Principles and Practice of Life Insurance
- (3) Raman B, Your Life Insurance, Hand Book
- (4) William C. Arthur, Risk Management and Insurance
- (5) G. Krishna Swamy, A Text book on Principles and Practices of Life Insurance
- (6) Gopal Krishnan, Liability Insurance
- (7) Aramvalarthan, Risk Management I.K. Intl
- (8) Mishra M.N, Insurance Principles and Practice
- (9) Bose A.K, Engineering Insurance
- (10) Fire Insurance Claim, Insurance institute of India
- (11) P. K Gupta, Insurance and Risk Management

Specialization Stream – D: E-commerce Stream

B.Com, Semester – V

Course – 507D: E-Commerce – I

Course Objective: To acquaint students about programming language ‘C’

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **E-Commerce** (8 hours): E-Commerce Vs E-Business, Advantages of E-Commerce, Internet Banking - Advantages of Online Banking, Facilities, Internet Banking in India, ATM, Credit Card/Debit Card, Smart Card; Advantages of Internet Marketing, and Advertising over Internet.
- II. **Introduction to HTML** (10 hours): HTML Documentation, Structure and Tags, Defining Web Page Appearance, Text Formatting, Writing simple HTML Documents, Front Page, Advantages and Options.
- III. **Introduction To ‘C’** (3 hours): History of ‘C’, Features and Merits of ‘C’, Basic Structure of a ‘C’ Program, Character Set, Key Words, Identifiers, Data Types, Constants and Variables, Data Type Declaration Statement, Assigning Values to a Variable, Operators, Expressions, Loading, Editing, Saving and Executing C Programs, and Turbo ‘C’ Hot Keys
- IV. **Input/Output Statements** (15 hours): Input/Output Statements - Unformatted (Getchar; Puchar; Gets; Puts; Getch; Gerche) and Formatted I/O Functions (Scanf; Printf); Program Flow Control Statements, Branching Statements, Looping Statements,

Jumping Statements, If Statement, If-else Statement, Switch Statement, While Statement, Do-While Statement, For Statement, and Nested for Loop Statement.

- V. **Arrays** (8 hours): One Dimensional Array, Two Dimensional Array, and Library Functions (Abs, Sqrt, Pow).
- VI. **Writing Simple Programmes Using ‘C’** (20 hours): Language involving Arithmetical Operations on Numbers, Number Generations of Various Types - Natural Numbers, Even and Odd Numbers, Multiplication Table, Fibonacci Series, Factorial of A Number, Array Addition, Inverse of Matrix, Use of Formulas - Simple Interest, Compound Interest, Area Calculations, etc.

Skill Development Activities:

- (1) Write a C Program to find the area and circumference of the circle
- (2) Write a C Program to show the use of Char and String used
- (3) Write a C Program to the use of Do and While statement
- (4) Write a C Program to show the use of mul and pow functions
- (5) Write a Program to display the growth of a fixed deposit in a bank
- (5) Write a C Program for finding Biggest and Smallest among many numbers using array
- (5) Write a C Program to show the use of Switch Case
- (5) Write a C Program for calculation of salesman's commission
- (5) Write a C Program for preparation of marks statement
- (5) Write a C Program to show arithmetical operations on numbers
- (5) Write a C Program to calculate simple interest and compound interest
- (5) Write a C program to find whether the number is a perfect square or not
- (5) Write a HTML document for display of an Advertisement message with suitable tags
- (5) Write a HTML document to show a moving message on the screen

Recommended Books for Reference:

- (1) Rajaraman, Computer Programming in ‘C’ (Prentice Hall of India).
- (2) Yashwanth, P. Kanetkar, Let Us C (BPB Publications).
- (3) Byron S Gottrifried, Programming with C (Tata McGraw Hill Publishing Co. Ltd)

Specialization Stream – D: E-commerce Stream

B.Com, Semester – VI

Course – 607D: E-Commerce – II

Course Objective: To acquaint students with knowledge about internet and visual basics

Pedagogy: Combination of lectures, assignments and group discussions.

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Introduction to Internet** (6 hours): Meanings of Internet and Intranet, Modem, LAN, WAN, MAN, WWW; Advantages and Disadvantages of Internet.
- II. **Email** (6 hours): Meaning, Advantages, Steps in Creating E-Mail ID, Internet Browsing, Information through Web-Sites, Search Engines, and Browser (Internet Explorer).
- III. **Power Point** (16 hours): Start, End, Open, Format, Edit, Print and Save a Presentation; Insert, Format and Modify Text, Select a Design Template, Create a Title Slide, Create a Multi-Level Bulleted List Slide, Display and Print in Black and White, Describe Speech Recognition Capabilities of Power Point, Add Slides to and Delete Slides from a Presentation; Create a Presentation from an Outline and Use Outline Features, Change the Slide Layout, Insert and Edit Clip Art, Add a Header and Footer, Add

- Animation and Slide Transition Effect, Create Presentation using Embedded Visuals, Create a Slide Background using a Picture, Customize Graphical Bullets, Create and Embed an Organizational Chart, Insert and Format a Table into a Slide, Add an Animation Scheme to selected Slides, Print Handouts, and Rearrange Slides.
- IV. **Introduction to Visual Basic Programming** (12 hours): Introduction to Visual Basic, Terminologies, Creating an Application, Modular Environment; Building an Application, Setting Properties of Objects, Forms; Introduction to Controls; Event-Driven Programming.
- V. **B Coding: Examining Code** (12 hours): Using Object Browser, Statements and Functions, Conditional Statements and Looping Statements in Visual Basic; Native Code Compiler; Debugging, Overview of Debugging, Forms, Using Forms, Multiple Forms, Events; Start Up and End of Application Variables, Data Types, Scope and Life Time of Variables, Constants, Arrays and User-Defined Types.
- VI. **Procedure** (12 hours): Introduction to Procedure, Arguments and Parameters; Named Arguments and Optional Arguments; Controls – Using Controls, and Standard Controls (Custom Controls).

Skill Development Activities:

- (1) Write the steps for addition of any two numbers in Visual Basic
- (2) Write the steps for Swapping two numbers in Visual Basic
- (3) Write the steps for finding Simple Interest/Compound Interest in Visual Basic
- (4) Write the steps for creating Presentation having atleast five slides related to a new product launching
- (5) Write the steps for creating Presentation having atleast four or five slides related to motivating the salesmen

Recommended Books for Reference:

- (1) U. S. Pandey, Rahul Srivastava and Others, E-Commerce and Its Applications (S. Chand & Co)
- (2) Kamlesh N. Agarwal and Deeksha Agarwal, Business on the Net (McMillan India Ltd)
- (3) Jerke, Visual Basic
- (4) White, Visual Basic Programming

Specialization Stream – E: Quantitative Techniques Stream

B.Com, Semester – V

Course – 507E: Quantitative Techniques – I

Course Objective: To acquaint students about the application of mathematical and statistical techniques to practical business problems

Pedagogy: Combination of lectures, assignments and group discussions.

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Arithmetic and Geometric Progression** (8 hours): Arithmetic Progression, Geometric Progression, Some of n^{th} Term of Arithmetic Progression and Geometric Progression, Arithmetic Mean and Geometric Mean.
- II. **Matrices and Determinants** (13 hours): Matrices, Types of Matrices; Operation of Addition, Subtraction and Multiplication of Matrix with Special Application to Business; Transpose of Matrix, Determinants of Square Matrix, Cramer's Rule with Two and Three Unknown Properties, Adjoint of a Square Matrix, and Inverse of a Square Matrix (excluding Matrix Method).
- III. **Differential Calculus** (13 hours): Variables and Constant, Function, Real/Valued

Function, Limits of Function, Methods of Evaluating Limits, Differentiation of Linear Function, Finding Maxima and Minima of a Function, Application of Differential to Commerce, (excluding Derivations).

- IV. **Linear Programming** (14 hours): Linear Inequalities, Linear Programming, Formation of Linear Programming Problems, Mode/Solutions to Linear Programming Problems by Graphic and Simplex Method (problems to be restricted to two variables).
- V. **Theory of Probability** (10 hours): Introduction, Random Experiments, Sample Space and Probability, Theory of Expectations, Random Variables, Problems related to Probability based on Combination, Law of Probability, Events, and Compound Events.
- VI **Theoretical Distribution** (6 hours): Introduction, Binomial Distribution, Poisson Distribution, Normal Distribution, and Problems

Skill Development Activities:

- (1) Apply Arithmetic Progression and Geometric Progression methods to find the growth rate of food grains and population
- (2) Use Matrix Principles to implement food requirement and protein for two families. Show the way in which price and demand situations will help to purchase goods and services by the use of matrices
- (3) Select different ways to go to Bengaluru from your native place through permutation techniques
- (4) Use different techniques to show price, supply and demand position for a particular product, and also show maximum and minima
- (5) Visit a nearest Industry or Computer Centre and draw Linear Programming Problem model regarding different problems. Find a solution to the problem

Recommended Books for Reference:

- (1) Business Mathematics, Sanchethi Kapoor
- (2) Business Mathematics, S. P. Gupta
- (3) Mathematics for Cost Accountants, R. Gupta
- (4) Business Mathematics: Madappa and Sridhara Rao
- (5) Business Mathematics: Dorairaj, S. N
- (6) Business Mathematics: B. H. Suresh
- (7) Business Mathematics: Sanchethi Aggarwal
- (8) Business Mathematics: Aggarwal
- (9) Business Mathematics: Oak and other (Himalaya Publishing House)

Specialization Stream – E: Quantitative Techniques Stream

B.Com, Semester – VI

Course – 607E: Quantitative Techniques – II

Course Objective: To acquaint students with the application of mathematical techniques to business situations

Pedagogy: Combination of lectures, assignments and group discussions

Weekly Teaching Hours: 4 Maximum Marks: 100 Examination Duration: 3 hours

Unit

Course Inputs

- I. **Games and Strategies** (10 hours): Introduction to Games, Two-Person Zero-Sum Games, Some Basic Terms, the Maxi-min– Mini-max Principle, Games without Saddle Points - Mixed.
- II. **Assignment Problems** (10 hours): Introduction, Mathematical Function of the Problems, Assignment Cases in Assignment Problems, Typical Assignment Problem, and Travelling Salesman Problem.

- III. **Transportation Problems** (12 hours): Introduction, General Transportation Problem, Transportation Table, Duality in Transportation Problem, Loops in Transportation Problem, LP Formulation of the Transportation Problem, Solution of a Transportation Problem, Finding an Initial Basic Feasible Solution, and Test for Optimality
- IV. **Decision Analysis** (10 hours): Introduction, Decision Making Problem, Decision Making Process, Decision Making Environment, Decision under Uncertainty, Decisions under Risk, and Decision Tree Analysis.
- V. **Simulation** (12 hours): Introduction, Why Simulation, Methodology of Simulation, Simulation Models, Event-Type Simulation; Generation of Random Numbers; Monte-Carlo Simulation, Simulation of Inventory Problems, Simulation of Queuing System, Simulation of Maintenance Problems, Simulation of Investment and Budgeting, Simulation of Job Sequencing, Advantages and Limitations of Simulation.
- VI. **Project Management** (10 hours): Introduction, Basic Concepts of Network Analysis, Time Estimates in Vertical Path Analysis, PERT and CPM, Simple Problems on PERT and CPM.

Skill Development Activities:

- (1) Play game for competing with the rival trader, find Games Strategies to withstand in the game
- (2) Give an assignment to a particular person who is capable to find suitable measures to particular assigned task
- (3) Find the least route to go to the places when a travelling agent is supposed to visit more than two places simultaneously
- (4) Find strategies for assigning a particular task to various persons
- (5) How simulation can be derived and give suitable examples
- (6) Experiment different events for finding solution for probable events

Recommended Books for Reference:

- (1) Business Mathematics, Sanchethi Kapoor
- (2) Business Mathematics, S. P. Gupta
- (3) Mathematics for Cost Accountants, R. Gupta
- (4) Business Mathematics: Madappa Sridhara Rao
- (5) Business Mathematics: Dorairaj, S. N
- (6) Business Mathematics: B. H. Suresh
- (7) Business Mathematics: Sanchethi Aggarwal
- (8) Business Mathematics: Aggarwal
- (9) Business Mathematics: Oak and other (Himalaya Publishing House)
- (10) Kanti Swarup, P. K Gupta Man Mohan, Operations Research
- (11) V. K. Kapoor, Quantitative Techniques

Question Paper Pattern for Semester-end Examinations

[Each Question Paper shall be divided into three Sections *viz.*, Section – A (Conceptual), Section – B (Analytical) and Section – C (Application)]

Section – A:

Maximum Marks: 15,

Three Questions shall be answered out five Questions (including three Problems in the case of Quantitative Courses),

Each question carries five marks, and

Answer to each theory question shall be in not more than two pages.

Section – B:

Maximum Marks: 20,

Two Questions shall be answered out four Questions (including three Problems in the case of Quantitative Courses),

Each Question carries ten marks, and

Answer to each theory Question shall be in not more than five pages.

Section – C:

Maximum Marks: 45,

Three Questions shall be answered out five Questions (including four Problems in the case of Quantitative Courses),

Each Question carries 15 marks, and

Answer to each theory Question shall be in not more than eight pages.

Note: Calculators, Mathematical Tables and Present Value Tables are allowed.

**Question Paper Pattern for Course – 508: Logical and Analytical Reasoning
(B.Com, Semester – V)**

Duration: 90 minutes,

Maximum Marks: 40,

40 multiple answer questions and all are compulsory, and

Each question carries 1 mark.

**Question Paper Pattern for Course – 608: Soft Skills
(B.Com, Semester – VI)**

Duration: 90 minutes,

Maximum Marks: 40,

Students shall answer 8 questions out of 10 questions, and

Each question carries 5 marks.

**Question Paper Pattern
for**

**Course – 307: Environmental Science (B.Com, Semester - III) and
Course – 407: Indian Constitution (B.Com, Semester - IV)**

Duration: 3 hours,

Maximum Marks: 80,

KUVEMPU



UNIVERSITY

NEP-2020

curriculum structure and Syllabus

**Bachelor of Science (Basic and Honors) Programme with
Computer Science as Major and Minor Courses**

**And
Open Elective courses in Computer Science**

w.e.f Academic Year 2021-22 onwards

UG BOS IN COMPUTER SCIENCE


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The objectives of the Program

1. The primary objective of this program is to provide a foundation of computing principles for effectively using information systems and enterprise softwares.
2. It helps students analyze the requirements for system programming and exposes students for information systems
3. This programme provides students with options to specialize in various software system.
4. To produce outstanding Computer Scientists who can apply the theoretical knowledge into practice in the real world and develop standalone live projects themselves
5. To provide opportunity for the study of modern methods of information processing and its applications.
6. To develop among students the programming techniques and the problem-solving skills through programming
7. To prepare students who wish to go on to further studies in computer science and related subjects.
8. To acquaint students to Work effectively with a range of current, standard, Office Productivity software applications


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Curriculum Structure

Program: B.Sc. (Basic and Honors) Subject: Computer Science

1. Computer Science as MAJOR with another Subject as MINOR (Table IIA of Model Curriculum)

Sem	Discipline Specific Core Courses (DSC)	Hour of Teaching/ Week		Discipline Specific Elective Courses (DSE)/ Vocational Courses (VC)	Hour of Teaching / Week
		Theory	Lab		
1	DSC-1: Computer Fundamentals and Programming in C DSC-1Lab: C Programming Lab	4	4		
2	DSC-2: Data Structures using C DSC-2Lab: Data structures Lab	4	4		
3	DSC-3: Object Oriented Programming Concepts and Programming in JAVA DSC-3Lab: JAVA Lab	4	4		
4	DSC-4: Database Management Systems DSC-4Lab: DBMS Lab	4	4		
5	DSC-5: Programming in PYTHON DSC-6: Computer Networks DSC-5Lab: PYTHON Programming lab DSC-6Lab: Computer Networks Lab	3 3	4 4	VC-1: Any one from Vocational Courses, Group – 1*	3
6	DSC-7: Internet Technologies DSC-8: Operating System Concepts DSC-7Lab: JAVA Script, HTML, CSS Lab DSC-8Lab: C# Programming Lab	3 3	4 4	VC-2: Any one from Vocational Courses, Group – 2* Internship:	3 2
7	DSC-9: Computer Graphics and Visualization DSC-10: Design and Analysis of Algorithms DSC-11: Software Engineering DSC-9Lab: Computer Graphics and Visualization Lab DSC-10Lab: Algorithms Lab	3 3 3	4 4	DSE-1: Any one from Discipline Specific Elective Courses, Group – 1** DSE-2: Any one from Discipline Specific Elective Courses, Group – 2** Research Methodology:	3 3 3
8	DSC-12: Artificial Intelligence and Applications DSC-13: Computer Organization and Architecture DSC-14: Data Warehousing and Data Mining DSC-12Lab: AI Lab	3 3 3	4	DSE-3: Any one from Discipline Specific Elective Courses, Group – 3** Research Project:	3 6


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2. Computer Science as MINOR with another Subject as MAJOR (As per Table IIA of Model Curriculum)

Sem	Discipline Specific Core Courses (DSC)	Hour of Teaching/ Week	
		Theory	Lab
1	DSC-1: Computer Fundamentals and Programming in C DSC-1Lab: C Programming Lab	4	4
2	DSC-2: Data Structures using C DSC-2Lab: Data structures Lab	4	4
3	DSC-3: Object Oriented Programming Concepts and Programming in JAVA DSC-3Lab: JAVA Lab	4	4
4	DSC-4: Database Management Systems DSC-4Lab: DBMS Lab	4	4
5	DSC-5: Programming in PYTHON DSC-5Lab: PYTHON Programming lab	3	4
6	DSC-6: Internet Technologies DSC-6Lab: JAVA Script, HTML, CSS Lab	3	4

*** Vocational Courses:**

<p>Group-1:</p> <ul style="list-style-type: none"> • DTP, CAD and Multimedia • Hardware and Server Maintenance • Web Content Management Systems • E-Commerce • Web Designing 	<p>Group-2:</p> <ul style="list-style-type: none"> • Health Care Technologies • Digital Marketing • Office Automation • Multimedia Processing • Accounting Package
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**** Discipline Specific Elective Courses:**

<p>Group-1:</p> <ul style="list-style-type: none"> • IoT • Cyber Law and Cyber Security • Web Programming - PHP and MySQL • Clouds, Grids, and Clusters • Software Testing 	<p>Group-2:</p> <ul style="list-style-type: none"> • Information and Network Security • Data Compression • Discrete Structures • Opensource Programming • Multimedia Computing • Big Data 	<p>Group-3:</p> <ul style="list-style-type: none"> • Data Analytics • Storage Area Networks • Pattern Recognition • Digital Image Processing • Parallel Programming • Digital Signal Processing
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Open Electives in Computer Science

Sl. No.	Semester	Open Electives
01	FIRST SEMESTER	<u>Any one from the following</u> <ul style="list-style-type: none">• Office Automation• Computer Fundamentals• Problem Solving and C Programming Concepts
02	SECOND SEMESTER	<u>Any one from the following except elective chosen in the first semester</u> <ul style="list-style-type: none">• Office Automation• Computer Fundamentals• Problem Solving and C Programming Concepts
03	THIRD SEMESTER	<u>Any one from the following</u> <ul style="list-style-type: none">• Web Designing• E-Commerce
04	FOURTH SEMESTER	<u>Any one from the following except elective chosen in the third semester</u> <ul style="list-style-type: none">• Web Designing• E-Commerce


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Syllabus for B.Sc. (Basic and Honors)

Semester: I

Course Code: DSC-1	Course Title: Computer Fundamentals and Programming in C
Course Credits: 04	Hour of Teaching/Week: 04
Total Contact Hours: 52	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03

Course Content

Content	Hours
Unit - 1	
Fundamentals of Computers: Introduction to Computers - Computer Definition, Characteristics Computers, Evolution and History of Computers, Types of Computers, Basic Organisation of a Digital Computer; Number Systems – different types, conversion from one number system to another; Computer Codes – BCD, Gray Code, ASCII and Unicode; Boolean Algebra – Boolean Operators with Truth Tables; Types of Software – System Software and Utility Software; Computer Languages - Machine Level, Assembly Level & High Level Languages, Translator Programs – Assembler, Interpreter and Compiler; Planning a Computer Program - Algorithm, Flowchart and Pseudo code with Examples. (at least 5hrs)	10
Unit - 2	
Introduction to C Programming: Over View of C; History and Features of C; Structure of a C Program with Examples; Creating and Executing a C Program; Compilation process in C. C Programming Basic Concepts: C Character Set; C tokens - keywords, identifiers, constants, and variables; Data types; Declaration & initialization of variables; Symbolic constants. Input and output with C: Formatted I/O functions - <i>printf</i> and <i>scanf</i> , control stings and escape sequences, output specifications with <i>printf</i> functions; Unformatted I/O functions to read and display single character and a string - <i>getchar</i> , <i>putchar</i> , <i>gets</i> and <i>puts</i> functions.	8
Unit - 3	
C Operators & Expressions: Arithmetic operators; Relational operators; Logical operators; Assignment operators; Increment & Decrement operators; Bitwise operators; Conditional operator; Special operators; Operator Precedence and Associativity; Evaluation of arithmetic expressions; Type conversion.	12
Control Structures: Decision making Statements - <i>Simple if</i> , <i>if_else</i> , <i>nested if_else</i> , <i>else_if ladder</i> , <i>Switch-case</i> , <i>goto</i> , <i>break</i> & <i>continue</i> statements; Looping Statements - Entry controlled and exit controlled statements, <i>while</i> , <i>do-while</i> , <i>for</i> loops, Nested loops.	
Unit - 4	

<p>Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays - Declaration, Initialization and Memory representation.</p> <p>Strings: Declaring & Initializing string variables; String handling functions - <i>strlen</i>, <i>strcmp</i>, <i>strcpy</i> and <i>strcat</i>; Character handling functions - <i>tolower</i>, <i>toupper</i>, <i>isalpha</i>, <i>isnumeric</i> etc.</p> <p>Pointers in C: Understanding pointers - Declaring and initializing pointers, accessing address and value of variables using pointers; Pointers and Arrays; Pointer Arithmetic; Advantages and disadvantages of using pointers;</p>	12
Unit - 5	
<p>User Defined Functions: Need for user defined functions; Format of C user defined functions; Components of user defined functions - return type, name, parameter list, function body, return statement and function call; Categories of user defined functions - With and without parameters and return type.</p> <p>User defined data types: Structures - Structure Definition, Advantages of Structure, declaring structure variables, accessing structure members, Structure members initialization, comparing structure variables, Array of Structures; Unions - Union definition; difference between Structures and Unions.</p>	10

Text Books

1. Pradeep K. Sinha and Priti Sinha: Computer Fundamentals (Sixth Edition), BPB Publication
2. E. Balagurusamy: Programming in ANSI C (TMH)

References

1. Kamathane: Programming with ANSI and TURBO C (Pearson Education)
2. V. Rajaraman: Programming in C (PHI – EEE)
3. S. Byron Gottfried: Programming with C (TMH)
4. Kernighan & Ritchie: The C Programming Language (PHI)
5. Yashwant Kanitkar: Let us C
6. P.B. Kottur: Programming in C (Sapna Book House)


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Course Code: DSC-1Lab	Course Title: C Programming Lab
Course Credits: 02	Hour of Teaching/Week: 04
Total Contact Hours: 52	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 04

Practice Lab

The following activities be carried out/ discussed in the lab during the initial period of the semester.

1. Basic Computer Proficiency
 - a. Familiarization of Computer Hardware Parts
 - b. Basic Computer Operations and Maintenance.
 - c. Do's and Don'ts, Safety Guidelines in Computer Lab
2. Familiarization of Basic Software – Operating System, Word Processors, Internet Browsers, Integrated Development Environment (IDE) with Examples.
3. Type Program Code, Debug and Compile basic programs covering C Programming fundamentals discussed during theory classes.

Programming Lab

Part A:

1. Write a C Program to read radius and find area and volume of a sphere.
2. Write a C Program to read three numbers and find the biggest of three
3. Write a C Program to demonstrate library functions in *math.h* (at least 5)
4. Write a C Program to read a number, find the sum of the digits, reverse the number and check it for palindrome
5. Write a C Program to read numbers from keyboard continuously till the user presses 999 and to find the sum of only positive numbers
6. Write a C Program to read percentage of marks and to display appropriate grade (using switch case)
7. Write a C Program to find the roots of quadratic equation (if else ladder)
8. Write a C program to read marks scored in 3 subjects by n students and find the average of marks and result (Demonstration of single dimensional array)
9. Write a C Program to remove Duplicate Element in a single dimensional Array
10. Program to perform addition and subtraction of Matrices

Part B:

1. Write a C Program to find the length of a string without using built in function
2. Write a C Program to demonstrate string functions (at least 3).
3. Write a C Program to demonstrate pointers in C
4. Write a C Program to generate n prime number by defining *isprime ()* function
5. Write a C Program to find the trace of a square matrix using function
6. Write a C Program to read, display and multiply two matrices using functions
7. Write a C Program to read a string and to find the number of alphabets, digits, vowels, consonants, spaces and special characters.
8. Write a C Program to Reverse a String using Pointer
9. Write a C Program to demonstrate student structure to read & display records of n students.
10. Write a C Program to demonstrate the difference between structure & union.

Note: Student has to execute a minimum of 8 programs in each part to complete the Lab course

Semester: II

Course Code: DSC-2	Course Title: Data Structures using C
Course Credits: 04	Hour of Teaching/Week: 04
Total Contact Hours: 52	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Describe how arrays, records, linked structures, stacks, queues, trees, and graphs are represented in memory and used by algorithms
- Describe common applications for arrays, records, linked structures, stacks, queues, trees, and graphs
- Write programs that use arrays, records, linked structures, stacks, queues, trees, and graphs
- Demonstrate different methods for traversing trees
- Compare alternative implementations of data structures with respect to performance
- Describe the concept of recursion, give examples of its use
- Discuss the computational efficiency of the principal algorithms for sorting and searching

Course Content

Content	Hours
Unit - 1	
Introduction to data structures: Definition; Types of data structures - Primitive & Non-primitive, Linear and Non-linear; Operations on data structures. Algorithm Specification, Performance Analysis, Performance Measurement Recursion: Definition; Types of recursions; Examples - Fibonacci numbers, GCD, Binomial coefficient nC_r , Towers of Hanoi; Comparison between iterative and recursive functions.	8
Unit - 2	
Arrays: Basic Concepts – Definition, Declaration, Initialization, Operations on arrays; Types of arrays; Arrays as abstract data types (ADT); Representation of Linear Arrays in memory; Traversing linear arrays; Inserting and deleting elements; Sorting – Selection sort, Bubble sort, Quick sort, Insertion sort, merge sort; Searching - Sequential Search, Binary search; Iterative and Recursive searching; Multidimensional arrays; Representation of multidimensional arrays; Sparse matrices.	12


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Unit - 3	
<p>Stacks: Basic Concepts – Definition and Representation of stacks; Operations on stacks; Applications of stacks; Infix, postfix and prefix notations; Conversion from infix to postfix using stack; Evaluation of postfix expression using stack; Application of stack in function calls.</p> <p>Queues: Basic Concepts – Definition and Representation of queues; Types of queues – Simple queues, Circular queues, Double ended queues, Priority queues; Operations on Simple queues;</p>	10
Unit - 4	
<p>Dynamic memory allocation: Static & Dynamic memory allocation; Memory allocation and de- allocation functions - malloc, calloc, realloc and free.</p> <p>Linked list: Basic Concepts – Definition and Representation of linked list, Types of linked lists - Singly linked list, doubly linked list, Header linked list, Circular linked list; Representation of Linked list in Memory;</p> <p>Operations on Singly linked lists – Traversing, Searching, Insertion, Deletion; Memory allocation; Garbage collection</p>	12
Unit - 5	
<p>Trees: Definition; Tree terminologies –node, root node, parent node, ancestors of a node, siblings, terminal & non-terminal nodes, degree of a node, level, edge, path, depth;</p> <p>Binary tree: Type of binary trees - strict binary tree, complete binary tree, binary search tree and heap tree; Array representation of binary tree. Traversal of binary tree; preorder, inorder and postorder traversal; Reconstruction of a binary tree when any two of the traversals are given.</p>	10

Text Books

1. Sartaj Sahani: Fundamentals of Data Structures

References

1. Tanenbaum: Data structures using C (Pearson Education)
2. Kamathane: Introduction to Data structures (Pearson Education)
3. Y. Kanitkar: Data Structures Using C (BPB)
4. Sudipa Mukherjee: Data Structures using C – 1000 Problems and Solutions (McGraw Hill Education, 2007))


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Course Code: DSC-2Lab	Course Title: Data Structures Lab
Course Credits: 02	Hour of Teaching/Week: 04
Total Contact Hours: 52	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 04

Programming Lab

Part A:

1. Write a C Program to find GCD using recursive function
2. Write a C Program to display Pascal Triangle using binomial function
3. Write a C Program to generate n Fibonacci numbers using recursive function.
4. Write a C Program to implement Towers of Hanoi.
5. Write a C Program to implement dynamic array, find smallest and largest element of the array.
6. Write a C Program to read the names of cities and arrange them alphabetically using bubble sort.
7. Write a C Program to sort the given list using selection sort technique.
8. Write a C Program to sort the given list using insertion sort technique.

Part B:

1. Write a C Program to sort the given list using quick sort technique.
2. Write a C Program to sort the given list using merge sort technique.
3. Write a C Program to search an element using linear search technique and recursive binary search technique.
4. Write a C Program to implement Stack.
5. Write a C Program to convert an infix expression to postfix.
6. Write a C Program to implement simple queue.
7. Write a C Program to implement linear linked list.
8. Write a C Program to implement traversal of a binary tree.

Evaluation Scheme for Lab Examination

Assessment Criteria		Marks
Program -1 from Part A	Write up of the program -1	5
Program -2 from Part B	Write up of the program -2	5
Execution and formatting (Any one program)		10
Viva Voce based on Lab Activities		05
Total		25


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BSc-Semester-III

Course Title: Object Oriented Programming Concepts and Programming in Java	Course code: DSC-3
Total Contact Hours: 52	Course Credits: 04
Formative Assessment Marks: 40	Duration of SEE/Exam: 03 Hours
Summative Assessment Marks: 60	

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Understand the features of Java and the architecture of JVM
- Write, compile, and execute Java programs that may include basic data types and control flow constructs and how type casting is done
- Identify classes, objects, members of a class and relationships among them needed for a specific problem and demonstrate the concepts of polymorphism and inheritance
- The students will be able to demonstrate programs based on interfaces and threads and explain the benefits of JAVA's Exceptional handling mechanism compared to other Programming Language
- Write, compile, execute Java programs that include GUIs and event driven programming and also programs based on files

DSC-3: Object Oriented Programming Concepts and Programming in Java

Unit	Description	Hours
1	OOPs Concepts: Basics of OOPs: Object, Class, Data abstraction, Data Hiding, Polymorphism, Inheritance; Introduction to Java: Basics of Java programming, Data types, Variables, Operators, Control structures: Branching, Looping, Labeled Loop; Arrays (1D,2D).	12
2	Object and Classes: Basics of Objects and Classes, Constructors- Definition and Types; Destructors, Finalizer, Visibility modifiers, Java Overloading, Inbuilt classes: String, Character, String Buffer.	09
3	INHERITANCE AND INTERFACES: Inheritance: Definition, Types: Single, Multilevel, hierarchical; Interface: Definition Extending & implementing interface, Generic Programming, Introduction to Package in java.	09
4	Multithreading and Exceptions: Creating a thread, Extending the thread class, stopping and blocking the thread, Thread life cycle, Runnable interface, Exception handling with try-catch-finally, Throwing and Rethrowing exceptions classes, Multiple catch statements, finally clause.	10

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5	Event and GUI programming: Event handling in java, Event types, Mouse and key events, GUI Basics, Panels, Frames, Layout Managers: Flow Layout, Border Layout, Grid Layout, GUI components: Buttons, Check Boxes, Radio Buttons, Labels, Text Fields, Text Areas, Combo Boxes, Lists, Scroll Bars, Sliders, Menus, Dialog Boxes, Applet and its life cycle, Introduction to swing.	12
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Text Books

1. Programming with Java, By E Balagurusamy – A Primer, Fourth Edition, Tata McGraw Hill Education Private Limited.
2. Core Java Volume I – Fundamentals, By Cay S. Horstmann, Prentice Hall
3. Object Oriented Programming with Java : Somashekara, M.T., Guru, D.S., Manjunatha, K.S

Reference Books:

1. Java 2 - The Complete Reference – McGraw Hill publication.
2. Java - The Complete Reference, 7th Edition, By Herbert Schildt– McGraw Hill publication.


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Course Code: DSC-3Lab	Course Title: JAVA LAB
Course Credits: 02	Hour of Teaching/Week: 04
Total Contact Hours: 52	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 03

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Implement Object Oriented programming concept using basic syntaxes of control Structures
- Identify classes, objects, members of a class and the relationships among them needed for a finding the solution to specific problem
- Demonstrates how to achieve reusability using inheritance
- Demonstrate understanding and use of interfaces, packages, different exception handling mechanisms and concept of multithreading for robust faster and efficient application development.
- Identify and describe common user interface components to design GUI in Java using Applet & AWT along with response to events

Practice Lab

1. Program to print the following triangle of numbers 1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
2. Program to simple java application, to print the message, "Welcome to java"
3. Program to display the month of a year. Months of the year should be held in an array.
4. Program to find the area of rectangle.
5. program to demonstrate a division by zero exception
6. Program to create a user defined exception say Pay Out of Bounds.

Programming Lab

PART A: Java Fundamentals OOPs in Java

1. Program to add two integers and two float numbers. When no arguments are supplied, give a default value to calculate the sum. Use function overloading.
2. Program to perform mathematical operations. Create a class called AddSub with methods to add and subtract. Create another class called MulDiv that extends from AddSub class to use the member data of the super class. MulDiv should have methods to multiply and divide A main function should access the methods and perform the mathematical operations.
3. Program with class variable that is available for all instances of a lass. Use static variable declaration. Observe the changes that occur in the object's member variable values.

4. Program to create a student class with following attributes; Enrollment No: Name, Mark of sub1, Mark of sub2, mark of sub3, Total Marks. Total of the three marks must be calculated only when the student passes in all three subjects. The pass mark for each subject is 50. If a candidate fails in any one of the subjects his total mark must be declared as zero. Using this condition write a constructor for this class. Write separate functions for accepting and displaying student details. In the main method create an array of n student objects and display the details.
5. In a college first year class are having the following attributes Name of the class (BCA, BCom, BSc), Name of the staff No of the students in the class, Array of students in the class. Define a class called first year with above attributes and define a suitable constructor. Also write a method called best Student () which process a first-year object and return the student with the highest total mark. In the main method define a first-year object and find the best student of this class
6. Program to define a class called employee with the name and date of appointment. Create ten employee objects as an array and sort them as per their date of appointment. ie, print them as per their seniority.

PART B: Exception Handling & GUI Programming

1. Program to catch Negative Array Size Exception. This exception is caused when the array is initialized to negative values.
2. Program which create and displays a message on the window
3. Program to draw several shapes in the created window
4. Program which creates a frame with two buttons father and mother. When we click the father button the name of the father, his age and designation must appear. When we click mother similar details of mother also appear.
5. Program to move any one shape according to the arrow key pressed.
6. Program to create a window when we press M or m the window displays Good Morning, A or a the window displays Good After Noon E or e the window displays Good Evening, N or n the window displays Good Night
7. Demonstrate the various mouse handling events using suitable example.
8. Program to create menu bar and pull-down menus.

Evaluation Scheme for Lab Examination

Assessment Criteria		Marks
Program -1 from Part A	Write up of the program -1	5
Program -2 from Part B	Write up of the program -2	5
Execution and formatting (Any one program)		10
Viva Voce based on Lab Activities		05
Total		25


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BSc-Semester-IV

Course Title: Database Management Systems	Course code: DSC-4
Total Contact Hours: 52	Course Credits: 04
Formative Assessment Marks: 40	Duration of SEE/Exam: 03 Hours
Summative Assessment Marks: 60	

Course Outcomes (COs):

At the end of the course, students will be able to:

- Explain the various database concepts and the need for database systems.
- Identify and define database objects, enforce integrity constraints on a database using DBMS.
- Demonstrate a Data model and Schemas in RDBMS.
- Identify entities and relationships and draw ER diagram for a given real-world problem.
- Convert an ER diagram to a database schema and deduce it to the desired normal form.
- Formulate queries in Relational Algebra, Structured Query Language (SQL) for database manipulation.
- Explain the transaction processing and concurrency control techniques.

Database Management Systems (DBMS)

Unit	Description	Hours
1	Database Architecture: Introduction to Database system applications. Characteristics and Purpose of database approach. People associated with Database system. Data models. Database schema. Database architecture. Data independence. Database languages, and classification of DBMS.	10
2	E-R Model: Entity-Relationship modeling: E – R Model Concepts: Entity, Entity types, Entity sets, Attributes, Types of attributes, key attribute, and domain of an attribute. Relationships between the entities. Relationship types, roles and structural constraints, degree and cardinality ratio of a relationship. Weak entity types, E -R diagram.	10
3	Relational Data Model: Relational model concepts. Characteristics of relations. Relational model constraints: Domain constrains, key constraints, primary & foreign key constraints, integrity constraints and null values. Relational Algebra: Basic Relational Algebra operations. Set theoretical	12

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4	<p>SQL and Data Normalization: SQL – DML, DDL, DCL and TCL commands, Aggregate Functions and Grouping. Nested Sub Queries, Views. Normalization - Anomalies in relational database design. Decomposition. Functional dependencies. Normalization. First normal form, Second normal form, Third normal form. Boyce-Codd normal form.</p>	10
5	<p>Introduction to PL/SQL programming: Introduction to PL/SQL • Features and Advantages, PL/SQL Blocks - basic syntax, Variables and their scope, Constants, Literals, Data Types, Operators, Executable Statements.</p> <p>Control Execution Flow • Conditional Control: IF Statements • CASE Statements • Iterative Control: Basic Loops -WHILE and FOR Loops, Reverse FOR LOOP Statement, Nested Loops, Labeling a PL/SQL Loop, exception handling.</p> <p>STRINGS: Declaring String Variables, String Functions and Operators, ARRAYS: Creating a Varray Type. Cursors - Implicit and Explicit Cursors, Cursor Attributes, parameterized Cursor, Functions and procedure – syntax and usage.</p>	10

References:

1. Fundamentals of Database Systems, Ramez Elamassri, Shankant B. Navathe, 7th Edition, Pearson, 2015
2. An Introduction to Database Systems, Bipin Desai, Galgotia Publications, 2010.
3. Introduction to Database System, C J Date, Pearson, 1999.
4. Database Systems Concepts, Abraham Silberschatz, Henry Korth, S.Sudarshan, 6th Edition, McGraw Hill, 2010.
5. Database Management Systems, Raghu Rama Krishnan and Johannes Gehrke, 3rd Edition, McGraw Hill, 2002
6. Oracle Database 11G PL/SQL Programming


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Course Code: DSC-4Lab	Course Title: DBMS LAB
Course Credits: 02	Hour of Teaching/Week: 04
Total Contact Hours: 52	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 03

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Formulate query, using SQL, solutions to a broad range of query and data update problems
- using SQL in database creation and interaction
- Design a commercial relational database system (Oracle, MySQL) by writing SQL using the system
- Use a desktop database package to create, populate, maintain, and query a database.
- Analyze an information storage problem and derive an information model expressed in the form and views
- Formulate PL SQL query blocks using cursor

Programming Lab

PART A: SQL Queries

1. Implementation of DDL and DML commands of SQL with suitable examples
 - a) Create table b) Alter table c) Drop Table 4) Insert 5) Update 6) Delete
2. Implementation of different types of constraints.
3. Implementation of different types of Joins
 - a) Inner Join b) Outer Join c) Natural Join
4. Study and Implementation of
 - a) Group By & having clause b) Order by clause
5. Implementation of Views
6. Execute DCL and TCL Commands

PART B: PL/SQL

1. Create a library table with attributes book id, author_name, publisher, price and edition. Write PL/SQL code block to accept the publisher's name and count number of books under that publisher and display it. Also display the publisher with maximum publication.
2. Write a function to display employee name with distinct salaries
For eg.
if a 's salary is 100
b 's salary is 200
c 's salary is 100 display either (a or c) and b
3. Write a function to rank the employees based on their salary (use RANK function)
4. Write a function to validate the Employee email id.
5. Write a procedure to capture the error log in a table in case of an exception using


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autonomous transaction, from employee table, store ename and salary in varrays and display the contents of the arrays in table format.

6. Write an Anonymous block which raise a user defined exception on Thursday?
7. Write a PL/SQL cursor program which is used to calculate total salary from emp table
8. without using sum () function?

Evaluation Scheme for Lab Examination

Assessment Criteria		Marks
Program -1 from Part A	Write up of the program -1	5
Program -2 from Part B	Write up of the program -2	5
Execution and formatting (Any one program)		10
Viva Voce based on Lab Activities		05
Total		25


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Syllabus for Open Electives in Computer Science:

Course Code: CSOE-1	Course Title: Computer Fundamentals
Course Credits: 03	Hour of Teaching/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03


Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Introduction to computers, classification of computers, anatomy of computer, constituents and architecture, microcontrollers
- Operating systems, functions of operating systems, classification of operating systems, kernel, shell, basics of Unix, shell programming, booting
- Databases, why databases are used, users, SQL, data types in SQL, introduction of queries - select, alter, update, delete, truncate, using where, and or in not in
- Internet basics, features, applications, services, internet service providers, domain name system, browsing, email, searching
- Web Programming basics, introduction of HTML and CSS programming
- Introduction of computers, classification of computers, anatomy of computer, constituents and architecture, microcontrollers.

Course Content

Content	Hours
Unit - 1	
Fundamentals of Computers: Introduction to Computers - Computer Definition, Evolution and History of Computers, Basic Organisation of a Digital Computer; Number Systems – different types, conversion from one number system to another; Computer Codes – BCD, Gray Code, ASCII and Unicode; Boolean Algebra – Boolean Operators with Truth Tables; Types of Software – System Software and Utility Software; Computer Languages - Machine Level, Assembly Level & High Level Languages, Translator Programs – Assembler, Interpreter and Compiler; Planning a Computer Program - Algorithm, Flowchart and Pseudo code with Examples(at least 5 hours of teaching .	10
Unit-2	


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<p>Introduction to Computer: Characteristics of computers, Classification of Digital Computer Systems: Microcomputers, Minicomputers, Mainframes, Super computers.</p> <p>Anatomy of Computer: Introduction, Functions & Components of a Computer, Central Processing Unit, Storage units, Input and output Devices. How CPU and memory works. Program execution with illustrative examples. Introduction to microcontrollers.</p>	10
Unit-3	
<p>Operating System Fundamentals: Operating Systems: Introduction, Functions of an operating System, Classification of Operating Systems, System programs, Application programs, Utilities, The Unix Operating System, Basic Unix commands, Microkernel Based Operating System, Booting.</p>	08
Unit-4	
<p>Introduction to Database Management Systems: Database, DBMS, Why Database - File system vs DBMS, Database applications, Database users, Introduction to SQL, Data types, Classification of SQL-DDL with constraints, DML, DCL, TCL</p>	08
Unit-5	
<p>Internet Basics: Introduction, Features of Internet, Internet application, Services of Internet, Logical and physical addresses, Internet Service Providers, Domain Name System.</p> <p>Web Basics: Introduction to web, web browsers, http/https, URL, HTML5, CSS</p>	06

Text Books:

1. Pradeep K. Sinha and Priti Sinha: Computer Fundamentals (Sixth Edition), BPB Publication
2. David Riley and Kenny Hunt, Computational thinking for modern solver, Chapman & Hall/CRC,

Reference:

1. J. Glenn Brook shear, "Computer Science: An Overview", Addison-Wesley, Twelfth Edition,
2. R.G. Dromey, "How to solve it by Computer", PHI,


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Course Code: CSOE-2	Course Title: Problem Solving and C Programming Concepts
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03 Hours

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

1. Introduction to computers, classification of computers, anatomy of computer, constituents and architecture, microcontrollers
2. Operating systems, functions of operating systems, classification of operating systems, kernel, shell, basics of Unix, shell programming, booting
3. Databases, why databases are used, users, SQL, data types in SQL, introduction of queries - select, alter, update, delete, truncate, using where, and or in not in
4. Internet basics, features, applications, services, internet service providers, domain name system, browsing, email, searching
5. Web Programming basics, introduction of HTML and CSS programming
6. Introduction of computers, classification of computers, anatomy of computer, constituents and architecture, microcontrollers.

Course Content

Content	Hours
Unit - 1	
Problem Solving Techniques: Problem solving techniques – problem definition, analysis, design, debugging, testing, documentation and maintenance. Design Tools - ALGORITHM: definition, characteristics, advantages and disadvantages. FLOWCHART - definition, symbols, advantages and disadvantages. Writing an algorithm and flowchart: Area of circle, arithmetical operations, simple interest and compound interest, quadratic equation, largest of three numbers, sum of N natural numbers, factorial of number, Fibonacci series, prime number, reverse a given number, evaluation of series like $\sin(x)$, $\cos(x)$, e^x , $\log(x)$ etc.	10
Unit-2	

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<p>Introduction to C Programming: Overview of C; History and Features of C; Structure of a C Program with Examples; Creating and Executing a C Program; Compilation process in C.</p> <p>C Programming Basic Concepts: C Character Set; C tokens - keywords, identifiers, constants, and variables; Data types; Declaration & initialization of variables; Symbolic constants, Formatted I/O functions - printf and scanf,</p>	10
Unit-3	
<p>C Operators & Expressions: Arithmetic operators; Relational operators; Logical operators; Assignment operators; Increment & Decrement operators; Bitwise operators; Conditional operator; Special operators; Operator Precedence and Associativity; Evaluation of arithmetic expressions; Type conversion.</p>	08
Unit-4	
<p>Decision making, branching and looping: Decision making - if and if-else statement, nested if, else if ladder, switch statements, conditional operator, goto statement. Looping - while, do-while and for, nested for. break and continue statements. Programs on these concepts.</p>	08
Unit-5	
<p>Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays - Declaration, Initialization and Memory representation.</p>	06

References:

1. Computer Concepts and Programming, Padma Reddy
2. Let us C , Yashwanth Kanetkar
3. Ansi C, Balagurusamy
4. Problem solving with C, M. T. Somashekara and D. S. Guru


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Course Code: CSOE03	Course Title: Office Automation
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03 Hours

Course Content

Content	Hours
Unit - 1	
Windows Desk top - GUI: Definition, Standards, Cursors/Pointers, Icons, GUI Menus, GUI-Share Data – Desktop icons and their functions: My computer, My documents, Network neighbourhood, Recycle Bin, Quick launch tool bar, System tray, Start menu, Task bar – Dialog Boxes: List Box, Spin Control Box, Slide, Drop-down list, Radio button, Check box, Text box, Task Bar - System Tray - Quick launch tool bar - Start button - Parts of Windows -Title bar-Menu bar - Scroll bar-Status bar, Maximize, Minimize, close and Resize & Moving a Window – Windows - Start Menu –Help Menu- Preview Menu; Logoff & Shutdown – Keyboard Accelerators: Key board short keys or hotkeys	06
Unit-2	
MS Word - Working with Documents -Opening & Saving files, Editing text documents, Inserting, Deleting, Cut, Copy, Paste, Undo, Redo, Find, Search, Replace, Formatting page & setting Margins, Converting files to different formats, Importing & Exporting documents, Sending files to others, Using Tool bars, Ruler, Using Icons, using help, Formatting Documents - Setting Font styles, Font selection- style, size, colour etc, Type face - Bold, Italic, Underline, Case settings, Highlighting, Special symbols, Setting Paragraph style, Alignments, Indents, Line Space, Margins, Bullets & Numbering. Setting Page style - Formatting Page, Page tab, Margins, Layout settings, Paper tray, Border & Shading, Columns, Header & footer, Setting Footnotes & end notes – Shortcut Keys; Inserting manual page break, Column break and line break, creating sections & frames, Anchoring & Wrapping, Setting Document styles, Table of Contents, Index, Page Numbering, date & Time, Author etc., Creating Master Documents, Web page. Creating Tables- Table settings, Borders, Alignments, Insertion, deletion, Merging, Splitting,	10

<p>Sorting, and Formula, Drawing - Inserting ClipArt, Pictures/Files etc., Tools – Word Completion, Spell Checks, Mail merge, Templates, Printing Documents – Shortcut keys.</p>	
<p>Unit-3</p>	
<p>MS Excel: Spread Sheet & its Applications, Opening Spreadsheet, Menus - main menu, Formula Editing, Formatting, Toolbars, Using Icons, Using help, Shortcuts, Spreadsheet types. Working with Spreadsheets- opening, saving files, setting Margins, converting files to different formats (importing, exporting, sending files to others), Spread sheet addressing - Rows, Columns & Cells, Referring Cells & Selecting Cells – Shortcut Keys. Entering & Deleting Data- Entering data, Cut, Copy, Paste, Undo, Redo, Filling Continuous rows, columns, highlighting values, Find, Search & replace, Inserting Data, Insert Cells, Column, rows & sheets, Symbols, Data from external files, Frames, Clipart, Pictures, Files etc, Inserting Functions, Manual breaks, Setting Formula - finding total in a column or row, Mathematical operations (Addition, Subtraction, Multiplication, Division, Exponentiation), Using other Formulae. Formatting Spreadsheets, Formatting layout for Graphics, Clipart etc., Worksheet Row & Column Headers, Sheet Name, Row height & Column width, Visibility - Row, Column, Sheet, Security, Sheet Formatting & style, Sheet background, Colour etc, Borders & Shading – Shortcut keys. Working with sheets – Sorting, Filtering, Validation, Consolidation, and Subtotal. Creating Charts - Drawing. Printing. Using Tools</p>	<p>10</p>
<p>Unit-4</p>	
<p>MS Power point: Introduction to presentation – Opening new presentation, Different presentation templates, Setting backgrounds, Selecting presentation layouts. Creating a presentation - Setting Presentation style, Adding text to the Presentation. Formatting a Presentation - Adding style, Colour, gradient fills, Arranging objects, Adding Header & Footer, Slide Background, Slide layout. Adding Graphics to the Presentation- Inserting pictures, movies, tables etc into presentation, Drawing Pictures using Draw. Adding Effects to the Presentation- Setting Animation & transition effect. Printing Handouts, Generating Standalone Presentation viewer.</p>	<p>10</p>


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Unit-5	
Internet and Web Browsers: Definition of Web Addressing-URL-Different types of Internet Connections; Dial up connection, Broad band (ISDN, DSL, Cable), Wireless (Wi-Fi, WiMax, Satellite, Mobile) naming convention, browsers and its types, internet browsing, searching - Search Engines - Portals - Social Networking sites- Blogs - viewing a webpage, downloading and uploading the website; Creating an email-ID, e-mail reading, saving, printing, forwarding and deleting the mails, checking the mails, viewing and running file attachments, addressing with cc and bcc.	06

References:

1. Fundamentals of computers - V.Rajaraman - Prentice- Hall of india
2. Microsoft Office 2007 Bible - John Walkenbach,Herb Tyson,Faithe Wempen,cary N.Prague,Michael R.groh,Peter G.Aitken, and Lisa a.Bucki -Wiley India pvt.ltd.
3. Computer Fundamentals - P. K. Sinha Publisher: BPB Publications.
4. Computer & Internet Basics Step-by-Step - Etc-end the Clutter - Infinity Publishing.
5. <https://en.wikipedia.org>
6. <http://windows.microsoft.com/en-in/windows/windows-basics-all-topics>


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Open Elective

THIRD SEMESTER :

ELECTRONIC COMMERCE

Course Code: CSOE04	Course Title: E-Commerce
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03 Hours

Course Outcomes (COs):

- Compare how internet and other information technologies support business processes.
- Demonstrate an overall perspective of the importance of application of internet technologies in business administration
- Explain the basic business management concepts.
- Demonstrate the basic technical concepts relating to E-Commerce.
- Identify the security issues, threats and challenges of E-Commerce.

Content	Hours
Unit - 1	
Introduction to E-Commerce and Technology Infrastructure	9
Working of Web - HTML Markup for Structure - Creating simple page - Marking up text - Adding Links - Adding Images - Table Markup - Forms – HTML	
Unit-2	
Building an E-Commerce Website, Mobile Site and Apps: Systematic approach to build an E-Commerce: Planning, System Analysis, System Design, Building the system, Testing the system, Implementation and Maintenance, Optimize Web Performance – Choosing hardware and software – Other E-Commerce Site tools – Developing a Mobile Website and Mobile App	10
Unit-3	
E-Commerce Security and Payment Systems: E-Commerce Security Environment – Security threats in E-Commerce – Technology Solutions: Encryption, Securing Channels of Communication, Protecting Networks,	09

Protecting Servers and Clients – Management Policies, Business Procedure and Public Laws- Payment Systems	
Unit-4	
Business Concepts in E-Commerce: Digital Commerce Marketing and Advertising strategies and tools – Internet Marketing Technologies – Social Marketing – Mobile Marketing – Location based Marketing – Ethical, Social, Political Issues in E-Commerce	09
Unit-5	
Project Case Study: Case Study: Identify Key components, strategy, B2B, B2C Models of E-commerce Business model of any e-commerce website - Mini Project : Develop E-Commerce project in any one of Platforms like Woo-Commerce, Magento or OpenCart	05

Text Book:

1. Kenneth C. Laudon, Carol Guercio Traver - E-Commerce, Pearson, 10th Edition, 2016

References:

1. <http://docs.opencart.com/>
2. <http://devdocs.magento.com/>
3. <http://doc.prestashop.com/display/PS15/Developer+tutorials>
4. Robbert Ravensbergen, –Building E-Commerce Solutions with Woo Commerce||,PACKT, 2nd Edition


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WEB DESIGNING

Course Code: CSOE05	Course Title: Web Designing
Course Credits: 03	Hours/Week: 03
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 03 Hours

Course Outcomes (COs):

- Students can understand the basics of internet technology.
- Demonstrate the various tags useful to create a web page.
- Write HTML and understand how to effectively implement it in the web environment.
- Write CSS effectively to create well organized, styled web pages.

Content	Hours
Unit - 1	
Internet Basics: Basic concepts, communicating on the Internet, Internet Domains, Internet server identities – Registering a virtual domain with inter NIC, Domain Name Extension, establishing connectivity on the internet, Client IP Address – How Client IP Address are assigned, How ISPs achieve the task of assigning IP Address, How IP Address came into existence, A brief overview of TCP/IP and its services – Internet Protocol, Transmission control protocol – world wide web, FTP, Telnet.	08
Unit-2	
Introduction to HTML - Information files creation, Web server, Web browser – understanding how a browser communicates with a web server, establish connection, Client issues a request and sends a response, server terminates the connection.	10
Unit-3	
HTML: HTML tags, Paired tags, Singular tags, Structure of HTML program – Head, Body, Title and footers, Text Formatting tags – Paragraph breaks, line breaks, Head styles, Drawing Lines, Text Styles – Bold, Italic, Underline, Centering (Text, Images., etc). Lists: Types of Lists: Unordered list (Bullets), Ordered list (Numbering), Definition list Adding Graphics to HTML document: Using the border attribute, width and height attribute, align attribute, alt attribute. Tables: Introduction, the caption tag, Using the width and border attribute, cellpadding attribute, cellspacing attribute, the background-color property, the colspan and Rowspan attribute.	08

Unit-4	
Linking Documents: External document references, Internal document references, hyper linking to a HTML FILE, Images as Hyperlinks. Frames: Introduction to frames- frameset tag, frame tag	08
Unit-5	
Dynamic HTML(DHTML): CSS (Cascading Style Sheets) – Font attributes, color and background attributes, Text attribute, Border attribute, Margin attributes, List attribute, Using the span and div tags, External Style Sheets.	08

Text Book:

- 1.HTML, JavaScript, DHTML and PHP – Ivan Bayross 4th edition

References:

- 1.<https://www.w3schools.com/TAg/default.asp>
- 2.<https://w3schools.sinsixx.com/dhtml/>
- 3.Web Design With HTML & CSS: HTML & CSS Complete Beginner's Guide – Prem Kumar


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Pattern of continuous Evaluation and Semester End Examination

Total Marks for each course = 100

Continuous assessment (C1) = 20 marks

Continuous assessment (C2) = 20 marks

Semester End Examination (C3) = 60 marks

i. Formative evaluation process (Internal Assessment).

a. The first component (C1) of assessment is for 20 marks. This shall be based on tests, assignments, seminars, case studies, fieldwork, project work etc. This assessment and score process should be completed after completing 50% of the syllabus of the course/s and within 45 working days of the semester program.

b. The second component (C2) of assessment is for 20 marks. This shall be based on the test, assignment, seminar, case study, fieldwork, internship / industrial practicum/project work etc. This assessment and score process should be based on the completion of the remaining 50 per cent of the syllabus of the courses of the semester.

Summative evaluation process (Semester End theory Examination).

During the 17th – 19th week of the semester, a semester-end examination shall be conducted by the University for each course. This forms the third and final component of assessment (C3) and the maximum marks for the final component will be 60 marks.

Practical Examination: For the practical course of full credits, marks shall be for **50 marks** awarded as follows

Internal Assessment for 25 Marks: 15 Marks for maintaining Practical record and 10 marks for practical test. Test shall be conducted after the completion of Practical Classes.

End Semester Practical Examination: End Semester Practical examination shall be conducted for 25 marks.


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SYLLABUS FOR FIRST TWO SEMESTERS OF BA
AND
BA HONORS
In
ECONOMICS

BA (Hons) Economics

Semester 1

DSC 1.2: Basic Economics – I (Economic Analysis -I) 3 credits

Course Outcomes:

By the end of the course the student will be able to:

1. Identify the facets of an economic problem.
2. Learn basic economic concepts and terms.
3. Explain the operation of a market system;
4. Analyse the production and cost relationships of a business firm;
5. Evaluate the pricing decisions under different market structures; and
6. Use basic cost-benefit calculations as a means of decision making (i.e., thinking like an economist)

Content of Basic Economics 1	42 Hrs
Unit – 1 Basic Concepts in Economics	14
Chapter No. 1 Nature and Scope of Economics <ul style="list-style-type: none">• Meaning of Economics• Nature of Economics• Scope of Economics• Methods of Economics• Why Study Economics?	5
Chapter No. 2 Thinking Like an Economist <ul style="list-style-type: none">• Thinking Like an Economist• The Economist as Scientist• The Economist as Policy Adviser• Economic Policy	4
Chapter No. 3 Economic System <ul style="list-style-type: none">• Types of Economic Activities• Organisation of Economic Activities• Circular Flow of Economic Activities• Evolution of the Present Economic Systems Practicum: 1. Group Discussions on Choice Problem 2. Assignment on Types of Economic Systems	5
Unit – 2 Demand, Supply and Markets	14
Chapter No. 4. Firms and Household <ul style="list-style-type: none">• Meaning of Firms and Household• Relationship Between Firms and Household• Input Markets• Output Markets	4
Chapter No. 5. Demand and Supply <ul style="list-style-type: none">• Individual Demand• Market Demand• Demand Determinants• Supply and its Determinants• Market Equilibrium	5

<p>Chapter No. 6. Elasticity and its Measurement</p> <ul style="list-style-type: none"> • Types of Elasticity of Demand • Price, Income and Cross Elasticities • Measurement of Elasticity of Demand • Determinants of Elasticity of Demand <p>Practicum: 1. Estimation of demand and supply elasticities 2. solving an equilibrium problem</p>	5
<p>Unit – 3 Cost and Market Structures</p>	14
<p>Chapter No. 7 Production and Costs</p> <ul style="list-style-type: none"> • Production Function • Total Production Cost • Marginal Production Cost • Average Production Cost • Revenue Functions 	4
<p>Chapter No. 8. Accounting and Economic Costs</p> <ul style="list-style-type: none"> • Cost in the Short run • Fixed Costs and Variable Costs • Marginal Costs • Long run AC and MC • TR, MR, AR 	5
<p>Chapter No. 9. Market Structures</p> <ul style="list-style-type: none"> • Markets • Perfect and Imperfect Competition • Features of Perfect Competition • Monopoly, Oligopoly and Monopolistic Competition • Pricing Strategies <p>Practicum: 1. Calculation of various costs and comparing them with production concepts; a mini-project can be taken up wherever possible 2. Studying the real-life pricing mechanism through a project/ case studies</p> <p>References (indicative)</p> <ol style="list-style-type: none"> 1. Cohen, A.J. (2020). <i>Macroeconomics for Life: Smart Choices for All? + MyLab Economics with Pearson eText</i> (updated 2nd ed.). Toronto, ON: Pearson Canada Inc. Type: Textbook: ISBN: 9780136716532 2. Cohen, A.J. (2015). <i>Microeconomics for Life: Smart Choices for You + MyLab Economics with Pearson eText</i> (2nd ed.). Toronto, ON: Pearson Canada Inc. Type: Textbook: ISBN: 9780133899368 3. Case Karl E. and Fair Ray C. Principles of Economics, Pearson Education Asia, 2014. 4. Mankiw N. Gregory. Principles of Economics, Thomson, 2013. 5. Stiglitz J.E. and Walsh C.E. Principles of Economics, W.W. Norton & Co, New York, 2011. 	5

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Semester 1

Course Title: DSC 1.3: Contemporary Indian Economy	
Total Contact Hours: 42	Course Credits: 3
Formative Assessment Marks: 40	Duration of ESA/Exam: 3 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 60

Course Pre-requisite(s):

Course Outcomes (COs):

At the end of the course the student should be able to:

- i. Understand the current problems of Indian Economy
- ii. Identify the factors contributing to the recent growth of the Indian economy
- iii. Evaluate impact of LPG policies on economic growth in India
- iv. Analyze the sector specific policies adopted for achieving the aspirational goals
- v. Review various economic policies adopted

Content of Course 1	42 Hrs
Unit – 1 LPG POLICIES, ECONOMIC REFORMS AND AGRICULTURE	14
Chapter No. 1 Recent Issues <ul style="list-style-type: none"> • Genesis and Impact of LPG • India’s population policy • Demographic Dividend • India’s human development in global perspective 	4
Chapter No. 2 Urbanization and governance <ul style="list-style-type: none"> • Urbanization and Smart City Mission • Informal sector • Impact of COVID-19 Pandemic • Atma Nirbhara Bharat Abhiyan 	4
Chapter No. 3 Economic Reforms and Agriculture <ul style="list-style-type: none"> • Agriculture and WTO • Price policy and Subsidies • Commercialisation and Diversification • Public Distribution System • Impact of public expenditure on agricultural growth • Agrarian Crisis, Doubling Farm Incomes, MGNREGS 	6
Practicum <ol style="list-style-type: none"> 1. Mini-project to ascertain the impact of pandemic on lives of different sections of population 2. Field visits to understand the agrarian situation 	
Unit – 2 INDUSTRY, BUSINESS, FISCAL POLICY	14
Chapter No. 4. Industrial Policy <ul style="list-style-type: none"> • New Industrial Policy and changes • Public sector reform • Privatisation and Disinvestment 	4

<ul style="list-style-type: none"> • Competition Policy 	
<p>Chapter No. 5. Business</p> <ul style="list-style-type: none"> • Ease of Doing Business • Performance of MSMEs • Role of MNC's in Industrial Development • Make in India, development of economic and social infrastructure • National Monetization Pipeline <p>(The teacher should include the latest policy of the government)</p> <p>Chapter No. 6. Fiscal Policy</p> <ul style="list-style-type: none"> • Tax, Expenditure, Budgetary deficits • Pension and Fiscal Reforms • Public debt management and reforms • Fiscal Responsibility and Budget Management (FRBM) Act • GST, Fiscal Federalism and Fiscal Consolidation • Recommendations of the Current Finance Commission <p>Practicum: Mini-projects to assess the business climate</p>	5
Unit – 3 MONETARY POLICY, FOREIGN TRADE AND INVESTMENT	
<p>Chapter No. 7 Monetary Policy</p> <ul style="list-style-type: none"> • Organisation of India's money market • Financial sector reforms • Interest rate policy • Review of monetary policy of RBI <p>Chapter No. 8. Money and Capital Markets</p> <ul style="list-style-type: none"> • Working of SEBI in India • Changing roles of the Reserve Bank of India • Commercial banks, • Development Finance Institutions • Foreign banks and Non-banking financial institutions • Analysis of price behaviour in India, Anti-inflationary measures • Demonetization and its impact <p>Chapter No. 9. Foreign Trade and Investment</p> <ul style="list-style-type: none"> • India's foreign trade • India Balance of payment since 1991 • New Exchange Rate Regime: Partial and full convertibility • Capital account convertibility • FDI – Trends and Patterns • New EXIM policy, WTO and India • Bilateral and Multilateral Trade Agreements and Associations <p>Practicum:</p> <ol style="list-style-type: none"> 1. Computation and analysis of Wholesale Price Index, Consumer Price Index: components and trends. 2. Group Discussions on India's trade policies and trade agreements <p>References</p> <ul style="list-style-type: none"> • Bardhan, P.K. (9th Edition) (1999), The Political Economy of Development in India, Oxford University Press, New Delhi. • Bhaduri Amit, (2015), A Model of Development By Dispossession, Fourth Foundation • Byres Terence J. (ed.), (1998), The State, Development Planning and Liberalisation 'in India, Delhi, OUP • Dutt Ruddar and K.P.M Sundaram (2001): Indian Economy, S Chand & Co. Ltd. New 	3 5 6

<p>Delhi.</p> <ul style="list-style-type: none"> • Frankel Francine R., (2004), India's Political Economy, Delhi. OUP Jenkins Rob, 2000, Economic Reform in India, Cambridge, CUP • Jalan, B. (1996), India's Economic Policy- Preparing for the Twenty First Century, Viking, New Delhi. • Joshi Vijaya and L.M.D. Little, (1998), India's Economic Reform 1991-2001, Delhi, OUP. • Kapila Uma: Indian Economy: Policies and Performances, Academic Foundation • Mishra S.K & V.K Puri (2001) "Indian Economy and –Its development experience", Himalaya Publishing House. • Mukharji Rahul (ed.) (2007), India's Economic Transition: The Politics of Reforms, edited by Rahul Mukherji, Oxford University Press , New Delhi. • Stuart and John Harris, (2000), Reinventing India, Cambridge Polity 	
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Pedagogy

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Internal Test	50%
Assignment	20%
Presentation/Project	30%
Total	100

Date

Course Co-ordinator

Subject Committee Chairperson


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Semester I

Course Title: OEC 1.5: Kautilya's Arthashastra (OEC)	
Total Contact Hours: 42	Course Credits: 3
Formative Assessment Marks: 40	Duration of ESA/Exam: 3 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 60

Course Pre-requisite(s): 12th Standard Pass

Course Outcomes (COs):

At the end of the course the student should be able to:

1. This course will enlighten the students about the ancient fundamentals about political and economic constituents, which will frame out a basic land of understanding the modern trends. This will help them to understand the upcoming needs in the area of policy making for states at national and international level.
2. This treatise deals with the science of Governance, so it projects out all the dimensions needed to be understood by students about the present socio-economic and political rules and regulations of the state.

Unit	Description	Hours
I	Chapter 1: Introduction to the Arthashastra, Chapter 2: Various disciplines of Indian Education System, Chapter 3: Place of Kautilya Arthashastra among them,	2 2 2
II	Chapter 4: Importance of science dealing with governance - Introduction to Tantrayuktis – The methods of preparing a compendium, tools and techniques of writing a compendium. Chapter 5: Governance Procedure- Appointment of the ministers, duties of Government superintendents, treasury, spies, royal writ, punishment- Vakparushya and Dandaparushya; Chapter 6: Laws of Inheritance – Determination of forms of Agreements, determination of legal disputes, Division of inheritance, Special shares in inheritance, Distinction between sons	5 5 5
III	Chapter 7: Economic Dimension- Body of income of the state, collection of revenue, duties of a Chamberlin (koshadhyksha), forty ways of embezzlement of the revenue, punishment for the embezzlement of revenue, expenditure, Loss and Profit, Keeping up the Accounts, Recovery of Debts, Deposits of the state, Resumption of the gifts, Remission of Taxes Chapter 8: Political Dimension- Six-fold Policy- War, Combination of Powers, Agreement of Peace with or without definite terms, Double Policy, Circle of States, Conduct of Corporations, Secret means, Plan of treatise, Chapter 9: Defence and Warfare: Planning of different Vyuhas in War	9 9 3
Suggested readings:		
1. Arthashastra of Kautilya by T. Ganapati Shastri, Chaukhambha Surbharti Prakashana, Varanasi,		

India, 2005.

2. Arthashastra of Kautilya by Sri. Vacaspati Gairola, Chaukhambha Vidyabahavan, Varanasi, India, 2013.
3. Kautilya, The Arthashastra by L.N. Rangarajan, Penguin Books Ltd, London.
4. Kautilya's Arthashastra: The Way of Financial Management and Economic Governance, Jaico Publishing House, Mumbai, India.

Pedagogy

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Internal Test	50%
Assignment	20%
Presentation/Project	30%
Total	100

Date

Course Co-ordinator

Subject Committee Chairperson

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Semester 1

Course Title: OEC 1.5: Pre-Reforms Indian Economy (OEC)	
Total Contact Hours: 42	Course Credits: 3
Formative Assessment Marks: 40	Duration of ESA/Exam: 3 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 60

Course Pre-requisite(s): 12th Standard Pass

Course Outcomes (COs):

At the end of the course the student should be able to:

- i. Trace the evolution of Indian Economy
- ii. Identify the structural features and constraints of the Indian economy
- iii. Evaluate planning models and strategy adopted in India
- iv. Analyze the sector specific problems and contributions towards overall economic growth
- v. Review various economic policies adopted

Unit	Description	Hours
I	Features and problems of Indian Economy	15
	Chapter 1: Features of Indian Economy <ul style="list-style-type: none"> • India as a developing economy, • Demographic features • Human Development (HDI), • Problems of Poverty, Unemployment, Inflation, income inequality 	4
	Chapter 2: Issues in Agriculture sector in India <ul style="list-style-type: none"> • Land reforms • Green Revolution • Agriculture marketing in India • Agricultural price policy 	6
	Chapter 3: Industrial and Service Sector <ul style="list-style-type: none"> • Industrial development; • Micro, Small and Medium Enterprises, • Industrial Policy • Performance of public sector in India, • Service sector in India. 	5
	Practicum: 1. Identifying economic problems and their causes; 2. Mini-project on any aspect of Indian agriculture, industry, service and public sectors	
II	Economic Policies	13
	Chapter 4: Planning <ul style="list-style-type: none"> • Mixed Economy • Bombay Plan • Gandhian Model • Nehru Mahalanobis Model • Objectives and achievements of economic planning in India 	5
	Chapter 5: Monetary policy in India <ul style="list-style-type: none"> • Instruments of Monetary Policy 	2

	<ul style="list-style-type: none"> • Black money in India – Magnitude and Impact <p>Chapter 6: Fiscal Policy in India</p> <ul style="list-style-type: none"> • Tax Revenue • Public expenditure • Budgetary deficits • Fiscal reforms • Public debt management and reforms • Centre state Finance Relations and Finance commissions in India. <p>Practicum: Assignment on successes and failures of India’s planning; Monetary and Fiscal Policy instruments</p>	6
III	External sector and Nature of Reforms in India	14
	<p>Chapter 7: India’s foreign trade</p> <ul style="list-style-type: none"> • Salient features • Value, composition and direction of trade • Balance of payments • Goal of self-reliance based on import substitution and protection • Tariff policy • Exchange rate <p>Chapter 8: Post-1991 strategies</p> <ul style="list-style-type: none"> • Stabilisation and structural adjustment packages • Liberalisation Privatisation Globalisation (LPG) Model • Impact of LPG Policies on Indian Economy <p>Chapter 9: NITI Ayog</p> <ul style="list-style-type: none"> • Organization • Functions <p>Practicum: Calculation of BoP and evaluating trade policies; Assignment and group discussion on the impact of LPG Policies</p>	6 6 2
<p>Suggested Readings:</p> <ol style="list-style-type: none"> 1. Dutt Ruddar and K.P.M Sundaram (2001): Indian Economy, S Chand & Co. Ltd. New Delhi. 2. Mishra S.K & V.K Puri (2001) “Indian Economy and –Its development experience”, Himalaya Publishing House. 3. Kapila Uma: Indian Economy: Policies and Performances, Academic Foundation 4. Bardhan, P.K. (9th Edition) (1999), The Political Economy of Development in India, Oxford University Press, New Delhi. 5. Jalan, B. (1996), India’s Economic Policy- Preparing for the Twenty First Century, Viking, New Delhi. 		

Pedagogy

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Internal Test	50%
Assignment	20%
Presentation/Project	30%
Total	100

Date

Course Co-ordinator

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Semester 1

Course Title: OEC 1.5: Development Studies (OEC)	
Total Contact Hours: 42	Course Credits: 3
Formative Assessment Marks: 40	Duration of ESA/Exam: 3 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 60

Course Pre-requisite(s): 12th Standard Pass

Course Outcomes (COs):

At the end of the course the student should be able to:

- i. Graduates will be able to excel in higher studies and/or to succeed in profession.
- ii. Graduates will get a solid foundation of fundamentals required to solve socioeconomic problems and also to pursue higher studies.
- iii. Graduates will demonstrate knowledge to appreciate of the dimensions of contemporary development issues, to generate sensitivity to problems concerning ethics and human values to develop orientation towards effective communication and critical analysis, and to appreciate the interrelationships among disciplines as they relate to everyday realities.
- iv. Graduates will cultivate professional and ethical attitude, effective Communication skills, teamwork skills, multidisciplinary approach, and to facilitate an advanced understanding and appreciation of the principles, methodologies, value systems, and thought processes employed in human inquiries.

Unit	Description	Hrs
I	Development: Meaning and Current Challenges	9
	Chapter 1: Meaning of Development <ul style="list-style-type: none"> • The concept of development, • Growth and Development • Transition from quantitative to qualitative indices 	3
	Chapter 2: Modern economic growth <ul style="list-style-type: none"> • Characteristics of modern economic growth • Regional and global disparities • Common characteristics and dissimilarities among developing countries. 	3
	Chapter 3: Current Development Challenges <ul style="list-style-type: none"> • Inequality • Migration • Conflicts Practicum:	3
II	Approaches to Development	12
	Chapter 4: Development Ethics <ul style="list-style-type: none"> • Concept and meaning • Principles and importance of Development Ethics 	2
	Chapter 5: Assessing Development <ul style="list-style-type: none"> • Per capita income • PQLI • Choice and Capabilities • HDI 	4
	Chapter 6: Approaches of Development <ul style="list-style-type: none"> • Adam Smith 	6

	<ul style="list-style-type: none"> • Marx • Schumpeter • Structuralist approach • Neo-liberalism, IMF and structural adjustment • Capabilities Approach Practicum:	
III	Theories and Current Issues in Development	21
	Chapter 7: Theories of Development <ul style="list-style-type: none"> • Theorizing Development - Modernization Theory, Dependency Theory • Capitalist World System • The evolution of thought on poverty reduction • Colonial Regimes and Their Legacies Chapter 8: The Industrial Revolution <ul style="list-style-type: none"> • Genesis and Spread • International specialization of Labour/Industry • Industrial Labour • ILO and its activities to promote labour standards Chapter 9: Environment and development <ul style="list-style-type: none"> • Increasing degradation of natural environment – water and air pollution and deforestation • Depletion of global commons • Sustainable development - concept and measures • SDGs • Climate Change – Causes, Impact, Measures of Mitigation and Adaptations Practicum:	6 5 10
Suggested Readings: <ol style="list-style-type: none"> 1. Crocker, D. (2008). Ethics and development theory-practice, Ethics of Global Development Agency, Capability, and Deliberative Democracy, 67-106 2. Des Gasper (2008), ‘Denis Goulet and the Project of Development Ethics: Development, 8, 99. 481-9, Elsevier Science, 1, pp.10-26. 3. Drèze, Jean and Amartya Sen(2002), India: Development and Participation, second edition. Oxford: Oxford University Press. 4. Gasper, D. (2004). The ethics of development: From Economism to human development. Edinburgh: Edinburgh University Press 5. Huntington, Samuel (1971), The change to change: Modernization, development and politics. Comparative Politics, 3. 6. Myrdal, Gunnar. (1974), “What is Development?” Journal of Economic Issues 8(4):729-736. 7. Peet, Richard with Elaine Hartwick (2009), Theories of Development: Contentions, Arguments, Alternatives (2nd edition). New York: Guilford. 8. Sen, Amartya (1999) Development as Freedom. New York: Anchor Books. 		

Pedagogy

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Internal Test	50%
Assignment	20%
Presentation/Project	30%
Total	100

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Date

Course Co-ordinator

Subject Committee Chairperson

Semester II

Course Title: DSC 2.2: Basic Economics II	
Total Contact Hours: 42	Course Credits: 3
Formative Assessment Marks: 40	Duration of ESA/Exam: 3 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 60

Course Pre-requisite(s): *Basic Economics I*

Course Outcomes (COs):

At the end of the course the student should be able to:

1. Understand the operation of the overall economic system;
2. Calculate national income and related aggregates
3. Explain the relationship between macroeconomic aggregates;
4. Analyse the nature of business cycles and policies towards controlling them;
5. Evaluate the macroeconomic policies for solving major problems like poverty and unemployment

Unit	Description	Hrs
I	Macroeconomic Concepts and Relationships	12
	Chapter 1: Macroeconomy <ul style="list-style-type: none"> • Introduction to National Income Accounting • Concepts of GDP, GNP and national income • Approaches to calculating GDP, personal income, Nominal and real GDP • Limitations of the GDP concept 	5
	Chapter 2: Monetary economy <ul style="list-style-type: none"> • Characteristics • The demand for money • The supply of money and overall liquidity position • credit creation 	4
	Chapter 3: Inflation <ul style="list-style-type: none"> • Meaning and causes of inflation • Calculating inflation rate • Impact of inflation 	3
	Practicum: 1. Understanding the relationships between various NI concepts used in India's NI accounting; 2. Estimating the components of money supply and interpreting the various price indices	
II	Macroeconomic Challenges and Policies	12
	Chapter 4: Macroeconomic challenges <ul style="list-style-type: none"> • Unemployment • Economic Growth • Business Cycles 	3
	Chapter 5: Monetary Policy <ul style="list-style-type: none"> • Objectives • Instruments 	3
	Chapter 6: Fiscal Policy <ul style="list-style-type: none"> • Public finance vs. Private finance • Fiscal functions and role of government: allocation, distribution and stabilisation • Characteristics of public goods, 	6

	<ul style="list-style-type: none"> Rationale of public provision of public goods Practicum: 1. Reviewing the monetary policy of RBI; 2. A project to identify the nature and causes of poverty and the latest central budget	
III	Public Policy and Globalization	18
	Chapter 7: Poverty and public policy <ul style="list-style-type: none"> Meaning, measurement and types of poverty Poverty alleviation strategies in India 	6
	Chapter 8: International Trade <ul style="list-style-type: none"> The economic basis for trade—absolute advantage and comparative advantage, terms of trade exchange rates Trade Barriers-tariffs, subsidies and quotas Balance of Payments-The current and capital account	9
	Chapter 9: Globalization <ul style="list-style-type: none"> Meaning Importance Pros and cons of Globalization Practicum: Survey on identification of poor; Calculating the components of BoP of India	3
References (indicative) <ol style="list-style-type: none"> Cohen, A.J. (2020). <i>Macroeconomics for Life: Smart Choices for All? + MyLab Economics with Pearson eText</i> (updated 2nd ed.). Toronto, ON: Pearson Canada Inc. Type: Textbook: ISBN: 9780136716532 Cohen, A.J. (2015). <i>Microeconomics for Life: Smart Choices for You + MyLab Economics with Pearson eText</i> (2nd ed.). Toronto, ON: Pearson Canada Inc. Type: Textbook: ISBN: 9780133899368 Case Karl E. and Fair Ray C. <i>Principles of Economics</i>, Pearson Education Asia, 2014. Mankiw N. Gregory. <i>Principles of Economics</i>, Thomson, 2013. Stiglitz J.E. and Walsh C.E. <i>Principles of Economics</i>, W.W. Norton & Co, New York, 2011. 		

Pedagogy

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Internal Test	50%
Assignment	20%
Presentation/Project	30%
Total	100


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Date

Course Co-ordinator

Subject Committee Chairperson

Semester II

Course Title: DSC 2.3: Karnataka Economy	
Total Contact Hours: 42	Course Credits: 3
Formative Assessment Marks: 40	Duration of ESA/Exam: 3 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 60

Course Pre-requisite(s):

Course Outcomes (COs):

At the end of the course the student should be able to:

1. Understand the nature of economic growth and problems of Karnataka state.
2. Explain the process of structural growth in Karnataka economy;
3. Evaluate the policies and programmes undertaken by the Govt. of Karnataka for bringing about socio-economic development

Unit	Description	Hours
I	Characteristics of Karnataka Economy	12
	Chapter 1: State Income	2
	<ul style="list-style-type: none"> • State Domestic Product and PCI • Measures to redress regional imbalances 	
	Chapter 2: Human and Natural Resources	6
	<ul style="list-style-type: none"> • Population • Human Development Index • Poverty and Unemployment– Anti-Poverty and Employment generation Programmes • Functioning of Panchayat Raj Institutions 	
	Chapter 3: Natural Resources in Karnataka	4
	<ul style="list-style-type: none"> • Land, Water, Forest and mineral resources in Karnataka Karnataka Sustainable Development Goals • Karnataka environmental Policy 	
	Practicum:	
II	Agriculture and Industries in Karnataka	18
	Chapter 4: Agriculture in Karnataka	9
	<ul style="list-style-type: none"> • Importance of Agriculture • Problems in Agriculture • Land Reforms • Cropping Pattern • Irrigation • Watershed Development • Dry Land Farming • Farmers Suicide – causes and solutions 	
	Chapter 5: Rural Development	3
	<ul style="list-style-type: none"> • Public Distribution System • Rural Development Programmes. 	
	Chapter 6: Industries in Karnataka	6

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	<ul style="list-style-type: none"> • Major Industries in Karnataka - Problems and Prospects • MSMEs - Problems and Measures • IT Industries in Karnataka • Industrial Finance in Karnataka • Industrial Policy of Karnataka Practicum:	
III	Infrastructure and Finances	12
	Chapter 7: Infrastructure in Karnataka <ul style="list-style-type: none"> • Transportation: Road, Rail, Water and Air Transport • Information and Communication Technology facilities; Chapter 8: Social Infrastructure <ul style="list-style-type: none"> • Drinking Water, Sanitation • Housing • Health and Education • Social Security in Karnataka Chapter 9: State Finance <ul style="list-style-type: none"> • Sources of Revenue: Direct and Indirect Taxes • GST – Impact and Collections • Sharing of Central Taxes and Grand-in-Aid • Expenditure Sources • States Indebtedness • State Finance Commission • State Budget Practicum:	3 4 5

References (indicative)

1. Government of Karnataka, Economic Survey [Various Issues]
2. Planning Department, Annual Publication, Government of Karnataka.
3. Karnataka at Glance, Annual Publication Government of Karnataka.
4. Madaiah M & Ramapriya. Karnataka Economy Growth: Issues and Development, Himalaya Pub., House, New Delhi.
5. Adul Aziz and K.G. Vasanti. (Eds) Karnataka Economy.
6. Government District Development Reports
7. Hanumantha Rao. Regional Disparities and Development in Karnataka.
8. Krishnaiah Gowda H.R. Karnataka Economy, Spandana Publications, Bangalore
9. Nanjundappa D.M. Some Aspects of Karnataka Economy.
10. Puttaswamiah K. Karnataka Economy, Two Volumes

Pedagogy

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Internal Test	50%
Assignment	20%
Presentation/Project	30%
Total	100

Date

Course Co-ordinator

Subject Committee Chairperson

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Semester II

Course Title: OEC 2.5: Contemporary Indian Economy	
Total Contact Hours: 42	Course Credits: 3
Formative Assessment Marks: 40	Duration of ESA/Exam: 3 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 60

Course Pre-requisite(s):

Course Outcomes (COs):

At the end of the course the student should be able to:

- vi. Understand the current problems of Indian Economy
- vii. Identify the factors contributing to the recent growth of the Indian economy
- viii. Evaluate impact of LPG policies on economic growth in India
- ix. Analyze the sector specific policies adopted for achieving the aspirational goals
- x. Review various economic policies adopted

Content of Course	42 Hrs
Unit – 1 LPG POLICIES, ECONOMIC REFORMS AND AGRICULTURE	14
Chapter No. 1 Recent Issues <ul style="list-style-type: none"> • Genesis and Impact of LPG • India’s population policy • Demographic Dividend • India’s human development in global perspective 	4
Chapter No. 2 Urbanization and governance <ul style="list-style-type: none"> • Urbanization and Smart City Mission • Informal sector • Impact of COVID-19 Pandemic • Atma Nirbhara Bharat Abhiyan 	4
Chapter No. 3 Economic Reforms and Agriculture <ul style="list-style-type: none"> • Agriculture and WTO • Price policy and Subsidies • Commercialisation and Diversification • Public Distribution System • Impact of public expenditure on agricultural growth • Agrarian Crisis, Doubling Farm Incomes, MGNREGS 	6
Practicum <ul style="list-style-type: none"> 3. Mini-project to ascertain the impact of pandemic on lives of different sections of population 4. Field visits to understand the agrarian situation 	
Unit – 2 INDUSTRY, BUSINESS, FISCAL POLICY	14
Chapter No. 4. Industrial Policy <ul style="list-style-type: none"> • New Industrial Policy and changes • Public sector reform • Privatisation and Disinvestment • Competition Policy 	4

<ul style="list-style-type: none"> • Frankel Francine R., (2004), India's Political Economy, Delhi. OUP Jenkins Rob, 2000, Economic Reform in India, Cambridge, CUP • Jalan, B. (1996), India's Economic Policy- Preparing for the Twenty First Century, Viking, New Delhi. • Joshi Vijaya and L.M.D. Little, (1998), India's Economic Reform 1991-2001, Delhi, OUP. • Kapila Uma: Indian Economy: Policies and Performances, Academic Foundation • Mishra S.K & V.K Puri (2001) "Indian Economy and –Its development experience", Himalaya Publishing House. • Mukharji Rahul (ed.) (2007), India's Economic Transition: The Politics of Reforms, edited by Rahul Mukherji, Oxford University Press , New Delhi. • Stuart and John Harris, (2000), Reinventing India, Cambridge Polity 	
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Pedagogy

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Internal Test	50%
Assignment	20%
Presentation/Project	30%
Total	100

Date

Course Co-ordinator

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Semester II

Course Title: OEC 2.5: Sustainable Development Goals	
Total Contact Hours: 42	Course Credits: 3
Formative Assessment Marks: 40	Duration of ESA/Exam: 3 Hrs
Model Syllabus Authors:	Summative Assessment Marks: 60

Course Pre-requisite(s):

Course Outcomes (COs):

At the end of the course the student should be able to:

- i. Understand the basic concept of Sustainable Development (SD), the environmental, social and economic dimensions.
- ii. Know the history of the SD idea.
- iii. Be able to discuss the conflicts which are involved in the SD concept on the national as well as on the global scale.
- iv. Be able to discuss the (dis-)advantages of instruments for SD;
- v. Evaluate the sustainable development goals and their attainments

Unit	Description	Hrs
I	Environment, Development and Pollution	15
	Chapter 1: Meaning Characteristics of Environmental Goods and Services <ul style="list-style-type: none"> • Relationship between Environment and Development • Environmental Kuznets Curve – Meaning and Evidence • Sustainable Development – Meaning and Indicators 	3
	Chapter 2: Resource Use and Management <ul style="list-style-type: none"> • Resource Taxonomy – Renewable and nonrenewable resources • Economic Theory of Depletable Resources • Optimal Use of Renewable Resources • Resource Scarcity and Economic Growth – Limits to Growth Model • Tragedy of Commons and common property Resources • Resource Pricing and Resource Conservation 	6
	Chapter 3: Sustainable Development <ul style="list-style-type: none"> • Definitions, Objectives and Principles • Processes and Indicators of Sustainable Development • Approaches and Strategies for Sustainable Development • Environmental accounting Measures 	6
	Practicum: Miniproject on impact of development on local environment	
II	Sustainable Development Goals	10
	Chapter 4: Introduction and History <ul style="list-style-type: none"> • Brundtland Committee Recommendations • Rio Summit and Agenda 21 • SDGs: Goals, Targets and Indicators 	3
	Chapter 5: Government and the SDGs <ul style="list-style-type: none"> • Planning • Localizing the SDGs • SDG Policy Instruments • Industrial Policies and the SDGs 	4
	Chapter 6: Financing the SDGs	3

	<ul style="list-style-type: none"> Types of financing New financing mechanisms and global funds <p>Practicum: Assignments on Progress in attainment of various SDGs in India and her states</p>	
III	Issues in Implementing SDGs	17
	<p>Chapter 7: Means to Realizing the SDGs</p> <ul style="list-style-type: none"> Degrowth and circular economy Sustainable production and consumption Sustainable cities and transportation Sustainable designs, technology, digital revolution and innovation Renewable energy 	8
	<p>Chapter 8: Implementing SDGs</p> <ul style="list-style-type: none"> governance and policy tools openness, participation and accountability, effectiveness and coherence; India's framework for sustainable development 	5
	<p>Chapter 9: Other Issues</p> <ul style="list-style-type: none"> Social business, CSOs, and operations Development Assistance Cross-Border Cooperation <p>Practicum: Group Discussion on case studies on sustainable practices and processes</p>	4
<p>Suggested Readings:</p> <ul style="list-style-type: none"> Baumol, W.J. and W.E. Oates (1988): <i>The Theory of Environmental Policy</i> (2e), CUP, Cambridge. Bhattacharya, R.N. (Ed): <i>Environmental Economics: An Indian Perspective</i>, OUP, New Delhi. Dalby, Simon, et al. <i>Achieving the Sustainable Development Goals: Global Governance Challenges</i>. Routledge, 2019. Day, G.S., and P.J.H. Schoemaker (2011), <i>Innovating in uncertain markets: 10 lessons for green technologies</i>, MIT Sloan Management Review, 52.4: 37-45. Elliott, Jennifer. <i>An introduction to sustainable development</i>. Routledge, 2012. Gagnon, B., Leduc, R., and Savard, L., <i>Sustainable development in engineering: a review of principles and definition of a conceptual framework</i>. Working Paper 08-18, 2008. Hanley, Shogren and White (1997): <i>Environmental Economics in Theory and Practice</i>, Macmillan. Kolstad, C.D. (1999): <i>Environmental Economics</i>, OUP, ND. Pearce, D.W. and R. Turner (1991): <i>Economics of Natural Resource Use and Environment</i>, John Hopkins Press, Baltimore. Sachs, Jeffrey D. <i>The age of sustainable development</i>. Columbia University Press, 2015 Tietenberg, T. (1994): <i>Environmental Economics and Policy</i>, Harper Collins, NY. 		

Pedagogy

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Internal Test	50%
Assignment	20%
Presentation/Project	30%
Total	100

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Name of the Programme: Bachelor of Science (B. Sc)

Course Coe: B. Sc. 1.1

Name of the Course: Microeconomics

Course Credits	Number of Hours per Week	Total No of Teaching Hours
3 Credits	3 Hours	42 Hrs
<p>Course Outcome: On Successful completion of the course, the student will be able to;</p> <ol style="list-style-type: none"> Analyse the economic behaviour of the consumer and the firm Explain the relationship between various variables such as Input and output, cost and output, price of the product and quantity demand and so on Product and Factor pricing under different market structure 		
Unit – 1 : Introduction to Economics, Demand and Supply		14
<p>Chapter-1 introduction to Economics: Nature and scope of economics, Basic Concepts in economics, Importance of study of Economics, Understanding the economy, Mankiw’s ten principles of economics</p>		7
<p>Chapter- 2: Demand: Meaning and Determinants of Demand, the Demand Schedule, The Law of Demand Exceptions to the Law of Demand, Elasticity of Demand: Meaning- Types: Price, Income and Cross Elasticity, Measurement of Elasticity of Demand</p>		6
<p>Chapter- 3: Supply: Concept of Supply, the Law of Supply, and Determinants of Supply.</p>		1
Unit – 2 Theory of Demand and Production function		14
<p>Chapter-4. Cardinal Analysis: Utility: Law of diminishing marginal utility, equi-marginal utility, consumer’s equilibrium, Consumer surplus and its application</p>		3
<p>Chapter-5. Ordinal analysis: Meaning of Indifference curves- Indifference Schedule- Indifference Map, properties of Indifference curves Budget line-Equilibrium position, Income, Price and substitution effects -inferior goods v/s Geffen goods, Samuelson’s revealed preference theory</p>		6
<p>Chapter-6. Production Function Production Function - The Law of Variable Proportion - the Law of Returns to Scale- Least cost combination of Inputs</p>		5
Unit – 3: Cost, Revenue, Price and Output determination under different Markets		14
<p>Chapter No. 7 Cost Concepts, Cost output relationship in the short-run and long-run</p>		4
<p>Chapter No. 8. Concepts of Revenue: Total, Average and Marginal Revenue Curve</p>		1
<p>Chapter No. 9. Price and Output determination under different market: Meaning and features of perfect competitive market, Monopoly, Monopolistic competition and oligopoly, Price and Output determination under these markets</p>		9

Text Books

Name of the Programme: Bachelor of Science (B. Sc)

Course Coe: B. Sc. 1.2

Name of the Course: Mathematical for Economics

Course Credits	Number of Hours per Week	Total No of Teaching Hours
3 Credits	3 Hours	42 Hrs
<p>Course Outcome: On Successful completion of the course, the student will be able to;</p> <ol style="list-style-type: none"> 1. Perform basic operations in Vectors and Matrix algebra. 2. Calculate limits, derivatives and integrals of functions of multiple variables. 3. Calculate Optima for constrained and unconstrained optimization problems encountered in Economics. 		
Unit – 1: Basics of Mathematical Economics, Vectors, Matrices and Their applications		14
Chapter-1 Basics of Mathematical Economics: Nature of Mathematical Economics and its applications in Economic Analysis -Mathematical Model: Variables, Constants, Parameters, Equations and Identities- Sets: Set notation, operations, finite and infinite sets, laws of set operations		5
Chapter-2 Relations and Functions: Ordered pairs, relations and functions - Meaning and types of functions- constant function, polynomial functions, rational functions and non-algebraic functions. Simultaneous Equations- Vectors -vector spaces, linear dependence		4
Chapter-3 Matrices: Matrix Operations- Addition and Subtraction, Matrix Multiplication, Commutative, Associative and Distributive laws-Transpose - Inverse Matrix - Determinants: Properties, Rank of Matrix, Minor, Co-factor - Cramer’s Rule, Derivation and its Applications in Economics		5
Unit – 2: Comparative Statics and Derivatives		14
Chapter- 4. Nature of Comparative Statics, Rate of Change and the Derivative -The concept of limit, limit theorems		3
Chapter-5: Continuity and Differentiability of a function – rules of differentiation of a function, Constant Functions, Linear, Power, Sums and Differences of Functions, Product of Functions, Quotient of Functions, Chain Rule, Exponential and Logarithmic Functions		5
Chapter - 6. Functions of Two or More Variables - Partial Derivatives, Higher Order Partial Derivatives, the Chain Rule and Total Derivatives- Maxima and Minima – One and two variables- Differential Equations- First Order Linear Differential Equations- Nonlinear First Order Differential Equations- Second Order Linear Differential Equations		6
Unit – 3: Integration and Optimization Techniques		14
Chapter - 7 Concept of Integration -Rules of Integration – Definite Integrals – Area and summation – Indefinite Integration.		4
Chapter - 8. Applications integrations in Economic Analysis-Consumers Surplus- Producers surplus-Obtaining primitive function from marginal function		5

Chapter - 9. Concept of optimisation - Unconstrained Optimization - Lagrangian Multiplier, Constrained Optimization.	5
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Text Books

Chiang, A. C. and Wainwright, K., “Fundamental Methods of Mathematical Economics”, McGraw-Hill/Irwin, 4th Edition, 2005.

Sydsaeter, K and Hammond, P., Mathematics for Economic Analysis, Pearson Educational Asia, 4th Edition, 2002.

References

Allen R.G.D., (2015) Mathematical Analysis for Economists, Macmillan.

Bose D., (2003) An Introduction of Mathematical Economics, Himalaya Publishing House, Mumbai.

Sydsaeter, K and Hammond, P., Mathematics for Economic Analysis, Pearson Educational Asia, 4th Edition, 2002.

Dowling, E. T., “Introduction to Mathematical Economics”, McGraw-Hill, 2001.

Hoy, M., Livernois, J. McKenna, C, Rees, R. and Stengos, T., “Mathematics for Economics”, MIT Press, 3rd Edition, 2011

Yamane Taro, (2002) Mathematics for Economists - An Implementer Analysis, Phi Learning Publishers.

Pedagogy: Classroom lecture, tutorials, Problem solving exercise

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Continuous & Comprehensive Evaluation (CCE)	10 Marks
Internal Assessment Test (IAT)	20 Marks
Semester End Exam (SEE)	70 Marks
Total	100 Marks

Date

Course Co-coordinator

Subject Committee Chairperson


Principal
D.V.S. College of Arts & Science
Shimoga.

Name of the Programme: Bachelor of Science (B. Sc)

Course Coe: B. Sc. 2.1

Name of the Course: Macroeconomics

Course Credits	Number of Hours per Week	Total No of Teaching Hours
3 Credits	3 Hours	42 Hrs
<p>Course Outcome: On Successful completion of the course, the student will be able to;</p> <ol style="list-style-type: none"> 1. Explain the concept of National Income and methods of its estimation 2. Analyse the relationship between Macroeconomic variables 3. Understand the determination of income and employment under Classical and Keynesian framework 		
Unit – 1: Introduction to Macroeconomics and National Income accounting		14
<p>Chapter-1: Introduction to Macroeconomics: Nature of Macroeconomics and its significance, Indicators of Macro Economic Activity - Key Concepts: Stock and flow variables.</p>		3
<p>Chapter-2 Building blocks of Macroeconomic Analysis: Aggregate Demand (AD) curve, Aggregate Supply (AS) curve, Sources of shift in AD an AS, Equilibrium in National Income and Price level, Unemployment and National Income, Inflation and Unemployment, Circular flow of Income, Goods market and Money Market</p>		4
<p>Chapter-3 National Income Accounting: Measurement of Macro Variables and Economic Performance: National Income Accounting - <i>Important Concepts:</i> GNP, GDP, NNP, NDP, NI, PI, DPI- Real GDP versus Nominal GDP- GDP deflator- <i>Method of estimating National Income-</i> Expenditure Method- Income method-Value added or Net Product method- Difficulties in National Income Accounting- Trends in GDP in India -GNP and Quality of Life - Net Economic Welfare - Green Income.</p>		7
Unit – 2: Classical and Keynesian Macroeconomics		14
<p>Chapter- 4. Classical Theory: Introduction to classical theory of employment - Basic Assumptions of the Classical School- Say’s law of Market- Determinants of Output, Employment, Savings, Investment, Wages, Prices, Interest Rate - Equilibrium Output and Employment-Implications of Classical Full-Employment Model-Critical Evaluation.</p>		5
<p>Chapter - 5. Keynesian Macroeconomics: Principle of effective demand- Keynesian theory of output, income and employment- Equilibrium Income and Output in Simple Two Sector Model, Three Sector & Four Sector Models</p>		4
<p>Chapter- 6: Keyes Psychological law of consumption- An Overview of Post Keynesian theories of consumption: absolute income, relative income, permanent income & life cycle hypothesis- Multiplier and Accelerator Analysis -Marginal Efficiency of Capital- Relevance and Critique of Keynesian Macroeconomics</p>		5
Unit – 3 Recent Debates in Macroeconomics		14

Chapter - 7 Supply side Economics	4
Chapter - 8. Money market and Goods market equilibrium-IS-LM model-Business cycle- Concept and theories	5
Chapter - 9. Macroeconomic policies; Monetary Policy and Fiscal Policy-Relative effectiveness of monetary and fiscal policy	5

Text Books

Ahuja H L (2013) Macroeconomics: Theory and Policy, S Chand & Company Pvt Ltd. New Delhi

Mankiw N. Gregory, (2012) Macroeconomics, Worth Publishers, New York.

Shapiro Edward, (2004) Macroeconomic Analysis, Galgotia Publications Pvt. Ltd, New Delhi.

References

Ackley Gardner, (1978) Macroeconomics: Theory and Policy, Macmillan, New York

Dornbusch, R., Fischer, S. and Startz, R., "Macroeconomics", McGraw-Hill, 11th Ed 2010

D'Souza E., "Macroeconomics", Pearson Education, 2009

Froyen Richard T. (2013) Macroeconomics-Theories and Policies, Macmillan Pub., Company, NY.

Hubbard R. Glenn and Anthony Patrick O'Brien, (2012) Macroeconomics, Pearson Prentice, New Jersey, USA.

Oliver Blanchard, (2016) Macroeconomics, Pearson Prentice Hall, New Jersey, USA.

Pedagogy : Classroom lecture, tutorials, Seminar and Case analysis

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Continuous & Comprehensive Evaluation (CCE)	10 Marks
Internal Assessment Test (IAT)	20 Marks
Semester End Exam (SEE)	70 Marks
Total	100 Marks

Date

Course Co-coordinator

Subject Committee Chairperson


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Name of the Programme: Bachelor of Science (B. Sc)

Course Coe: B. Sc. 2.2

Name of the Course: Statistics for Economics

Course Credits	Number of Hours per Week	Total No of Teaching Hours
3 Credits	3 Hours	42 Hrs
<p>Course Outcome: On Successful completion of the course, the student will be able to;</p> <ol style="list-style-type: none"> 1. Calculate basic descriptive and inferential statistics. 2. Interpret descriptive and inferential statistics. 3. Explain the process of hypothesis testing 		
Unit – 1: Basics of Statistics for economics, Measures of central tendency and dispersion		14
<p>Chapter-1 Basics of Statistics for Economics: Why Study Statistics - Importance of Statistics in Economics- Descriptive and Inferential statistics -Data - Elements, Variables, and Observations, Scales of Measurement - Qualitative and Quantitative Data - Cross-Sectional and Time Series data-Data sources - Computers and Statistical Analysis</p>		4
<p>Chapter-2 Measures of Central Tendency: Arithmetic mean, median, mode, Geometric mean and Harmonic mean measurement and applications in Economics</p>		5
<p>Chapter-3 Measures of dispersion- Meaning and significance of measure of dispersion -Measurement and applications of Range , quartile deviation, mean deviation , standard deviation , variance and coefficient of variation</p>		5
Unit – 2 Correlation, Regression, Time Series Analysis and Index Numbers		14
<p>Chapter- 4. Correlation and Regression: Meaning and types of correlation, methods of computation of correlation coefficient –Karl Pearson’s method, Spearman’s rank correlation method- Regression–meaning and importance of regression analysis, simple regression lines and equations and forecasting (two variables only)</p>		6
<p>Chapter - 5. Time Series: Nature and Decomposition of Time Series - Analysis of Trend - Moving Average Method, Least-Square Method</p>		3
<p>Chapter - 6. Index Numbers: Nature and Purpose of Index Numbers - Types of Index Numbers: Price Index - Quantity Index, Link and Chain Index - Simple and Aggregate Index Numbers -Laspyre’s Index, Paasche’s Index, Marshall and Edgeworth's Index - Fisher’s Index – Time- Reversal and Factor Reversal Tests-Deflation and Splicing of Index Numbers - Problems in the Construction of Index Numbers - Limitation of Index Numbers.</p>		5
Unit - 3 Introduction to Probability Distributions and Hypothesis Testing		14
<p>Chapter - 7 Probability: Basic Concepts- Properties of Probability- Expected Values, Conditional Probability Random Variables: Discrete and Continuous</p>		3
<p>Chapter - 8. Probability Distributions - Probability Density Functions and Cumulative Distribution Functions – Expected values and Moments - The</p>		6

Binomial Probability Distribution, Poisson and Normal Distribution	
Chapter - 9. Hypothesis Testing: Meaning of Hypothesis testing-Null and Alternative hypothesis, level of significance, One-tailed and two-tailed tests, Type I, Type II errors - Approaches to Hypothesis Testing - Confidence Interval Approach -Test of Significance Approach	5

Text Books

Gupta S P. (2012) *Statistical Methods*, S. Chand and Company, New Delhi.

References

Anderson, Sweeney & Williams, (2002) *Statistics for Business & Economics*, Thomson South-Western, Bangalore.

Daniel and Terrel: *Business Statistics for Management and Economics*; Hoaghton Mifflin Co., Boston, Toronts, 7th Edition, 1995, PP 1 to 972 + 6 Appendices

Medhi, J., *Statistical Methods: An Introductory Text*, Wiley, 1992

Morris H. Degroot and Mark J. Schervish, "Probability and Statistics", 4th edition, 2012.

Teresa Bradley, *Essential Statistics for Economics, Business and Management*, John Willey Publisher, 2007

Pedagogy: Classroom lecture, tutorials, Problem solving exercise

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Continuous & Comprehensive Evaluation (CCE)	10 Marks
Internal Assessment Test (IAT)	20 Marks
Semester End Exam (SEE)	70 Marks
Total	100 Marks

Date

Course Co-coordinator

Subject Committee Chairperson


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Name of the Programme: Bachelor of Science (B. Sc)

Course Coe: B. Sc. 1.7.3 (OE)

Name of the Course: Managerial for Economics

Course Credits	Number of Hours per Week	Total No of Teaching Hours
3 Credits	3 Hours	42 Hrs
<p>Course Outcome: On Successful completion of the course, the student will be able to;</p> <ol style="list-style-type: none"> Forecast the demand for goods and services Analyse the efficiency of resource use in the production Understand the determination of price and output under different market besides the methods of pricing in practice 		
Content of Course 1		42 Hrs
Unit – 1 Introduction to Managerial economics, Demand analysis and Forecasting		14
<p>Chapter-1: Meaning, nature and scope of Managerial Economics- Organisation of business firms- General Objectives of business firms</p>		3
<p>Chapter-2: Application of Basic Economic Principles to Managerial Problems: Incremental, Discounting, Time Perspective, Opportunity Cost and Equi-Marginal Principle</p>		5
<p>Chapter-3: Demand and its determinants- Elasticity of demand; Meaning, types and determinants-Meaning and Objective Demand Forecasting - Methods of demand forecasting and their usefulness and limitations</p>		6
Unit – 2 : Production Analysis, Cost Analysis and Determination of price		14
<p>Chapter- 4.: Managerial applications of production function- Laws of returns and their applications -Least cost combinations of inputs</p>		
<p>Chapter - 5. Cost concepts and cost function- Cost-output relationship and its usefulness in production decision</p>		
<p>Chapter - 6. Price and output determination in various markets; Perfect competition, monopoly, monopolistic competition and oligopoly</p>		
Unit – 3: Pricing Methods in Practice, Profit Management and Capital Budgeting		14
<p>Chapter – 7: Pricing Methods in Practices: Specific Pricing Problems - Popular Pricing Practices: Cost-Oriented Pricing, Cost-Plus Pricing and Other Price Determinants, Peak - Load Pricing, Price over the Life Cycle of the Product, Penetration Price - Pricing of Multiple Products</p>		5
<p>Chapter – 8: Profit Analysis: Meaning of Profit - Accounting Profit and Economic Profit- Break-Even Analysis - Problems, Break-even Quantity, Break-Even Sales - Targeted Profit, Safety Margin.</p>		5
<p>Chapter – 9: Capital Budgeting: Meaning and Importance - Techniques: Payback Period and Net Present Value (NPV) Method.</p>		4

KUVEMPU UNIVERSITY

**BOARD OF STUDIES (BOS) IN ELECTRONICS
(UNDER GRADUATE PROGRAMME)**

APPROVED SYLLABUS

(To be effective from the academic year 2021-22)

For

I AND II SEMESTER ELECTRONICS PAPERS

of

B.Sc./B.Sc.(HONS.) DEGREE PROGRAMME

[Framed in according with the National Education policy (NEP-2020)
&Based on *Model Electronics Syllabus* prepared by Electronics expert committee,
Karnataka State Higher Education Council, Bangalore]


Syllabus approved in the Board of Studies (BOS) meeting held on 23rd September 2021 at the

Department of Post-Graduate in Physics and Research, Jnana Sahyadri, Shankaraghatta


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CONTENTS

Sl No.	Description	Page No
2	Appendix-1: course pattern and scheme of examination for B.Sc. as per NEP 2020, Internal Assessment Marks	1
3	B.Sc. Degree formative and summative assessments	4
	Syllabus for I semester	
5	ELE-CT 1: Electronic Devices and Circuits	5
6	ELE-CP 1: Electronic Devices and Circuits Lab	9
7	ELE-OE1.1: Renewable Energy and Energy Harvesting	11
8	ELE-OE1.2: Basics of Electronics, Computers and PCB Design	13
	Syllabus for II semester	
9	ELE-CT 2: Analog and Digital Electronics	15
10	ELE-CP 2: Analog and Digital Electronics Lab	18
11	ELE-OE 2.1: Electronics for Everyone	19
12	ELE-OE 2.2: Mobile Communication	22


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APPENDIX- 2: Syllabus

Semester-I

ELE-CT1: ELECTRONIC DEVICES AND CIRCUITS

(Credits: Theory–04, Practical–02) Total Teaching hours:60

Course Objectives

Upon completing the course, ELE-CT1, the student will be able to understand various fundamental principles of network analysis, number systems and Boolean algebra and become familiar with the basic operation of electronic devices and circuits which are the building blocks of all electronic circuits, devices and gadgets.

UNIT-1

15 HOURS

Electronic Components: Electronic passive and active components, types and their properties, Concept of Voltage and Current Sources, electric energy and power. (Qualitative only)

Network Theorems: Superposition, Thevenin's, Norton's, Maximum Power Transfer, DC and AC analysis of RC and RL circuits, RLC series and parallel Resonant Circuits.

PN junction diode: Ideal and practical diodes, Formation of Depletion Layer, Diode Equation and I-V characteristics. Idea of static and dynamic resistance, Zener diode, Reverse saturation current, Zener and avalanche breakdown.

Rectifiers- Half wave and Full wave (center tap and bridge) rectifiers, expressions for output voltage, ripple factor and efficiency (mention only), Shunt capacitor filter. (Numerical examples wherever applicable).


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UNIT-2

15 HOURS

Voltage regulator: Block diagram of regulated power supply, Line and Load regulation, Zener diode as voltage regulator– circuit diagram, load and line regulation, disadvantages. Clippers (shunt type) and clampers (Qualitative analysis only).

Bipolar Junction Transistor: Construction, types, CE, CB and CC configurations (mention only), VI characteristics of a transistor in CE mode, Regions of operation (active, cut off and saturation), leakage currents (mention only), Current gains α , β and y and their inter-relations, dc load line and Q point. Applications of transistor as amplifier and switch circuit and working. (Numerical examples wherever applicable).

UNIT-3

15 HOURS

Transistor biasing and Stabilization circuits- Fixed Bias and Voltage Divider Bias. Thermal run away, stability and stability factor. Transistor as a two-port network, h-parameter equivalent circuit.

Amplifier: Class A, B and C Amplifiers (qualitative). Types of coupling, two stage RC Coupled Amplifier–circuit, working and its Frequency Response, loading effect, GBW product, Darlington transistor.

UNIT-4

15HOURS

Boolean Algebra: Constants, variables, operators, basic logic gates-AND, OR, NOT, Positive and negative logic, Boolean laws, Duality Theorem, De Morgan's Theorem, simplification of Boolean expressions-SOP and POS. Derived logic gates (NAND, NOR, XOR & XNOR). Universal property of NOR and NAND gates. (Numerical examples wherever applicable).


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ELE-CP1: Electronic Devices and Circuits–Lab
(Hardware and Circuit Simulation Software)

Minimum of TEN Experiments to be performed excluding demonstration experiments

1. Verification of Thevenin's and Maximum Power Transfer Theorem.
2. Verification of Superposition Theorem.
3. Study of the I-V Characteristics of (a)p-n junction Diode, and(b)Zener diode.
4. Study of the I-V Characteristics of LED softwood different colors and 7-segmentdisplay.
5. Study of Half wave rectifier without and with shunt capacitor filter–ripple factor for different values of filter capacitors.
6. Study of full wave bridge rectifier without and with shunt capacitorfilter–ripple factor for different values of filter capacitors.
7. Study of Zener diode as a Voltage Regulator using bridge rectifier with shunt capacitor filter [Load and line regulation].
8. Study of Clipping, Clamping and Voltage Multiplier circuits.
9. Study of Transistor characteristics in CE configuration– determination of h-parameters.
- 10.Study of single stage CE amplifier (frequency response, input andoutput impedances in mid-band)
- 11.Study of two- stage RC-coupled CE amplifier (A_{V1} , A_{V2} , A_V) at mid-band frequency.
12. Study of Series and Parallel Resonance circuits–determination of its
 - (a) Resonant frequency
 - (b) Impedance at resonance
 - (c) Bandwidth

(d) Quality Factor

13. Verification of truth tables of OR, AND, NOT, NAND, NOR, XOR and XNOR gates using respective ICs. Realization of XOR and XNOR using basic gates.
14. Universal property of NAND and NOR gates


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ELE-OE1.1: Renewable Energy and Energy Harvesting

(Credits: Theory–02, Tutorial–01)

Total Teaching hours:30

Unit-1

15Hours

Fossil fuels and Alternate Sources of energy: Fossil fuels and nuclear energy, their limitation, need of renewable energy, non-conventional energy sources. An over view of developments in Offshore Wind Energy, Tidal Energy, Wave energy systems, Ocean Thermal Energy Conversion, solar energy, biomass, biochemical conversion, biogas generation, geothermal energy tidal energy, Hydroelectricity.

Solar energy: Solar energy, its importance, storage of solar energy, solar pond, non-convective solar pond, applications of solar pond and solar energy, solar water heater, flat plate collector, solar distillation, solar cooker, solar green houses, solar cell, absorption air conditioning. Need and characteristics of photovoltaic (PV) systems, PV models, equivalent circuits, and sun tracking systems.

Wind Energy harvesting: Fundamentals of Wind energy, Wind Turbines and different electrical machines in wind turbines, Power electronic interfaces, and grid interconnection topologies.

Unit – 2

15 Hours

Ocean Energy: Ocean Energy Potential against Wind and Solar, Wave Characteristics, and Statistics, Wave Energy Devices. Tide characteristics and Statistics, Tide Energy Technologies, Ocean Thermal Energy, Osmotic Power, Ocean Bio-mass.

Geothermal Energy: Geothermal Resources, Geothermal Technologies.

Hydro Energy: Hydro power resources, hydro power technologies, environmental impact of hydro power sources. **Piezoelectric Energy harvesting:** Introduction, Physics and characteristics of piezoelectric effect, materials and mathematical description of piezoelectricity, Piezoelectric parameters and modeling piezoelectric generators, Piezoelectric energy harvesting applications, Human power. **Electromagnetic Energy Harvesting:** Linear generators, physics mathematical models, recent applications, Carbon captured technologies, cell, batteries, power consumption, Environmental issues and Renewable sources of energy, sustainability.

Demonstration Experiments:

30 Hours

1. Demonstration of training modules on solar energy, wind energy etc.
2. Conversion of vibration to voltage using piezoelectric voltages
3. Conversion of thermal energy into voltage using thermoelectric module.

Reference Books:

1. Non-conventional energy sources, B.H.Khan, McGraw Hill.
2. Solar energy, Suhas P Sukhative, Tata McGraw- Hill Publishing Company Ltd.
3. Renewable Energy, Power for a sustainable future, Godfrey Boyle, Oxford University Press.
4. Renewable Energy Sources and Emerging Technologies, Kothari et.al., PHI Learning.
5. Solar Energy: Resource Assessment Handbook, P Jayakumar.
6. J.Balfour, M.Shaw and S.Jarosek, Photovoltaics, Lawrence J Goodrich(USA).
7. http://en.wikipedia.org/wiki/Renewable_energy


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ELE-OE1.2: Basics of Electronics, Computers and PCB Design
(Credits: Theory–02, Tutorial–01) TotalTeachinghours:30

Unit-1

15 Hours

Generation of and distribution of electricity: Mention of hydro electric generator, diesel generator, thermal generator, wind power, solar, ocean waves. Generation of DC power–Mention of batteries. Single phase, two phase and three phase. Transformers. Power transmission and distribution. Domestic electrical wiring–connection from AC line to the meter, sockets, mention of phase neutral and the need of earthing. Mention of electric shock and safety. Mention of power type (ac or dc) and current ratings for home appliances. Mention of tester. Electric motor working principle.

Computer fundamentals: History of computer system, block diagram of a computer system- functions of each units (Input, Output, Memory and CPU), Mention of various input and output devices, Memories - registers, primary memory, secondary memory, cache memory, Software - system software (operating system, program language translators-assembler, interpreter and compiler), utility programs, communication software, performance monitoring software), application software, Software hierarchy and dependence between the different layers, computer languages – Machine, Assembly level and High level, Inverter, Uninterrupted Power supply (UPS) – online and off line UPS, SMPS.

Unit – 2

15Hours

PCB Design: Types of PCB, Single sided board – double sided – Multilayer boards –Plated through holes technology – Benefits of Surface Mount Technology (SMT) –Limitation of SMT– Surface mount components: Resistors, Capacitor, Inductor, Diode and IC's.

LAYOUT AND ART WORK: Layout Planning–General rules of Layout–Resistance, Capacitance and Inductance – Conductor Spacing – Supply and Ground Conductors–Component Placing and mounting–Cooling requirement and package density–Layout check. Basic artwork approaches– Artwork taping guideline–General art work rules–art work check and Inspection.

LAMINATES AND PHOTO PRINTING: Manufacture of copper clad laminates

–Properties of laminates – Types of Laminates – Manual cleaning process – Basic printing process for double sided PCB’s – Photo resists – wet film resists – Coating process for wet film resists – Exposure and further process for wet film resists – Dry film resists.

ETCHING AND SOLDERING: Introduction–Etching machine–Etchant system. Soldering: Principles of Solder connection – Solder joints – Solder alloys–Soldering fluxes. Soldering Tools: Soldering, De soldering tools and Techniques – Man Soldering – Solder mask – Safety, health and medical aspects in Soldering practice.

Demonstration Experiments:

30 Hours

1. Unboxing and assembling of desktop computers
2. Types of motors and transformers used in household appliances
3. Understanding voltage, current, frequency etc. of ac mains.
4. Upgradation of RAM, hard disk and SSD
5. SMPS: Block diagram and working
6. Inverter
7. Types of PCB and fabrication process.

Reference books:

1. Electrical Circuits, K.A.Smithand R.E.Alley, Cambridge University Press.
2. A text book in Electrical Technology -B L Theraja- S Chand &Co.
3. A text book of Electrical Technology-A K Theraja.
4. Performance and design of AC machines-MG Say ELBS Edtion.
5. Basic electrical engineering - V K Mehta and Rohit Mehta, S Chand and Company.
6. Computer fundamentals-Anita Goel, Pearson Edition.
7. Fundamentals of Computers-V Rajaram, Neeharika Adabala-PHI.
8. Computer Fundamentals- Peter Norton, McGraw-Hill Education
9. Walter C. Bosshart “PCB Design and Technology” Tata McGrawHill, Publications, Delhi. 1983.

Semester II
ELE-CT2: ANALOG AND DIGITAL ELECTRONICS
(Credits: Theory–04, Practical–02) Total Teaching hours:60

Course Objectives

Upon completing the syllabus contents of ELE-CT2, the student will become familiar with various working principles of widely used electronic devices, linear and digital ICs which help the students to build small projects and also be able to answer some basic questions that appear in competitive examinations.

UNIT-1

15HOURS

JFET–Types-p-channel and n-channel, working and I-V characteristics-n-channel JFET, parameters and their relationships, Comparison of BJT and JFET.

MOSFET: E–MOSFET, D–MOSFET–n-channel and p-channel, Construction, working, symbols, biasing, drain and transfer characteristics, MOS logic, symbols and switching action of MOS, NMOS inverter, CMOS logic, CMOS – inverter, circuit and working, CMOS characteristics, IGBT construction and working.

UJT - basic construction, working, equivalent circuit and I-V characteristics, intrinsic and-off ratio, relaxation oscillator.

SCR - Construction, VI characteristics, working, symbol, and applications – HWR and FWR.

UNIT-2

15HOURS

Op-Amp: Differential Amplifier, Block diagram of Op-Amp, Characteristics of an Ideal and Practical Op-Amp, Open and closed loop configuration, Frequency Response, CMRR, Slew Rate and concept of Virtual Ground.

Applications of op-amps: Concept of feedback, negative and positive feedback, advantages of negative feedback (Qualitative Study). Inverting and non-inverting amplifiers, Summing and Difference Amplifier, Differentiator, Integrator, Comparator and Zero-crossing detector.

Filters: First and second order active low pass, high pass and band pass Butter worth filters.

Oscillators: Barkhausen criterion for sustained oscillations, Colpitt's oscillator and crystal oscillators using transistor, Phase Shift oscillator, Wien-bridge oscillator – (no derivation for each)

IC 555Timer: Introduction, Block diagram, Astable and Monostable multivibrator circuits. (Numerical Examples wherever applicable)

UNIT-3

15HOURS

Combinational Logic Circuits: Minimization techniques using K-maps - SOP and POS, Minterm, Maxterm, SSOP, SPOS, Simplification of Boolean expressions, K-Map for 3 and 4 variable.

Design of Arithmetic logic circuits: Half Adder, Full Adder, Half Subtractor, Full Subtractor. 4-bit parallel binary adder, 2-bit and 4-bit magnitude comparator. Encoder, decimal to BCD priority encoder. Decoder, 2:4 decoder using AND gates, 3:8 decoder using NAND gates, BCD to decimal decoder, BCD to 7-Segment decoder, Multiplexer - 4:1 and 8:1 multiplexer, De multiplexer - 1:4 and 1:8 demultiplexer – logic diagram and truth table of each.

UNIT 4

15 HOURS

Sequential Logic Circuits: Flip-Flops - SR Latch, RS, D and JK Flip-Flops.

Clocked (Level and Edge Triggered) Flip-Flops. Preset and Clear operations. Race-around conditions in JK Flip-Flop. Master- Slave JK and T Flip-Flops. Applications of Flip-Flops in semiconductor memories, RAM, ROM and types.

Registers and Counters: Types of Shift Registers, Serial-in-Serial-out, Serial-in-Parallel-out, Parallel-in-Serial-out and Parallel-in-Parallel-out Shift Registers (only up to 4 bits), applications. Ring counter, Johnson counter applications. Asynchronous Counters: Logic diagram, Truth table and timing diagrams of 4bit ripple counter, modulo-n counters, 4 bit Up-Down counter, Synchronous Counter:4-bitcounter, Design of Mod 3, Mod 5 and decade Counters using K-maps.


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ELE-CP2: ANALOG AND DIGITAL ELECTRONICS-Lab
(Hardware and Circuit Simulation Software)

PART A (Any FIVE)

1. Study of JFET/MOSFET characteristics–determination of parameters.
2. Study of single stage JFET amplifier. (frequency response and bandwidth)
3. UJT characteristics and relaxation oscillator
4. Design of inverting and non-inverting amplifier using Op-amp & study of frequency response.
5. Op-amp inverting and non-inverting adder, subtractor and averaging amplifier.
6. Study of the zero-crossing detector and comparator.
7. Design and study of first order high-pass and low-pass filters using op-amp.
8. Study of Colpitt's and crystal oscillator using transistor.
9. Astable multivibrator using IC555 timer.
10. Study of SCR Characteristics.

PART B (Any FIVE)

11. Half Adder and Full Adder using (a) logic gates (b) using only NAND gates.
12. Half Subtractor and Full Subtractor (a) logic gates (b) using only NAND gates.
13. 4-bit parallel binary adder & subtractor using IC7485
14. Study of BCD to decimal decoder using IC7447
15. Study of the Encoders and priority encoders.
16. Study of Multiplexer and De multiplexer using ICs.
17. Study of 2-bit and 4-bit magnitude comparators.
18. Study of Clocked RS, D and JK Flip-Flops using NAND gates.
19. Study of 4-bit asynchronous counter using JK Flip-Flop IC7476, modify to decade counter and study their timing diagrams.
20. Study of 4-bit Shift Register –SISO, modification to ring counter using IC -7495.
21. Digital to Analog converter using binary weighted resistor method, determination of resolution, accuracy and linearity error.


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ELE-OE2.1: Electronics for Everyone

(Credits: Theory–02, Tutorial–01)

Total Teaching hours: 30

Unit-1

Timer and PLL: Functional block diagram of 555 timer, Monostable operation and its Application, Astable operation and its applications.

Phase Locked Loop: Functional block diagram–Phase detector/Comparator, Voltage Controlled Oscillator, Low pass filter, Applications: Frequency multiplier/Division, AM detection.

Unit-2

Operational Amplifier: Inverting and non-inverting amplifier, Op-amp parameters, Summing Amplifier, Difference Amplifier, Integrator, Differentiator, Instrumentation Amplifier, Audio Amplifier (LM386), Voltage to current converter, Current to Voltage converter, Sample and Hold circuits.

First order active filters (Circuit diagram and formula only): lowpass, high pass, band pass, band reject and all pass filters. Phase-shift and Wein bridge oscillator using op-amp.

Unit-3

Transducers (Basic Working): Displacement Transducers-Resistive (Potentiometric, Strain Gauges–Types, Gauge Factor, bridge circuits, Semi-conductor strain gauge) Capacitive (diaphragm), Hall effect sensors, magneto-strictive transducers, Microphone, Touch Switch, Piezoelectric sensors, light (photo-conductive, photo-emissive, photovoltaic, semiconductor, LDR), Temperature (electrical and non-electrical), Pressure sensor.

A-D and D-A Conversion: D-A conversion: 4-bit binary weighted resistor type, circuit and working. Circuit of R-2R ladder-Basic concept. A-D conversion characteristics, successive approximation ADC. (Mention the relevant ICs for all).

Unit-4

Data Acquisition using Arduino: Arduino: Birth, Open-Source community, Functional Block Diagram, Functions of each Pin, Arduino Development Boards: IDE, I/O Functions, Looping Techniques, Decision Making Techniques, designing of 1st sketch, Programming of an Arduino (Arduino ISP), Serial port Interfacing, Basic Interfacing and I/O Concept, Interfacing LED, Switch, 7seg LED, different sensors.

SuggestedBooks:

1. B. C. Sarkar and S. Sarkar, Analog Electronics: Devices and Circuits (Revised edition), Damodar Group (Publishers), Burdwan, ISBN:978-93-85775-15-4(2019)
2. Measurement Systems, 4/e, Doebelin McGrawHill, NewYork,1992.
3. Electrical Measurements &Electronic Measurements by A.K.Sawhney
4. B. C. Sarkar and S. Sarkar, Digital Electronics: Circuits and Systems, S UTPrakashani, Burdwan, ISBN:978-81-88391-57-8(2018)
5. Instrumentation- Devices and Systems By Rangan, Sarma, and Mani, Tata-McGrawHill
6. Electronic Instrumentation by H.S Kalsi, McGraw Hill
7. Instrumentation measurements and analysis by Nakra & Choudhary
6. Measurement &Instrumentation- DVS Murthy
7. R.A.Gayakwad, Op-Amps and LinearIC's,Pearson Education(2003)
8. Electronic Sensor Circuits and Projects, IIIVolume, For restMMims, Master Publishing Inc.
9. Timer, OpAmp, and Optoelectronic Circuits &Projects, Forrest MMims, Master Publishing Inc.
10. Exploring Arduino, Jeremy Blum, Wiley
11. Beginning Arduino, Michael McRobetrs, Technology in Action
12. Beginning Arduino Programming, Brian Evans, Technology in Action
13. Practical Arduino Engineering, Harold Timmis, Technology in Action
14. Practical Arduino : Cool Projects for open source hardware, Jonathan Oxer, Hugh Blemings, Technology in Action

Electronics for Everyone Demonstration Lab

(Hardware and Circuit Simulation Software)

30hours

1. Study of basic monostable multivibrator
2. Study of basic Astable multivibrator
3. Light detection using 555timer
4. Rain alarm using 555 timer
5. Motor control by PWM using 555 timer
6. LED flasher circuit using 555 timer

7. Analog light wave Transmitter/Receiver using 555 timer
8. Study of basic inverting and non-inverting amplifier
9. Study of basic integrator circuit
10. Study of basic differentiator circuit
11. Design of first order LPF
12. Study of first order HPF
13. Designing of fiber optic-based Transmitter/Receiver using LM386
14. Temperature to voltage converter using 741.
15. Shadow sensing using 741
16. Light based PWM using 741 and V-F converter
17. Test the different Arduino Boards, Open-Source and Arduino Shields.
18. Install Arduino IDE and its development tool.
19. Develop a program to Blink LED for 1 second.
20. Develop a program to interface Input Switches and output LEDs with development board (Arduino).
21. Interface 7 segment display with development board (Arduino)
22. Interface LM35 temperature sensor with Arduino and monitor temperature on serial monitor.
23. Interface DC motor using L293D Motor Driver.
24. Interfacing of various sensors with Arduino development board


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ELE-OE 2.2: Mobile Communication
(Credits: Theory–02, Tutorial–01)

Total Teaching hours: 60

Unit 1

Evolution of mobile radio communication-Examples of wireless communication system: paging systems, cordless telephone system, cellular telephone system-Trends in cellular radio and personal communication systems.

Unit 2

Frequencies for radio transmission- Basics of multiplexing and multiple access techniques-CDMA-Cellular system concepts-Frequency Reuse-Channel assignment and handoff strategies- Improving capacity in cellular system: cell splitting, sectoring, repeaters for range extension, a microcell zone concept.

Unit3

Introduction to telecommunicating system-GSM: mobile services (Bearer services, tele-services, supplementary services), system architecture (radio subsystem, network and switching subsystem, operation subsystem)

Unit4

Satellite system: history, application, basics, routing, localization and handover-Broadcast system: digital audio broadcasting, digital video broadcasting (basic concepts).

Unit5

Wireless LAN-Infrared vs radio transmission-Bluetooth: user scenario sand architecture-WiMAX: basic concepts and features-Wi-Fi-basic concepts.

Mobile Communication–Demonstration Lab

30hours

1. Demonstration of keypad mobile handset.
2. Demonstration of smart phone handset.
3. Block diagram description.

Text Books

1. Rapapport T. S, 'Wireless Communication Principles and Practices', Pearson Education Asia, NewDelhi, 3rd ED.2003
2. Jochen Schiller,' Mobile communication 'Pearson Education, Asia.

ಬಿ.ಎ., ಬಿ.ಎಸ್.ಡಬ್ಲ್ಯೂ, ಪ್ರಥಮ ವರ್ಷ
ಮೊದಲನೆ ಸೆಮಿಸ್ಟರ್

ಘಟಕ: 1. ನಾಡು-ನುಡಿ-ಚಿಂತನೆ

3 ಕ್ರೆಡಿಟ್ 4 ಗಂಟೆಗಳು

1. ಕವಿರಾಜಮಾರ್ಗ : ಆಯ್ದು ಭಾಗ (ಎಂಟು ಭಾಗಗಳು)
2. ಲಲಿತವಹ ಕನ್ನಡ : ಮಹಾಲಿಂಗರಂಗ - ಅನುಭವಾಮೃತ
3. ವಿದ್ಯಾರ್ಥಿಗಳಿಗೇಕೆ ಸಾಹಿತ್ಯ : ಕುವೆಂಪು
4. ಕನ್ನಡ ಕಟ್ಟುವ ಕೆಲಸ : ಹಾಮಾನಾ

ಘಟಕ:2 ಪ್ರಕೃತಿ

1. ಯದುಗಿರಿಯ ಮೌನವಿಕಾಸ : ಪು.ತಿ.ನ.
2. ಜನಪದರು ಕಂಡ ಪ್ರಕೃತಿ : ಆಯ್ದು ಎಂಟು ಕವಿತೆಗಳು
3. ದ್ಯಾವ ಪೃಥ್ವಿ : ವಿ.ಕೃ.ಗೋಕಾಕ್
4. ಹಸಿರು ಹೊನ್ನು (ಎರಡು ಭಾಗ) : ಬಿ.ಜಿ.ಎಲ್. ಸ್ವಾಮಿ

ಘಟಕ : 3 ಬಾಲ್ಯ

1. ಬಾಲ್ಯದ ನೆನೆಪುಗಳು, : ಶಾಂತಾ ಹುಬ್ಬೀಕರ್ (ಆಯ್ದು ಭಾಗ)
2. ಉಮಾಪತಿಯ ಸ್ಕಾಲರ್ ಶಿಫ್ಟ್‌ಯಾತ್ರೆ : ಪಿ.ಲಂಕೇಶ್
3. ನೆನಪಿದೆಯಾ ನಿನಗೆ? (vÀÄÄUÀ`sÀzÉæ-PÀ«vÉ): ಕೆ.ಎಸ್.ನರಸಿಂಹಸ್ವಾಮಿ

ಘಟಕ: 4 ಸಂಕೀರ್ಣ

1. ಪುಟ್ಟಕತೆಗಳು (ಆಯ್ದು ಮೂರು) : ನೈಜಪ್ರೇಮ /ಗೋಡೆಗೆ ಹೇಳಿ
2. ನಾಣ್ಯ ಮುದ್ರಣ ತಾಂತ್ರಿಕತೆ ಮತ್ತು ಪಾಂಚಾಳರು : ಡಾ.ವೀರೇಶ್ ಬಡಿಗೇರ್
3. ಚಲನ ಚಿತ್ರಗೀತೆ : ಬಂಗಾರದ ಮನುಷ್ಯ (ನಗುನಗುತಾ ನಲಿನಲಿ)
4. ಕ್ಷಮಿಸಿ, ಸಾಫ್ಟ್‌ವೇರ್ ಕರೆಪ್ಪಾಗಿದೆ : ಶಿವಸುಂದರ್

ಬಿ.ಎ., ಬಿ.ಎಸ್.ಡಬ್ಲ್ಯೂ, ಪ್ರಥಮ ವರ್ಷ

3 ಕ್ರೆಡಿಟ್ 4 ಗಂಟೆಗಳು

(ಎರಡನೇ ಸೆಮಿಸ್ಟರ್)

ಘಟಕ: 1 ಜಾಗತೀಕರಣ

1. ಜಾಗತೀಕರಣ ಮತ್ತು ಸಂಸ್ಕೃತಿ : ರಾಜೇಂದ್ರಚನ್ನಿ
2. ಯೆ ದಿಲ್ ಮಾಂಗೇ ಮೋರ್ : ಅಮರೇಶ ನುಗಡೋಣಿ

3. ಎಲ್ಲಾಮಾಯ : ಗೊಲ್ಲಹಳ್ಳಿ ಶಿವಪ್ರಕಾಶ
4. ಬಳೆಗಳ ಸೇಲ್ಮಮನ್ : ಪ್ರತಿಭಾ ನಂದಕುಮಾರ

ಘಟಕ: 2 ಸಮಾಜ

1. ಹಳ್ಳಿಯ ಚಿತ್ರಗಳು (ಒಂದು ಲೇಖನ) : ಗೊರೂರು ರಾಮಸ್ವಾಮಿ ಅಯ್ಯಂಗಾರ್
2. ಬಚ್ಚೀಸು : ದು.ಸರಸ್ವತಿ
3. ಅಪ್ಪ : ಚಂಪಾ
4 ನನ್ನ ಜನಗಳು : ಸಿದ್ದಲಿಂಗಯ್ಯ

ಘಟಕ:3: ಪ್ರೀತಿ

1. ಮೋಕ್ಷವ ಹುಡುಕುತ್ತ ಪ್ರೀತಿಯ ಬಂಧನದಲ್ಲಿ : ಪಿ.ಲಂಕೇಶ್
2. ನಾನು ಬಡವಿ : ದ.ರಾ.ಬೇಂದ್ರೆ
3. ಅಮೃತಮತಿಯ ಸ್ವಗತ : ಎಚ್.ಎಲ್.ಪುಷ್ಪ
4. ಕೊನೆಯ ದಾರಿ : ವೀಣಾ ಶಾಂತೇಶ್‌ವರ

ಘಟಕ : 4 (ಸಂಕೀರ್ಣ)

1. ರೊಟ್ಟಿ ಮತ್ತು ಕೋವಿ : ಸು.ರಂ. ಎಕ್ಕುಂಡಿ
2. ಮನಸ್ಸಿನ ಸಾಮರ್ಥ್ಯವನ್ನು ತಗ್ಗಿಸುವ ಅಂಶಗಳು : ಡಾ.ಸಿ.ಆರ್.ಚಂದ್ರಶೇಖರ್
3. ಬಿಚ್ಚಿದ ಜೋಳಿಗೆ(ಆಯುರ್ಭಾಗ) : ಜಿ.ಎಚ್. ನಾಗಲೋಟಿಮರ್
4. ಕೀಟದಿಂದ ಕೋಟಿನಾಶ : ಶಿವಾನಂದ ಕಳವೆ

ಪ್ರಥಮ ಬಿ.ಎಸ್.ಸಿ. (ಮೊದಲನೆ ಸೆಮಿಸ್ಟರ್)

3 ಕ್ರೆಡಿಟ್ 4 ಗಂಟೆಗಳು

ಘಟಕ: 1 : ಕನ್ನಡ ನಾಡು -ನುಡಿ-ಚಿಂತನೆ

1. ಕವಿರಾಜಮಾರ್ಗ (ಆಯ್ದು) ಎಂಟು ಪದ್ಯಗಳು) : ಶ್ರೀವಿಜಯ
2. ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಸಾಹಿತ್ಯ : ಕುವೆಂಪು
3. ಇಳೆಯೆಂದರೆ ಬರಿ ಮಣ್ಣಲ್ಲ : ದ.ರಾ.ಬೇಂದ್ರೆ
4. ಹಚ್ಚೇವು ಕನ್ನಡದ ದೀಪ : ಡಿ.ಎಸ್.ಕರ್ಕಿ

ಘಟಕ: 2 ಭೂಮಿ

1. ಇರುವುದೊಂದೇ ಭೂಮಿ : ನಾಗೇಶ್‌ಹೆಗಡೆ


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2. ಕುಂಕುಮ ಭೂಮಿ : ಕೆ.ಎಸ್.ನ.
3. ಜನಪದ ತ್ರಿಪದಿಗಳು (ಆಯ್ದು ಎಂಟು) : ಸುವರ್ಣ ಜನಪದ ಕಾವ್ಯ
4. ಯಾರ್ಯಾರ ನೆನೆಯಾಲಿ : ಜಾನಪದ

ಘಟಕ: 3: ವೈಜ್ಞಾನಿಕ ಮನೋಧರ್ಮ

1. ವೈಜ್ಞಾನಿಕ ಮನೋಧರ್ಮ : ಜಿ.ಟಿ.ನಾರಾಯಣರಾವ್
2. ಜ್ಯೋತಿಷ್ಯ ಅರ್ಥಪೂರ್ಣವೋ, ಅರ್ಥರಹಿತವೋ : ಎಚ್.ನರಸಿಂಹಯ್ಯ
3. ಯಾವಕಾಲದ ಶಾಸ್ತ್ರ ಏನು ಹೇಳಿದರೇನು : ಕುವೆಂಪು
4. ಹೊಸಹುಟ್ಟಿನ ಹಾಡು : ನ.ಉಷಾ

ಘಟಕ: 4 : ಸಂಕೀರ್ಣ

1. ನಮ್ಮ ಅಳತೆಯನ್ನು ಮೀರಲಾಗದ ದೇವರು : ಶಿವರಾಮ ಕಾರಂತ
2. ಒಡಲಾಳ ಕಾದಂಬರಿಯ ಆಯ್ದು ಭಾಗ(ಪುಟ್ಟಗೌರಿನವಿಲು ಪ್ರಸಂಗ): ದೇವನೂರ ಮಹಾದೇವ
3. ಕಾಣದಂತೆ ಮಾಯವಾದನೊ - ಚಲನಚಿತ್ರಗೀತೆ : ಚಲಿಸುವ ಮೋಡಗಳು
4. ಭಾಗ್ಯಾದ ಬಳಿಗಾರ ಹೋಗಿ ಬಾ ನನತವರೀಗೆ (ಜನಪದಗೀತೆ)

ಪ್ರಥಮ ಬಿ.ಎಸ್.ಸಿ. ಎರಡನೇ ಸೆಮಿಸ್ಟರ್ 3 ಕ್ರೆಡಿಟ್ 4 ಗಂಟೆಗಳು

ಘಟಕ : 1 : ಜೀವನಕಲೆ

1. ಸ್ಕೂಟರ್ ರಿಪೇರಿ (ಅಣ್ಣನ ನೆನಪುಗಳು) : ಪೂರ್ಣಚಂದ್ರ ತೇಜಸ್ವಿ
2. ಗಾಡಿಯ ಪಯಣ : ಎ.ಎನ್.ಮೂರ್ತಿರಾಯರು
3. ಮಂಕುತಿಮ್ಮನ ಕಗ್ಗ (ಎಂಟು ಪದ್ಯಗಳು) : ಡಿ.ವಿ.ಜಿ.
4. ಪರದೆ ಸರಿದಂತೆ : ಡಿ.ಬಿ.ರಜಿಯಾ

ಘಟಕ : 2 : ಕನಸು

1. ಸಣ್ಣಸಾಲ : ದುಡ್ಡನಹಳ್ಳಿ ಮಂಜುನಾಥ (ಕತೆ)
2. ರಂಗಣ್ಣನ ಕನಸಿನ ದಿನಗಳು (ಎರಡು ಲೇಖನಗಳು) : ಎಸ್.ವಿ.ರಂಗಣ್ಣ
3. ಕಲ್ಪಿ : ಕುವೆಂಪು
4. ತಂದೆ ಮನೆ ಕಿಟಕಿ : ವೈದೇಹಿ

ಘಟಕ : 3: ಮಳೆ

- | | |
|----------------------|--------------------|
| 1. ಯಾತಕ್ಕೆ ಮಳೆ ಹೋದವೋ | : ಜನಪದ ಗೀತೆ |
| 2. ಧಾರವಾಡದ ಮಳೆ | : ಚನ್ನವೀರ ಕಣವಿ |
| 3. ಮಳೆಬಂದರೆ | : ಭುವನೇಶ್ವರಿ ಹೆಗಡೆ |
| 4. ಮಳೆಕೊಯ್ಲು | : ಶ್ರೀಪದ್ಮೆ |

ಘಟಕ: 4 : (ಸಂಕೀರ್ಣ)

- | | |
|----------------------------|-----------------------|
| 1. ಕಂಪ್ಯೂಟರ್ ಕನ್ನಡ | : ಎನ್.ಎ.ಎಂ. ಇಸ್ಮಾಯಿಲ್ |
| 2. ಅಸಮಾನತೆಯ ಜಾಗತೀಕರಣ | : ಪಿ.ಸಾಯಿನಾಥ |
| 3. ಮಾನವೀಯತೆ : ಒಂದು ಅನಿಸಿಕೆ | : ಬರಗೂರು ರಾಮಚಂದ್ರಪ್ಪ |
| 4. ಸೀಸೆನಾಟು | : ಚಾಂದಿನಿ |

ಪ್ರಥಮ ಬಿ.ಕಾಂ. ಮೊದಲನೆ ಸೆಮಿಸ್ಟರ್

3 ಕ್ರೆಡಿಟ್ 4 ಗಂಟೆಗಳು

ಘಟಕ: 1 ಕನ್ನಡ ನಾಡು ನುಡಿ ಚಿಂತನೆ

- | | |
|-------------------------------------|----------------|
| 1. ಕವಿರಾಜಮಾರ್ಗ (ಆಯ್ದು ಎಂಟು ಪದ್ಯಗಳು) | : ಶ್ರೀವಿಜಯ |
| 2. ವಿದ್ಯಾರ್ಥಿಗಳಿಗೇಕೆ ಸಾಹಿತ್ಯ | : ಕುವೆಂಪು |
| 3. ಕನ್ನಡ ದಾಸಯ್ಯ | : ಶಾಂತಕವಿ |
| 4. ಕನಸಿನೋಳಗೊಂದು ಕಣಸು | : ದ.ರಾ.ಬೇಂದ್ರೆ |

ಘಟಕ: 2: ಸಂಸ್ಕೃತಿ

- | | |
|----------------------------|--------------------|
| 1. ಕರ್ನಾಟಕ ಗತವೈಭವ | : ಆಲೂರು ವೆಂಕಟರಾಯರು |
| 2. ಕರುಳಭಾಷೆಯ ಕೊರಳಭಾಷೆಯಾದಾಗ | : ಪ್ರಕಾಶ್ ರೈ |
| 3. ಕೂಸಿನ ಹಾಡು | : ಜನಪದ ಗೀತೆ |
| 4. ಜಾತ್ರೆಯಲ್ಲಿ ಶಿವ | : ಸವಿತಾ ನಾಗಭೂಷಣ |

ಘಟಕ:3 ಜಾಗತೀಕರಣ

- | | |
|-------------------------------------|-----------------------|
| 1. ಬುದ್ಧಗಂಟೆಯ ಸದ್ದು | : ಮಹಾಂತೇಶ್ ನವಲ್ಕಲ್ |
| 2. ಅಬಚೂರಿನ ಪೋಸ್ಟ್ ಆಫೀಸು | : ಪೂರ್ಣಚಂದ್ರತೇಜಸ್ವಿ |
| 3. ಖಾಲಿ ಸೈಟುಗಳು | : ಕೆ.ಎಸ್.ನಿಸಾರ್ ಅಹಮದ್ |
| 4. ಮುಖವಾಡಗಳ ಮಾರುವ ಊರಿನಲ್ಲೊಂದು ಸುತ್ತ | : ಎಂ.ಆರ್. ಕಮಲ |

ಘಟಕ : 4: ಸಂಕೀರ್ಣ

1. ಪತ್ರಿಕೆ ಮತ್ತು ಪ್ರಚಾರ ಮಾಧ್ಯಮ : ಜಿ.ಎನ್. ಮೋಹನ
2. ಎಲ್ಲರೂ ಆಕೆಗೆ ಚಿತ್ರಹಿಂಸೆ ಕೊಟ್ಟೇ ಹುಟ್ಟಿದ್ದೀವಿ : ಟಿ.ಕೆ. ದಯಾನಂದ
3. ಹೊಸಹಾದಿ : ಗೋಪಾಲಕೃಷ್ಣ ಅಡಿಗ
4. ಮಾರುಕಟ್ಟೆ : ಎಚ್.ಎಸ್.ಶಿವಪ್ರಕಾಶ್

ಬಿ.ಕಾಂ. (ಎರಡನೆ ಸೆಮಿಸ್ಟರ್)

3 ಕ್ರೆಡಿಟ್ 4 ಗಂಟೆಗಳು

ಘಟಕ: 1 ಸೌಂದರ್ಯ

1. ಸೌಂದರ್ಯ ಮತ್ತು ಮೈಬಣ್ಣ : ರಾಮಮನೋಹರ ಲೋಹಿಯ
2. ಅಳುವ ಕಂದನ ತುಟಿಯು (ಎಂಟು ತ್ರಿಪದಿಗಳು) : ಜಾನಪದ
3. ಕಂಗೆಡಿಸುತ್ತಲೇ ಬಂದಿದೆ ಸೌಂದರ್ಯದ ಕ್ರೂರ ಸತ್ಯ : ಕೆ.ಎನ್. ಗಣೇಶಯ್ಯ
4. ಪೂರ್ವಾಂಗನೆ ಪಶ್ಚಿಮಾಂಗನೆಗೆ : ಸಿದ್ದಯ್ಯ ಪುರಾಣಿಕ

ಘಟಕ : 2 , ಭಕ್ತಿ

1. ಪ್ರಾರ್ಥನೆ : ಬಿ.ಎಂ. ಶ್ರೀಕಂಠಯ್ಯ
2. ಪ್ರಥಮ ರಾಜನಿಗೆ : ಕೆ.ಎಸ್.ನರಸಿಂಹಸ್ವಾಮಿ
3. ಗೆದ್ದು ಬಾರಯ್ಯ ನನ್ನ ದನಿವೀಗೆ : ಜಿ.ಶಂ. ಪರಮಶಿವಯ್ಯ
4. ಅಶೋಕನ ಧರ್ಮ : ನಾ.ಕಸ್ತೂರಿ

ಘಟಕ : 3 ದೇಸಿಯತೆ

1. ಬಿದಿರಮ್ಮ ತಾಯಿ ಕೇಳಿ : ಜನಪದ
2. ದೇಸಿಯತೆಯ ಪ್ರಶ್ನೆ : ಓ.ಎಲ್.ಎನ್. ನಾಗಭೂಷಣಸ್ವಾಮಿ
3. ದೇಸಿಯ ನೆಲೆಗಳ ಹುಡುಕಾಟ : ಜಿ.ಎಸ್.ಶಿವರುದ್ರಪ್ಪ
4. ಗಿಡುಗ ಮತ್ತು ಎರೆಹುಳ : ಎಸ್.ಜಿ. ಸಿದ್ದರಾಮಯ್ಯ

ಘಟಕ: 4 ಸಂಕೀರ್ಣ

1. ಸರಳ ಮದುವೆ (ಸಾವಿತ್ರಿ ಬಾಯಿ ಪುಲೆ) : ಎಚ್.ಎಸ್.ಅನುಪಮಾ
2. ಮಗು ಮತ್ತು ಸ್ವರ್ಗ : ಮಾನಸಿಕ ಅಗತ್ಯ : ಮೀನಗುಂಡಿ ಸುಬ್ರಹ್ಮಣ್ಯಂ
3. ಈ ಬಾಳು ಬಣ್ಣದ ಬುಗುರಿ (ಚಲನಚಿತ್ರಗೀತೆ) : ಮಹಾಕ್ಷತ್ರಿಯ

4. ಸಿಂಧೂನದಿಯ ದಂಡೆಯ ಮೇಲೆ : ಚಂದ್ರಶೇಖರ ತಾಳ್ಯ

ಬಿ.ಬಿ.ಎ. : ಪ್ರಥಮ ಸೆಮಿಸ್ಟರ್ 3 ಕ್ರೆಡಿಟ್ 4 ಗಂಟೆಗಳು

ಘಟಕ: 1 ನಾಡು-ನುಡಿ- ಚಿಂತನೆ

1. ಕವಿರಾಜಮಾರ್ಗ (ಆಯ್ದು ಎಂಟು ಪದ್ಯಗಳು) : ಶ್ರೀವಿಜಯ
2. ವಿದ್ಯಾರ್ಥಿಗಳಿಗೇಕೆ ಸಾಹಿತ್ಯ : ಕುವೆಂಪು
3. ಲಲಿತವಹ ಕನ್ನಡ : ಮಹಲಿಂಗರಂಗ
4. ಇಳೇಯೆಂದರೆ ಬರಿ ಮಣ್ಣುಲ : ದ.ರಾ.ಬೇಂದ್ರೆ

ಘಟಕ:2 : ಆಧುನಿಕತೆ

1. ಮುಂಬೈ ಜಾತಕ : ಜಿ.ಎಸ್.ಶಿವರುದ್ರಪ್ಪ
2. ಎಲ್ಲಾ ಮಾಯವೋ : ಎಚ್.ಎಸ್.ಶಿವಪ್ರಕಾಶ್
3. ಪ್ರಜಾಪ್ರಭುತ್ವ ಮತ್ತು ಮೂರು ಮಂಗಗಳು : ಬೆನಗರಹಳ್ಳಿ ರಾಮಣ್ಣ
4. ಈ ಸಾವು ನ್ಯಾಯವೇ? : ರಹಮತ್ ತರೀಕೆರೆ

ಘಟಕ:3 ಕುಟುಂಬ


1. ವಿಶ್ವಾ ಕುಟುಂಬಿಯ ಕಷ್ಟ : ಪು.ತಿ.ನ
2. ಮೊಸರಿನ ಮಂಗಮ್ಮ : ಮಾಸ್ತಿ
3. ಮನೆ ತುಂಬಿಸುವುದು : ವಿ.ಸೀತಾರಾಮಯ್ಯ
4. ನಮ್ಮ ಮನೆಯದೀಪ : ಹಾ.ಮಾ.ನಾಯಕ

ಘಟಕ: 4 ಸಂಕೀರ್ಣ

1. ನಮ್ಮ ಪ್ರೀತಿಯ ಕ್ರಿಕೆಟ್ : ಕೆ.ಸತ್ಯನಾರಾಯಣ
2. ಕ್ಷಮಿಸಿ ಸಾಫ್ಟ್‌ವೇರ್ ಕರೆಪ್ಪಾಗಿದೆ : ಶಿವಸುಂದರ
3. ಎಲ್ಲೋಜೋಗಪ್ಪ ನಿನ್ನರಮನೆ : ಜಾನಪದ
4. ಒಲವೆ ಜೀವನ ಸಾಕ್ಷಾತ್ಕಾರ (ಚಿತ್ರಗೀತೆ): ಸಾಕ್ಷಾತ್ಕಾರ

ಬಿ.ಬಿ.ಎ. (ಎರಡನೇ ಸೆಮಿಸ್ಟರ್) 3 ಕ್ರೆಡಿಟ್ 4 ಗಂಟೆಗಳು

ಘಟಕ: 1 ಕಾಯಕ


Principal
D.V.S. College of Arts & Science
Shimoga.

1. ಅನ್ನದ ಕಾಯಕ : ಖಾದಿ ಶಾಮಣ್ಣ
2. ಕೈಮಗ್ಗ ಚಳುವಳಿ : ಪ್ರಸನ್ನ
3. ಕಮ್ಮಾರ : ಪೇಜಾವರ ಸದಾಶಿವರಾಯ
4. ನೇಗಿಲಯೋಗಿ : ಕುವೆಂಪು

ಘಟಕ: 2 ಸಾಮರಸ್ಯ

1. ಮಾನವನೆಯಲಿ : ಎನ್.ಎಸ್.ಲಕ್ಷ್ಮೀನಾರಾಯಣಭಟ್ಟ
2. ಹಾಕಿದ ಜನಿವಾರವ : ಶಿಶುನಾಳ ಷರೀಫ್
3. ಮುಟ್ಟಿಸಿಕೊಂಡವನು : ಪಿ.ಲಂಕೇಶ್
4. ದೇವರ ಮೊದಲ ತೊದಲು : ಪಂಡಿತ ತಾರಾನಾಥ್

ಘಟಕ:3 ಅಂತ:ಕರಣ

1. ಕಣಿವೆಯ ಮುದುಕ : ಪು.ತಿ.ನ
2. ನಾಗಿ : ಕುವೆಂಪು
3. ನಾನು ಕೊಂದ ಹುಡುಗಿ : ಆನಂದ
4. ಜೀವ ಉಳಿಸಲು ಹೊಸ ಜೀವ ಸೃಷ್ಟಿ : ನಾಗೇಶ ಹೆಗಡೆ

ಘಟಕ: 4 ಸಂಕೀರ್ಣ

1. ಕೌದಿ : ಬ್ರಹ್ಮದೇವ ಹದಳಗಿ
2. ಮಸಣಕ್ಕೆ ಮರಬೆಳೆದವರು : ಶಿವಾನಂದ ಕಳವೆ
3. ಹದಿಹರೆಯದವರ ಸಮಸ್ಯೆಗಳು : ಡಾ.ಕೆ.ಆರ್.ಶ್ರೀಧರ್
4. ನೀಸನಾಟು : ಚಾಂದಿನಿ

ಬಿ.ಸಿ.ಎ. (ಪ್ರಥಮ ಸೆಮಿಸ್ಟರ್) 3 ಕ್ರೆಡಿಟ್ 4 ಗಂಟೆಗಳು

ಘಟಕ: 1 ಕನ್ನಡ ನಾಡು ನುಡಿ ಚಿಂತನೆ

1. ಕವಿರಾಜಮಾರ್ಗ(ಎಂಟು ಪದ್ಯಗಳು) : ಶ್ರೀವಿಜಯ
2. ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಸಾಹಿತ್ಯ : ಕುವೆಂಪು
3. ಉದಯವಾಗಲಿ ನಮ್ಮ ಚೆಲುವ ಕನ್ನಡನಾಡು : ಹುಯಿಲಗೋಳ ನಾರಾಯಣರಾವ್
4. ನನ್ನ ಕನ್ನಡ ಜಗತ್ತು : ಕೆ.ವಿ.ಸುಬ್ಬಣ್ಣ

ಘಟಕ: 2 ಆಕಾಶ

1. ಆಕಾಶಬುಟ್ಟಿ : ಚನ್ನವೀರ ಕಣವಿ
2. ಆಕಾಶ ಮತ್ತು ಬೆಕ್ಕು : ಯು.ಆರ್.ಅನಂತಮೂರ್ತಿ
3. ರಾಗರತಿ : ದ.ರಾ.ಬೇಂದ್ರೆ
4. ಆಕಾಶ ಕಾಯಗಳು : ವೈಜ್ಞಾನಿಕ ಲೇಖನ

ಘಟಕ: 3 : ತಾರುಣ್ಯ

1. ವರ್ಧಮಾನ : ಗೋಪಾಲಕೃಷ್ಣ ಅಡಿಗ
2. ಸುಟ್ಟಾವು ಬೆಳ್ಳಿಕಿರಣ : ಸಿದ್ದಲಿಂಗಯ್ಯ
3. ಅಮಾಸ : ದೇವನೂರು ಮಹದೇವ
4. ಸಮಯದ ಸಮಸ್ಯೆ : ಮನೋವೈಜ್ಞಾನಿಕ ಬರಹ : ಡಾ. ಮೀನಗುಂಡಿ ಸುಬ್ರಹ್ಮಣ್ಯ

ಘಟಕ: 4 ಸಂಕೀರ್ಣ

1. ಮಾನವೀಯತೆ : ಒಂದು ಅನಿಸಿಕೆ : ಬರಗೂರು ರಾಮಚಂದ್ರಪ್ಪ
2. ಸಂಬಂಧ : ಆಲನಹಳ್ಳಿ ಕೃಷ್ಣ
3. ಪತ್ರಿಕೆ ಮತ್ತು ಪ್ರಚಾರ ಮಾಧ್ಯಮ : ಜಿ.ಎನ್. ಮೋಹನ
4. ಸರಳ ಮದುವೆ (ಸಾವಿತ್ರಿಬಾಯಿಪುಲೆ) : ಎಸ್.ಎಸ್ ಅನುಪಮ

ಬಿ.ಸಿ.ಎ

(ಎರಡನೇ ಸೆಮಿಸ್ಟರ್)

3 ಕ್ರೆಡಿಟ್ 4 ಗಂಟೆಗಳು

ಘಟಕ: 1 ವಾಣಿಜ್ಯ

1. ಕುರುಡು ಕಾಂಚಾಣ : ದ.ರಾ.ಬೇಂದ್ರೆ
2. ಕುದುರೆ : ಜಿ.ಪಿ.ಬಸವರಾಜ
3. ಸಂತೆ : ಸಿದ್ದಲಿಂಗಯ್ಯ
4. ಹಾಲಿನವಳ ಲೆಕ್ಕ : ಅ.ರಾ.ಮಿತ್ರ

ಘಟಕ: 2 ತಂತ್ರಜ್ಞಾನ

1. ಗಿರಣಿ ವಿಸ್ತಾರ ನೋಡಮ್ಮ : ಶಿಶುನಾಳ ಷರೀಪ


Principal
D.V.S. Collage of Arts & Science
Shimoga.

2. ಮನುಷ್ಯ ಮತ್ತು ಯಂತ್ರ : ಗಾಂಧೀಜಿ : ಡಿ.ಎಲ್.ನರಸಿಂಹಚಾರ್
3. ತಂತ್ರಜ್ಞಾನ ಮತ್ತು ಕನ್ನಡ : ಕೆ.ವಿ.ನಾರಾಯಣ
4. ಯಂತ್ರರ್ಷಿ : ಕುವೆಂಪು

ಘಟಕ : 3 ದಾಂಪತ್ಯ

1. ಸಖೀಗೀತ (ಆಯ್ದುಭಾಗ) : ದ.ರಾ.ಬೇಂದ್ರೆ
2. ಬಾರೆ ನನ್ನ ಶಾರದೆ : ಕೆ.ಎಸ್.ನರಸಿಂಹಸ್ವಾಮಿ
3. ಕಡೆತನಕ ಕಾಯೋ ಅಭಿಮಾನ : ವಿನಯಾ ಒಕ್ಕುಂದ
4. ಕವಿಯ ಹೆಂಡತಿಯ ಕಣ್ಣಿನಲ್ಲಿ : ಶಾಂತಾದೇವಿ ಕಣವಿ

ಘಟಕ: 4. ಸಂಕೀರ್ಣ

1. ಒಂದು ಕತೆ ಮತ್ತು ಒಂದು ಹಾಡು : ಜಾನಪದ
2. ಎರೆಹುಳು ಎಂಬ ವಿಸ್ಮಯ : ಸ್ವಾಮಿ ಆನಂದ
3. ಆಗದು ಎಂದು ಕೈಲಾಗದು ಎಂದು (ಚಲನಚಿತ್ರ ಗೀತೆಗಳು) : ಬಂಗಾರದ ಮನುಷ್ಯ
4. ಕೌದಿ : ಬ್ರಹ್ಮದೇವಹದಳಗಿ

ಮುಕ್ತ ಆಯ್ಕೆ -1, ಕನ್ನಡ ಭಾಷಾ ಪತ್ರಿಕೆ : 3 ಕ್ರೆಡಿಟ್ 4 ಗಂಟೆಗಳು

ಕನ್ನಡ ವ್ಯಾಕರಣ ಮತ್ತು ಆಡಳಿತ ಕನ್ನಡ

ಸಂಧಿ , ಸಮಾಸ , ವಿಭಕ್ತಿ - ಪ್ರತ್ಯಯಗಳು , ಗುಣವಾಚಕಗಳು , ಅವ್ಯಯಗಳು , ಕೃದಂತಗಳು , ಛಂದಸ್ಸು ಮತ್ತು ಅಲಂಕಾರಗಳು

- ಪರಮರ್ಶನ ಪಠ್ಯಗಳು
1. ಕನ್ನಡ ಕೈಪಿಡಿ - ಬಿ.ಎಂ.ಶ್ರೀ
 2. ಕನ್ನಡ ಮಧ್ಯಮ ವ್ಯಾಕರಣ
 3. ಸ್ವಾರ್ಥಾತ್ಮಕ ಪರಿಚ್ಛೇದಗಳಿಗೆ ಸಿದ್ಧಪಡಿಸಿದ ಇತರ ಪಠ್ಯಗಳು .

ಆಡಳಿತಾತ್ಮಕ ಕನ್ನಡ ಕಲಿಕೆ : 1. ಸಂಕ್ಷಿಪ್ತ ಲೇಖನ

- 2 ಪತ್ರ ಲೇಖನ , ಪಬಂಧ ರಚನೆ .
- 3 ಆಡಳಿತಾತ್ಮಕ ಪದಕೋಶ - ಪರಿಕಲ್ಪನೆಗಳು .
- 4 ಗಾದೆಗಳು , ನುಡಿಗಟ್ಟುಗಳು , ಒಗಟುಗಳು ,

ಪರಮರ್ಶನ ಪಠ್ಯಗಳು

1. ಕಚೇರಿ ಕೈಪಿಡಿ - ಕನ್ನಡ ಮತ್ತು ಸಂಸ್ಕೃತಿ ಇಲಾಖೆ .
2. ಆಡಳಿತಾತ್ಮಕ ಕನ್ನಡ - ಸಿ . ಆರ್ ಪಾರ್ಥಸಾರಥಿ ,
3. ವ್ಯಾವಹಾರಿಕ ಕನ್ನಡ- ಅಬ್ದುಲ್ ಬಶೀರ್
4. ಆಡಳಿತ ಕನ್ನಡ - ಕನ್ನಡ ವಿಶ್ವವಿದ್ಯಾಲಯ
ಈ ತರಹದ ಇನ್ನಿತರ ಪಠ್ಯಗಳು .

* ಮುಕ್ತ ಆಯ್ಕೆ -2 , ಆತ್ಮ ಚರಿತ್ರೆಗಳು ,

3 ಕ್ರೆಡಿಟ್ 4 ಗಂಟೆಗಳು

ಸೆಮಿಸ್ಟರ್ 1 ಆತ್ಮಚರಿತ್ರೆಗಳು

1. ಆತ್ಮ ಚರಿತ್ರೆಗಳ ಪರಂಪರೆ ,
2. ಆತ್ಮ ಚರಿತ್ರೆಗಳು ಮತ್ತು ಚರಿತ್ರೆ
3. ಆತ್ಮ ಚರಿತ್ರೆಗಳ ಸಾಂಸ್ಕೃತಿಕ , ಸಾಮಾಜಿಕ ಹಾಗೂ ವೃತ್ತಿ ಹಿನ್ನೆಲೆ .

ಆತ್ಮ ಚರಿತ್ರೆಗಳ ಮಾದರಿಗಳು

1. ವೃತ್ತಿಪರ ಆತ್ಮ ಚರಿತ್ರೆಗಳು ,
2. ಮಹಿಳಾ ಆತ್ಮ ಚರಿತ್ರೆಗಳು ,
3. ಅಲಕ್ಷಿತ ವರ್ಗದ ಆತ್ಮ ಚರಿತ್ರೆಗಳು ,

* ಮುಕ್ತ ಆಯ್ಕೆ -3 ಜಾನಪದ

3 ಕ್ರೆಡಿಟ್ 4 ಗಂಟೆಗಳು

1. ಜಾನಪದ ಸ್ವರೂಪ : ಹಾ.ಮಾ.ನಾಯಕ

ಪ್ರಥಮ ಬಿ.ಎ. (ಐಚ್ಛಿಕ ಕನ್ನಡ) ಪ್ರಥಮ ಸೆಮಿಸ್ಟರ್

1. ಪ್ರಾಚೀನ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ
2. ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆಯ ಸ್ಥೂಲ ಪರಿಚಯ - ಪೂರ್ವದ ಹಳಗನ್ನಡ ಮತ್ತು ಹಳಗನ್ನಡ

1. ಬಾದಾಮಿ ಶಾಸನ

2. ಹಂಪಿ ಶಾಸನ


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II ಕವಿರಾಜ ಮಾರ್ಗದ ಆಯ್ದ ಹತ್ತು ಪದ್ಯಗಳು

III ಕಾರ್ತಿಕ ಋಷಿಯ ಕತೆ

1. ಅ . ಮಧ್ಯಕಾಲೀನ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ

ಆ. ಮಧ್ಯಕಾಲೀನ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆಯ ಗುಣಲಕ್ಷಣಗಳು

ಇ. ಮಧ್ಯಕಾಲೀನ ಕನ್ನಡ ಸಾಹಿತ್ಯದ ರೂಪಗಳು(ವಚನ/ಕೀರ್ತನೆ/ಷಟ್ಪದಿ/ರಗಳೆ/ಸಾಂಗತ್ಯ)

ಈ. ಪ್ರಮುಖ ಮಧ್ಯಕಾಲೀನ ಕವಿಗಳು : ಅ) ಅಲ್ಲಮ ಪ್ರಭು (2 ವಚನಗಳು)

ಆ) ಅಕ್ಕಮಹಾದೇವಿ (2 ವಚನಗಳು)

ಇ) ಆಯ್ದಕ್ಕಿ ಲಕ್ಕಮ್ಮ (2 ವಚನಗಳು)

ಕೀರ್ತನೆಗಳು : 1. ಕನಕದಾಸರು

2. ಹರಪನಹಳ್ಳಿ ಭೀಮವ್ಯ

3. ನರಹರಿದಾಸರು

(ಇ) ಷಟ್ಪದಿ ಕಾವ್ಯ :

1. ಹರಿಶ್ಚಂದ್ರ ಕಾವ್ಯ : ಗಾನರಾಣಿಯರ ಪ್ರಸಂಗ

2. ಹರಿಹರನ ರಗಳೆ: ತಿರುನೀಲ ಕಂಠ ರಗಳೆ

ಸಾಂಗತ್ಯ :

1. ಭರತೇಶವೈಭವ: ಅರಗಿಳಿಯಾಳಾಪ ಸಂಧಿ

ತ್ರಿಪದಿ:

1. ಸರ್ವಜ್ಞನ ವಚನಗಳು(ಆಯ್ದ ಹತ್ತು)

ಪ್ರಥಮ ಬಿ.ಎ. (ಎರಡನೆ ಸೆಮಿಸ್ಟರ್)

1. ಆಧುನಿಕಪೂರ್ವ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ

ಅ. ಆಧುನಿಕಪೂರ್ವ ಕನ್ನಡ ಸಾಹಿತ್ಯ - ಸ್ವರೂಪ, ಪ್ರೇರಣೆ, ಧೋರಣೆಗಳು.

ಆ. ಆಧುನಿಕಪೂರ್ವ ಕನ್ನಡ ಸಾಹಿತ್ಯದ ರೂಪಗಳು: ತತ್ವಪದ, ಗದ್ಯ

ಇ. ಅರುಣೋದಯ ಸಾಹಿತ್ಯ - ಪರಿಚಯ ಹಾಗೂ ಪಠ್ಯಗಳು

ಈ. ನಾಲ್ಕು ತತ್ವಪದಕಾರರ ಒಂದೊಂದು ತತ್ವಪದಗಳು

ಉ. ಮುದ್ರಾಮಂಜೂಷ ಕೃತಿಯ ಆಯ್ದ ಭಾಗ

ಊ. ರಾಮಾಶ್ವಮೇಧದ ಆಯ್ದ ಭಾಗ

ಹೆಚ್ಚಿಯಂಗಡಿ ನಾರಾಯಣರಾವ್, ಎಸ್.ಜಿ. ನರಸಿಂಹಾಚಾರ್, ಶಾಂತಕವಿಗಳು, ಬಸವಪ್ಪಶಾಸ್ತ್ರಿ, ಹೆಳವನಕಟ್ಟೆ
ಗಿರಿಯಮ್ಮ

1. ಆಧುನಿಕ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ
- ಅ. ಆಧುನಿಕ ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಪ್ರಮುಖ ಘಟ್ಟಗಳು
- ಆ. ನವೋದಯ
- ಇ. ಪ್ರಗತಿಶೀಲ
- ಈ. ನವ್ಯ
- ಉ. ದಲಿತ- ಬಂಡಾಯ
- ಊ. ಮಹಿಳಾ ಸಾಹಿತ್ಯ
- ಋ. ಸಮಕಾಲೀನ ಕನ್ನಡ ಸಾಹಿತ್ಯ

ಪರಾಮರ್ಶನ ಗ್ರಂಥಗಳು

1. ಕಥೆಗಳು/ಕಾದಂಬರಿಗಳ ಆಯ್ದು ಭಾಗಗಳು
2. ಕವಿತೆಗಳು - 05
3. ಲಲಿತಪ್ರಬಂಧ- 01
4. ಒಂದು ನಾಟಕ -1
5. ಅನುವಾದಗಳು- ಆಯ್ದು ಭಾಗಗಳು
6. ವೈಚಾರಿಕ ಲೇಖನಗಳು

ಕಿರು ಪರೀಕ್ಷೆ ಸಮಯ ಅಂಕಗಳು

ಮೊದಲ ಕಿರುಪರೀಕ್ಷೆ	ಪ್ರತಿ ಸೆಮಿಸ್ಟರಿನ ಎರಡನೇ ತಿಂಗಳ ಅಂತ್ಯದಲ್ಲಿ (ಒಂದು ಗಂಟೆ)	10
ಎರಡನೇ ಕಿರು ಪರೀಕ್ಷೆ	ಪ್ರತಿ ಸೆಮಿಸ್ಟರಿನ ಮೂರನೇ ತಿಂಗಳ ಅಂತ್ಯದಲ್ಲಿ (ಒಂದು ಗಂಟೆ)	10
ಎರಡು ಅಸೈನ್ಮೆಂಟ್	ಪ್ರತಿ ಅಸೈನ್ಮೆಂಟ್‌ಗೆ 5 ಅಂಕಗಳು	10
ಸೆಮಿನಾರ್	ಪ್ರತಿ ಸೆಮಿಸ್ಟರ್‌ನಲ್ಲಿ ಒಂದು ಸೆಮಿನಾರ್- 5 ಅಂಕಗಳು	05
ಒಟ್ಟಾರೆ ಮೌಲ್ಯಮಾಪನ	ಹಾರಜಾತಿ ಸೇರಿದಂತೆ	05
	ಒಟ್ಟಾರೆ ಆಂತರಿಕ ಪರೀಕ್ಷೆಯ ಅಂಕಗಳು	40
	ಸಿದ್ಧಾಂತ ಪರೀಕ್ಷೆಯ ಅಂಕಗಳು	60
	ಒಟ್ಟಾರೆ ಅಂಕಗಳು	100


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ಪ್ರೊ.ಜಿ.ಪ್ರಶಾಂತನಾಯಕ



PRACTICAL - 2

Total: 42 Hrs

Practicals with Free and Open Source Software (FOSS) tools for computer programs

(3 hours/ week per batch)

Softwares used: 1. Maxima

2. Scilab

LIST OF PROGRAMMES

1. Program to construct Cayley table and test abelian for given finite set using SCILAB.
 2. Program to test abelian group properties for given finite set using SCILAB
 3. Program to find all possible cosets of the given finite group using SCILAB
 4. Program to find all generators and corresponding all possible subgroups for the given cyclic group using SCILAB
 5. Programs to verify Lagrange's theorem for given finite group.
 6. Program to verify the Euler's theorem for given finite group using SCILAB.
 7. Programs for finding limits by comparing left and right limits using MAXIMA
 8. Programs for testing continuity of the function at $x = a$ and x in $[a, b]$ using MAXIMA
 9. Programs for testing differentiability of the function at $x = a$ and x in (a, b) using MAXIMA
 10. Programs to verify Rolle's theorem for given function using MAXIMA
 11. Programs to verify Lagrange's mean value theorem for given function using MAXIMA
 12. Programs to verify Cauchy's Mean value theorem using MAXIMA
 13. Programs to verify Taylor's Mean value theorem using MAXIMA
 14. Programs to construct series using Maclaurin's series
 15. Programs to find limit of the function using L'Hospital's rule.
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III SEMESTER

Paper - BSM 3: Algebra - III and Differential Equations - I

Total: 78 Hrs

Group Theory: Normal Subgroups, definition, examples and standard theorems on normal subgroups. Quotient groups, Homomorphism, isomorphism and fundamental theorem of homomorphism of groups.

02hrs/week=30hrs

Ordinary Differential Equation: Definition of an ordinary differential equation, its order and degree. Classification of solutions. Solution of first degree and first order equations.

- (1) Variable separable
- (2) Homogeneous and reducible to homogeneous form.
- (3) Linear and Bernoulli's form
- (4) Exact equations and reducible to exact form with standard I.F. Necessary and sufficient condition for the equation to be exact.



Equations of first order and higher degree. Solvable for p, Solvable for x (singular solutions), Solvable for y (singular solutions) and Clairaut's equation. Orthogonal trajectories. Second and higher order linear differential equations with constant co-efficient, complementary functions, Particular integral, standard types, Cauchy-Euler differential equations. Simultaneous differential equations with constant co-efficient (two variables).

03hrs/week=48hrs

Reference Books:

1. Higher algebra - Bernard & Child, Arihant, ISBN: 9350943199/ 9789350943199.
2. Topics in Algebra - I N Herstein, Wiley Eastern Ltd., New Delhi.
3. Modern Algebra - Sharma and Vashishta, Krishna Prakashan Mandir, Meerut, U.P.
4. Textbook of BSc Mathematics - Chakravarthy L.N, Vol 2, ISBN:1234567176245, Chethana Book House.
5. Ordinary and Partial Differential Equations - M D Raisinghania, S. Chand and Co. Pvt. Ltd.
6. Schaum's outline of theory and problems of Differential Equations - Frank Ayres, McGraw-Hill Publishing Co.
7. Differential Equations and Its Applications - S Narayanan and T K Manicavachagom Pillay, S V Publishers Private Ltd.
8. Differential equation with Applications and Historical Notes - G F Simmons, 2nded. McGraw-Hill Publishing Company.

PRACTICAL - 3

Total: 42 Hrs

Practicals with Free and Open Source Software (FOSS) tools for computer programs

(3 hours/ week per batch)

Softwares used: 1. Maxima

2. Scilab

LIST OF PROGRAMMES

1. Program to test normality of a given subgroup and a group using SCILAB.
2. Program to test homomorphism of a give function from $G \rightarrow G'$ using SCILAB.
3. Program to test isomorphism of a given function from $G \rightarrow G'$ using SCILAB.
4. Program to find the solution of given differential equation using Maxima and plotting the Solution-I. (1st order 1st degree non-linear)
5. Program to find the solution of given differential equation using Maxima and plotting the solution-II. (1st order 1st degree linear)
6. Program to find the solution of given differential equation using Maxima and plotting the solution-III. (1st order but not of 1st degree)
7. Program to find complementary function and particular integral of given differential equation with constant coefficients.
8. Program to find solution of given simultaneous differential equations with constant coefficients.
9. Programs for plotting curves in 2D Plane which are in Cartesian form.
10. Programs for plotting curves in 2D Plane which are in polar form.
11. Programs for plotting curves in 2D Plane which are in Parametric form.
12. Programs for plotting curves in 3D space using MAXIMA/SCILAB.



IV SEMESTER

Paper - BSM 4: Differential Equations - II and Analysis

Total: 78 Hrs

Ordinary Linear Differential Equations: Solution of ordinary second order linear differential equation with variable coefficients by the methods:

1. When a part of complementary function is given,
2. Changing the independent variable,
3. Changing the dependent variable,
4. When a first integral is given (exact equation),
5. Variation of parameters

02hrs/week=30hrs

Sequence of Real Numbers: Definition of a sequence, limits of a sequence, algebra of limit of a Sequence-Convergent, Divergent and Oscillatory sequence problems there on. Bounded sequence; every convergent sequence is bounded-converse is not true, Monotonic Sequence and Their properties, Cauchy's sequence.

Infinite Series: Definition of convergent, divergent and oscillatory of series - standard properties and results, Geometric and Hyper geometric series. Cauchy's criterion (statement only). Tests of convergence of series - comparison tests - D'Alemberts Ratio test - Raabe's test - Cauchy's root test. The Integral test - Absolute Convergence and Leibnitz's test for alternating series.

03hrs/week=48hrs

Reference Books:

1. Ordinary and Partial Differential Equations - M D Raisinghania, S. Chand and Co. Pvt. Ltd.
2. Schaum's outline of theory and problems of Differential Equations - Frank Ayres, McGraw-Hill Publishing Co.
3. Differential Equations and Its Applications - S Narayanan and T K Manicavachagom Pillay, S V Publishers Private Ltd.
4. Differential equation with Applications and Historical Notes - G F Simmons, 2nded.: McGraw-Hill Publishing Company.
5. Elements of Real Analysis - Shanti Narayan, S. Chand & Company, New Delhi.
6. Mathematical Analysis - S. C. Malik, Savita Arora, New Age Science Ltd.
7. Principles of Mathematical Analysis - Walter Rudin, McGraw-Hill Publishing Company.

PRACTICAL - 4

Total: 42 Hrs

Practicals with Free and Open Source Software (FOSS) tools for computer programs
(3 hours/ week per batch)
Softwares used: 1. Maxima

**2. Scilab****LIST OF PROGRAMMES**

1. Program to find the solution of Differential Equations by finding complimentary functions
 2. Program to find the solution of Differential Equations by changing independent variable.
 3. Program to find the solution of Differential Equations by changing dependent variable.
 4. Program to test for exactness and solve the Differential Equations of second order.
 5. Program to illustrate convergence, divergence or oscillatory of the given sequence using SCILAB/MAXIMA.
 6. Program to illustrate convergence, divergence or oscillatory of the given series using SCILAB/MAXIMA.
 7. Using Cauchy's criterion to determine convergence of the given sequence.
 8. Using Cauchy's criterion to determine convergence of the given series.
 9. Program to test the convergence of the series using Leibnitz's theorem.
-

V SEMESTER**Paper - BSM 5: Differential Equations– III, Fourier series and Algebra-IV****Total: 60 Hrs**

Total and Simultaneous Differential Equations: Necessary condition for the equation $P dx + Q dy + R dz = 0$ to be integrable-problems there on. Solutions of equation of the $\frac{dx}{P} = \frac{dy}{Q} = \frac{dz}{R}$.

Partial Differential Equations: Formation of partial differential equation –Lagrange's linear equation: $Pp + Qq = R$. Four standard types of first order partial differential equations, Charpit's methods.

Fourier Series: Periodic functions and properties-Fourier series of functions with period 2π and period $2L$. Half range cosine and sine series.

02hr/week=30hrs

Rings, Integral Domains and Fields: Rings- Definition, Types of rings. Examples properties of rings - Rings of Integers Modulo-n - Integral domains - Fields. Examples - subrings - Ideals -Principal ideals, Maximal ideal commutative rings, examples and standard properties- Homomorphism and Isomorphism - properties of homomorphism of rings. Quotient rings.

02hrs/week=30hrs**Reference Books:**

1. Ordinary and Partial Differential Equations - M D Raisinghania, S. Chand and Co. Pvt. Ltd.
2. Schaum's outline of theory and problems of Differential Equations - Frank Ayres, McGraw-Hill Publishing Co.
3. Differential Equations and Its Applications - S Narayanan and T K Manicavachagom Pillay, S V Publishers Private Ltd.



4. Differential equation with Applications and Historical Notes - G F Simmons, 2nded.: McGraw-Hill Publishing Company.
5. Topics in Algebra - I N Herstein, Wiley Eastern Ltd., New Delhi.
6. Modern Algebra - Sharma and Vashishta, Krishna Prakashan Mandir, Meerut, U.P.
7. Textbook of BSc Mathematics - Chakravarthy L.N., Vol 2, ISBN:1234567176245, Chethana Book House.

PRACTICAL - 5

Total: 30Hrs

Practicals with Free and Open Source Software (FOSS) tools for computer programs
(2 hours/ week per batch)
Softwares used: 1. Maxima
2. Scilab

LIST OF PROGRAMMES

1. Program to find the solution of the given total differential equation.
2. Program to find the solution of the given simultaneous differential equations.
3. Program to find the solution of the given partial differential equation.
4. Program to find whether given finite set is ring or not?
5. Program to show whether given subset of a finite ring is a subring or Not?
6. Program to find whether given subset of a finite ring is an ideal or not?
7. Program to find whether given function is a homomorphism or not?
8. Program to find whether given function is an isomorphism or not?
9. To plot periodic functions with period 2π and $2L$
10. To find full range trigonometric Fourier series of some simple functions with period 2π and $2L$.
11. Plotting of functions in half-range and including their even and odd extensions.
12. To find the half-range sine and cosine series of simple functions.
13. To find the half-range sine and cosine series of simple functions.

V SEMESTER

Paper - BSM 6: Line and Multiple Integrals and Laplace Transforms

Total: 60 Hrs

Line and Multiple Integrals: Definition of line integral and basic properties, examples on evaluation of line integrals. Definition of double integrals, evaluation of double integrals (1) under given limits (2) In regions bounded by given curves - change of variables, surface area as double integrals. Definition of triple integrals and evaluation, change of variables, volume as a triple integral.

02hrs/week=30hrs

Laplace Transforms: Definition and basic properties - Laplace transforms of e^{kt} , $\cos kt$, $\sin kt$, t^n , $\cosh kt$ and $\sinh kt$ - Laplace transform of $e^{at} F(t)$, $t^n F(t)$, $F(t)/t$ - problems - Laplace transform of derivatives of functions - Laplace transforms of integrals of functions - Laplace



transforms of unit step functions - Inverse Laplace transforms - problems. Convolution theorem - Simple initial value problems - Solution of first and second order differential equations with constant coefficients by Laplace transform method.

02hrs/week=30hrs

Reference Books:

1. Integral Calculus - H.S. Dhama, New Age International Pvt. Ltd Publishers.
 2. Text Book of Multiple Integrals - A.K. Sharma, Discovery Publishing House, New Delhi.
 3. Differential and Integral Calculus, Vol. II - N. Piskunov, CBS Publishers & Distributors Pvt. Ltd.
 4. Mathematical Analysis - S. C. Malik, Savita Arora, New Age Science Ltd.
 5. Higher Engineering Mathematics - B.S. Grewal, Khanna publishers.
 6. Advanced Engineering Mathematics by Erwin Kreyszig, Wiley; Ninth edition, ISBN:8126531355
 7. Schaum's Outline of Laplace Transforms - Murray Spiegel, McGraw-Hill Education
 8. Laplace and Fourier Transforms - M. D. Raisinghania, New Delhi, India: S. Chand and Co. Ltd.
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PRACTICAL - 6

Total: 30Hrs

Practicals with Free and Open Source Software (FOSS) tools for computer programs

(2 hours/ week per batch)

Softwares used: 1. Maxima

2. Scilab

LIST OF PROGRAMMES

1. Evaluation of the line integral with constant limits.
 2. Evaluation of the double integral with constant limits.
 3. Evaluation of the triple integral with constant limits.
 4. Evaluation of the line integral with variable limits.
 5. Evaluation of the double integral and triple integral with variable limits.
 6. Evaluation of area of the surface as double integral.
 7. Evaluation of volume of the solid as a triple integral.
 8. Finding the Laplace transforms of some standard functions.
 9. Finding the inverse Laplace transform of simple functions.
 10. Program to Verify of Convolution Theorem.
 11. Program to find the solution of a differential equation using Laplace transform method.
-



VI SEMESTER

Paper - BSM 7: Vector Space and Numerical Analysis

Total: 60 Hrs

Vector Space: Vector spaces, examples, subspaces, criterion for a subset to be a subspace. Concepts of linear dependence and independence. Fundamental theorem of linear dependence. Basis and dimension, standard properties of linearly independent and dependent sets examples, illustrations, concepts and results.

Linear transformations, Matrix representation of linear maps. Rank and nullity of a linear transformation.

02hrs/week=30hrs

Numerical Analysis: Solution of algebraic and transcendental equations of one variable by Bisection, Regula-Falsi and Newton-Raphson methods.

Finite differences (Forward and Backward differences) Interpolation, Newton's forward and backward interpolation formulae. Divided Differences-Newton's divided difference formula. Lagrange's interpolation formulae.

Numerical differentiation using Newton's forward and backward interpolation formulae.

Numerical Integration-Trapezoidal rule, Simpson's one-third and three - eight rule, Weddle's rule. (without proof).

Numerical solution of ordinary differential equations of first order and first degree-Picard's method, modified Euler's method, Runge-kutta method of fourth-order (No derivations of formulae).

02hrs/week=30hrs

Reference Books:

1. Herstein: Topics in Algebra, Wiley Eastern Ltd., New Delhi.
2. Modern Algebra - Sharma and Vashishta, Krishna Prakashan Mandir, Meerut, U.P.
3. Schaum's outline of Linear Algebra - Seymour Lipschutz, McGraw Hill Education.
4. The Linear Algebra a Beginning Graduate Student Ought to Know - Golan, Jonathan S, Springer International Publishing.
5. Introductory Methods of Numerical Analysis - S.S. Sastry, Prentice Hall India Learning Private Limited.
6. Numerical Methods: For Scientific and Engineering Computation - M.K. Jain, S.R.K. Iyengar, R.K. Jain, NEW AGE; 6th edition
7. Numerical Analysis - B. D Gupta, Stosius Inc/Advent Books Division.
8. Finite Difference and Numerical Analysis - H. C Saxena, S. Chand Publishing.
9. Numerical Methods for Scientists and Engineers - B. S. Grewal, Khanna Publishers.
10. Advanced Engineering Mathematics - E. Kreyszig.


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**PRACTICAL - 7****Total: 30Hrs****Practicals with Free and Open Source Software (FOSS) tools for computer programs****(2 hours/ week per batch)****Softwares used: 1. Maxima****2. Scilab****LIST OF PROGRAMMES**

1. Program to verify given set is vector space or not?
 2. Program to find whether given set is L.I or L.D.
 3. Program to verify whether given function is basis or not?
 4. Program to verify given mapping is Linear transformation or not?
 5. Program to find matrix of a given linear transformation.
 6. Program to find the rank and nullity of a linear transformation?
 7. Scilab/Maxima programs on Interpolations with equal intervals.
 8. Scilab/Maxima programs on Interpolations with unequal intervals.
 9. Scilab/Maxima programs to evaluate integrals using trapezoidal, Simpson's $1/3^{\text{rd}}$ rule and Simpson's $3/8^{\text{th}}$ rule.
 10. Solving ordinary differential equation by modified Euler's method.
 11. Solving ordinary differential equation by Runge-Kutta method of 4^{th} order.
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VI SEMESTER**Paper - BSM 8: Riemann Integration, Vector Calculus and Complex Analysis****Total: 60 Hrs**

Riemann Integrations: Upper and Lower sums, Refinement of partitions, upper and lower integrals, integrability, Criterion for integrability, continuous and monotonic functions are Riemann integrable, integral as the limit of a sum, integrability of the sum and product of integrable functions, integrability of the modulus of an integrable function, the fundamental theorem of calculus.

Vector Calculus: Scalar field – gradient of a scalar field, geometrical meaning – directional derivative – Maximum directional derivative – Angle between two surfaces - vector field–divergence and curl of a vector field – solenoidal and irrotational fields – scalar and vector potentials – Laplacian of a scalar field – vector identities. Standard properties, Harmonic functions, Problems.

2hrs/week=30hrs

Complex Analysis: Complex numbers, the complex plane - conjugate and modulus of a complex number - the modulus-argument form - geometric representation - Equation to circle and line in the complex form.

Functions of a complex variable, limit, continuity and differentiability of function- Analytic function - Cauchy-Riemann equations in Cartesian form. Sufficient conditions for analytic (in Cartesian form). Real and imaginary parts of analytic functions are harmonic, construction of analytic function given real or imaginary parts.



02hrs/week=30hrs

Reference Books:

1. Mathematical Analysis - S. C. Malik, Savita Arora, New Age Science Ltd.
 2. Principles of Mathematical Analysis - Walter Rudin, McGraw-Hill Publishing Company.
 3. Real and Complex Analysis - Walter Rudin, McGraw-Hill Higher Education.
 4. Elements of Real Analysis - Shanti Narayan, S. Chand & Company, New Delhi.
 5. Complex Variables and Applications - James Brown, Ruel Churchill, McGraw-Hill.
 6. Foundations of Complex Analysis - S. Ponnusamy, Narosa book distributors Pvt. Ltd.-New Delhi
 7. Schaum's Outline of Complex Variables - Murray Spiegel, John Schiller, Seymour Lipschutz, McGraw-Hill Education.
 8. Complex Analysis - Lars Ahlfors, McGraw-Hill Education.
 9. Vector Calculus - Paul C. Matthews, Springer-Verlag London.
 10. Golden Vector Calculus, R. Gupta, Laxmi Publications
 11. A Textbook of Engineering Mathematics - N. P. Bali, N. Ch. Narayana Iyengar, Laxmi Publications.
 12. Textbook of Vector Calculus - Shanti Narayan, S. Chand.
-

PRACTICALS - 8**Total: 30Hrs****Practicals with Free and Open Source Software (FOSS) tools for computer programs****(2 hours/ week per batch)****Softwares used: 1. Maxima****2. Scilab****LIST OF PROGRAMMES**

1. Programmes to find lower and upper Riemann sum.
 2. Programmes to find lower and upper Riemann integration.
 3. To demonstrate the physical interpretation of gradient, divergence and curl.
 4. Writing gradient, divergence, curl and Laplacian in cylindrical coordinates.
 5. Writing gradient, divergence, curl and Laplacian in spherical coordinates.
 6. Using cyclic notations to derive different vector identities.
 7. Using cyclic notations to derive some more vector identities.
 8. Programs to verify given functions satisfy Cauchy-Riemann equations both in Cartesian and polar form.
 9. Implementation of Milne-Thomson method in constructing analytic functions (simple examples).
 10. Illustrating orthogonality of the surfaces obtained from the real and imaginary parts of an analytic function.
 11. Program to verify given function is harmonic or not.
 12. Program to verify real part of an analytic function being harmonic.
 13. Program to verify imaginary part of an analytic function being harmonic.
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**Syllabus for B.A./B.Sc. with Mathematics as Major Subject &
B.A./B.Sc. (Hons) Mathematics**

SEMESTER – I

MATDSCT 1.1: Algebra - I and Calculus - I	
Teaching Hours : 4 Hours/Week	Credits: 4
Total Teaching Hours: 56 Hours	Max. Marks: 100 (S.A.-60 + I.A. – 40)

Course Learning Outcomes: This course will enable the students to

- Learn to solve system of linear equations.
- Solve the system of homogeneous and non homogeneous linear of m equations in n variables by using concept of rank of matrix, finding Eigen values and Eigen vectors.
- Sketch curves in Cartesian, polar and pedal equations.
- Students will be familiar with the techniques of integration and differentiation of function with real variables.
- Identify and apply the intermediate value theorems and L'Hospital rule.

Unit-I: Matrix: Recapitulation of Symmetric and Skew Symmetric matrices, Cayley- Hamilton theorem, inverse of matrices by Cayley-Hamilton theorem (Without Proof). Algebra of Matrices; Row and column reduction to Echelon form. Rank of a matrix; Inverse of a matrix by elementary operations; Solution of system of linear equations; Criteria for existence of non-trivial solutions of homogeneous system of linear equations. Solution of non-homogeneous system of linear equations. Eigen values and Eigen vectors of square matrices, real symmetric matrices and their properties, reduction of such matrices to diagonal form,

14 Hours

Unit-II: Polar Co-ordinates: Polar coordinates, angle between the radius vector and tangent. Angle of intersection of two curves (polar forms), length of perpendicular from pole to the tangent, pedal equations. Derivative of an arc in Cartesian, parametric and polar forms, curvature of plane curve-radius of curvature formula in Cartesian, parametric and polar and pedal forms- center of curvature, asymptotes, evolutes and envelops.

14 Hours

Unit-III: Differential Calculus-I: Limits, Continuity, Differentiability and properties. Properties of continuous functions. Intermediate value theorem, Rolle's Theorem, Lagrange's Mean Value theorem, Cauchy's Mean value theorem and examples. Taylor's theorem, Maclaurin's series, Indeterminate forms and evaluation of limits using L'Hospital rule.

14 Hours

Unit-IV: Successive Differentiation: n th Derivatives of Standard functions e^{ax+b} , $(ax + b)^n$, $\log(ax + b)$, $\sin(ax + b)$, $\cos(ax + b)$, $e^{ax} \sin(bx + c)$,

$e^{ax} \cos(bx + c)$, Leibnitz theorem and its applications. Tracing of curves (standard curves) **14 Hours**

Reference Books:

1. University Algebra - N S Gopala Krishnan, New Age International (P) Limited.
2. Theory of Matrices - B S Vatsa, New Age International Publishers.
3. Matrices - A R Vasista, Krishna Prakashana Mandir.
4. Differential Calculus - Shanti Narayan, S. Chand & Company, New Delhi.
5. Applications of Calculus, Debasish Sengupta, Books and Allied (P) Ltd., 2019.
6. Calculus – Lipman Bers, Holt, Rinehart & Winston.
7. Calculus - S Narayanan & T K Manicavachogam Pillay, S Viswanathan Pvt. Ltd., vol. I & II.
8. Schaum's Outline of Calculus - Frank Ayres and Elliott Mendelson, 5th ed. USA: Mc. Graw.

MATDSCP 1.1: Practical's on Algebra - I and Calculus – I	
Practical Hours : 4 Hours/Week	Credits: 2
Total Practical Hours: 56 Hours	Max. Marks: 50 (S.A.-30 + I.A. – 20)

Course Learning Outcomes: This course will enable the students to

- Learn *Free and Open Source Software (FOSS)* tools for computer programming.
- Solve problem on algebra and calculus theory studied in **MATDSCP 1.1** by using FOSS softwares.
- Acquire knowledge of applications of algebra and calculus through FOSS.

Practical/Lab Work to be performed in Computer Lab (FOSS)

Suggested Softwares: Maxima/Scilab/Maple/MatLab/Mathematica/Python/R.

Introduction to the software and commands related to the topic.

1. Computation of addition and subtraction of matrices.
2. Computation of Multiplication of matrices.
3. Computation of Trace and Transpose of Matrix.
4. Computation of Rank of matrix and Row reduced Echelon form.
5. Computation of Inverse of a Matrix using Cayley-Hamilton theorem.
6. Solving the system of homogeneous and non-homogeneous linear algebraic equations.
7. Finding the nth Derivative of e^{ax} , trigonometric and hyperbolic functions.
8. Finding the nth Derivative of algebraic and logarithmic functions.
9. Finding the nth Derivative of $e^{ax} \sin(bx + c)$, $e^{ax} \cos(bx + c)$.

10. Finding the Taylor's and Maclaurin's expansions of the given functions.
11. Finding the angle between the radius vector and tangent.
12. Finding the curvatures of the given curves.
13. Tracing of standard curves.

Open Elective Course

(For students of Science stream who have not chosen Mathematics as one of Core subjects)

MATOET 1.1: Basic Mathematics - I	
Teaching Hours : 3 Hours/Week	Credits: 3
Total Teaching Hours: 42 Hours	Max. Marks: 100 (S.A.-60 + I.A. – 40)

Course Learning Outcomes: This course will enable the students to

- Learn to solve system of linear equations.
- Solve the system of homogeneous and non homogeneous m linear equations by using the concept of rank of matrix, finding Eigen values and Eigen vectors.
- Students will be familiar with the techniques of differentiation of function with real variables.
- Identify and apply the intermediate value theorems and L'Hospital rule.
- Learn to trace some standard curves.

Unit-I: Matrices: Recapitulation of Symmetric and Skew Symmetric matrices, Cayley- Hamilton theorem, inverse of matrices by Cayley-Hamilton theorem (Without Proof). Algebra of Matrices; Row and column reduction, Echelon form. Rank of a matrix; Inverse of a matrix by elementary operations; Solution of system of linear equations; Criteria for existence of non-trivial solutions of homogeneous system of linear equations. Solution of non-homogeneous system of linear equations. Eigen values and Eigen vectors of square matrices, real symmetric matrices and their properties, reduction of such matrices to diagonal form.

14 Hours

Unit-II: Differential Calculus: Limits, Continuity, Differentiability and properties. Intermediate value theorem, Rolle's Theorem, Lagrange's Mean Value theorem, Cauchy's Mean value theorem and examples. Taylor's theorem, Maclaurian's series, Indeterminate forms and examples.

14 Hours

Unit-III: Successive Differentiation: nth Derivatives of Standard functions e^{ax+b} , $(ax + b)^n$, $\log(ax + b)$, $\sin(ax + b)$, $\cos(ax + b)$, $e^{ax} \sin(bx + c)$, $e^{ax} \cos(bx + c)$, Leibnitz theorem and its applications. Tracing of curves (standard curves)

14 Hours

Reference Books:

1. University Algebra - N.S. Gopala Krishnan, New Age International (P) Limited
2. Theory of Matrices - B. S. Vatsa, New Age International Publishers.
3. Matrices – A. R. Vasista, Krishna Prakashana Mandir.
4. Applications of Calculus, Debasish Sengupta, Books and Allied (P) Ltd., 2019.
5. Differential Calculus - Shanti Narayan, S. Chand & Company, New Delhi.
6. Calculus – Lipman Bers, Holt, Rinehart & Winston.
7. Calculus – S. Narayanan & T. K. Manicavachogam Pillay, S. Viswanathan Pvt. Ltd., vol. I & II.
8. Schaum's Outline of Calculus - Frank Ayres and Elliott Mendelson, 5th ed. USA: Mc. Graw.

Open Elective**(For Students of other than Science Stream)****MATOE 1.1(B): Business Mathematics-I**

MATOE 1.1(B): Business Mathematics-I	
Teaching Hours : 3 Hours/Week	Credits: 3
Total Teaching Hours: 42 Hours	Max. Marks: 100 (S.A.- 60 + I.A. – 40)

Course Learning Outcomes: This course will enable the students to

- Translate the real word problems through appropriate mathematical modelling.
- Explain the concepts and use equations, formulae and mathematical expression and relationship in a variety of context.
- Finding the extreme values of functions.
- Analyze and demonstrate the mathematical skill require in mathematically intensive areas in economics and business.

Unit-I: Algebra – Set theory and simple applications of Venn Diagram, relations, functions, indices, logarithms, permutations and combinations. Examples on commercial mathematics.

14 Hours

Unit - II: Matrices: Definition of a matrix; types of matrices; algebra of matrices. Properties of determinants; calculations of values of determinants upto third order; Adjoint of a matrix, elementary row and column operations; solution of a system of linear equations having unique solution and involving not more than three variables. Examples on commercial mathematics.

14 Hours

Unit - III: Differential Calculus: Constant and variables, functions, Limits &

continuity. Differentiability and Differentiation, partial differentiation, rates as a measure, maxima, minima, Partial Derivatives up to second order; Homogeneity of functions and Euler's Theorem; Total Differentials; Differentiation of implicit function with the help of total differentials, Maxima and Minima; cases of one variable involving second or higher order derivatives; Cases of two variables involving not more than one constraint.

14 Hours

Reference Books:

1. Basic Mathematics, Allel R.G.A, Macmillan, New Delhi.
2. Mathematics for Economics, Dowling, E.T. , Schaum's Series, McGraw Hill, London.
3. Quantitative Techniques in Management, Vohra, N.D., Tata McGraw Hill, New Delhi.
4. Business Mathematics, Soni R.S., Pitamber Publishing House, Delhi

Open Elective: MATOE 1.1(C): Competitive Mathematics-I:

MATOE 1.1(C): Competitive Mathematics-I	
Teaching Hours : 3 Hours/Week	Credits: 3
Total Teaching Hours: 42 Hours	Max. Marks: 100 (S.A.- 60 + I.A. – 40)

UNIT-I: Series: NUMBER SERIES: Number series tests present numerical sequences that follow a logical rule which is based on elementary arithmetic. An initial sequence is given from which the rule is to be deduced, predict the next number that obeys the rule. ALPHABET SERIES: Under this series letter will be coded or arranged in some pattern, normally based on the position of the letters. CONTINUOUS PATTERN SERIES: These types of questions usually consist of a series of small letters of the small letters which follow a certain pattern. However, some letters are missing from the series. These missing letters are then given in a proper sequence as of alternatives.

14 Hours

UNIT-II: Alphabet Test: ALPHABETICAL ORDER: Arranging words in alphabetical order implies to arrange them in the order as they appear in a dictionary that is as per the order in which the beginning letters of the words appear in the English alphabet. ALPHABETICAL QUIBBLE: In this type of questions generally a letter series is given, be it the English alphabets from A to Z or a randomized sequence of letters. The candidate is then required to trace the letters satisfying certain given conditions as regard their position in the given sequence or the sequence obtained by performing certain given operations on the given sequence.

14 Hours

UNIT-III: Coding and Decoding: CODE is ‘a system of signals’. Coding is, therefore a method of transmitting a message between sender and receiver which cannot be understood or comprehended by a third person. The coding - decoding test is set up to judge a candidates ability to decipher to particular word/message and break the court to decipher the message. In coding, actual alphabet/words/terms/numbers are replaced by certain other alphabets/ words/number/symbols etc. according to a certain rule to solve this type of questions we have to detect the rule and then answer the questions. Decoding is the method to find the meaning of something that has written in code. **14 Hours**

UNIT-IV: Numbers and Ranking: Number test: In this type of question, generally a set, group or series of numeral is given and the candidate is required to find how many times a number satisfies the conditions specified in the question occurs. Ranking test: Generally, a number of questions are arranged in either ascending or descending order of their performance in a certain activity. **14 Hours**

References:

1. Quantitative aptitude for competitive exam, R.S .Aggarwal exam series 2020 book by Dr.R.S .Aggarwal and Abhijit Guha.
2. Quantitative Aptitude Quantum for CAT, II Edition, PHI Learning Pvt. Ltd. Delhi, by Abhijit Guha.
3. GMAT Volume 1 and 2, Ignus Power Education Publication
4. Faster Track Objective Arithmetic (Revised Edition), Arihant Publications by Rajesh Verma

Open Elective: MATOE 1.1(D): Mathematical Modelling-I:

MATOE 1.1(D): - Mathematical Modelling I	
Teaching Hours : 3 Hours/Week	Credits: 3
Total Teaching Hours: 42 Hours	Max. Marks: 100 (S.A.- 60 + I.A. – 40)

Unit-I: Mathematical Modelling: Need, Techniques, Classification and Simple Illustrations, Simple Situations Requiring Mathematical Modelling. The Technique of Mathematical Modelling. Classification of Mathematical Models. Some Characteristics of Mathematical Models. **14 Hours**

Unit-II: Mathematical Modelling: Need, Techniques, Classification and Simple Illustrations: Mathematical Modelling through Geometry. Mathematical Modelling

through Algebra. Mathematical Modelling through Trigonometry. Mathematical Modelling through Calculus. **14 Hours**

Unit-III: Mathematical Modelling Through Ordinary Differential Equations of First Order: Mathematical Modelling through Differential Equations, Effect of Immigration and emigration on population size, Linear Growth and Decay Models, Non-Linear Growth and Decay Models. **14 Hours**

Unit 4: Mathematical Modelling Through Ordinary Differential Equations of First Order: Compartment Models, Mathematical Modelling in Dynamics through Ordinary Differential Equations of First Order, Mathematical Modelling of Geometrical Problems through Ordinary Differential Equations of First Order. **14 Hours**

References:

1. Mathematical Modelling - J. N. Kapur, New Age International Private Limited.
2. An Introduction to Mathematical Modelling - Edward A Bender published, Dover Books on Computer Science
3. Mathematical Modelling with Case Studies: Using Maple and MATLAB, Third edition -B. Barnes, G.R. Fulford, CRC Press, Taylor and Francis Group
4. An Introduction to Mathematical Modelling by Michael Alder HeavenForBooks.com

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SEMESTER – II

MATDSCT 2.1: Algebra - II and Calculus - II	
Teaching Hours : 4 Hours/Week	Credits: 4
Total Teaching Hours: 56 Hours	Max. Marks: 100 (S.A.-60 + I.A. – 40)

Course Learning Outcomes: This course will enable the students to

- Recognize the mathematical objects called Groups.
- Link the fundamental concepts of groups and symmetries of geometrical objects.
- Explain the significance of the notions of Cosets, normal subgroups and factor groups.
- Understand the concept of differentiation and fundamental theorems in differentiation and various rules.
- Find the extreme values of functions of two variables.

Unit-I: Real Number System: Recapitulation of number system. Countable and uncountable sets, standard theorems. Real line, bounded sets, supremum and infimum of a set, completeness properties of R , Archimedean property of R . Intervals, neighborhood of a point, open sets, closed sets, limit points and Bolzano-Weierstrass theorem (Without proof)

14 hours

Unit-II: Groups: Definition of a group with examples and properties, congruence, problems. Subgroups, center of groups, order of an element of a group and its related theorems, cyclic groups, Coset decomposition, Factor groups, Lagrange's theorem and its consequences. Fermat's theorem and Euler's ϕ function.

14 hours

Unit-III: Partial Derivatives: Functions of two or more variables-explicit and implicit functions, partial derivatives. Homogeneous functions- Euler's theorem, total derivatives, differentiation of implicit and composite functions, Jacobians and standard properties and illustrative examples. Taylor's and Maclaurin's series for functions of two variables, Maxima-Minima of functions of two variables.

14 hours

Unit-IV: Integral Calculus: Recapitulation of definite integrals and its properties. *Line integral:* Definition of line integral and basic properties, examples on evaluation of line integrals. *Double integral:* Definition of Double integrals and its conversion to iterated integrals. Evaluation of double integrals by changing the order of integration and change of variables. Computation of plane surface areas,

volume underneath a surface of revolution using double integral. *Triple integral*: Definition of triple integrals and evaluation-change of variables, volume as triple integral. Differentiation under the integral sign by Leibnitz rule.

14 hours

Reference Books:

1. Topics in Algebra, I N Herstein, Wiley Eastern Ltd., New Delhi.
2. Higher algebra, Bernard & Child, Arihant, ISBN: 9300943199/ 9789300943199.
3. Modern Algebra, Sharma and Vasista, Krishna Prakashan Mandir, Meerut, U.P.
4. Differential Calculus, Shanti Narayan, S. Chand & Company, New Delhi.
5. Integral Calculus, Shanti Narayan and P K Mittal, S. Chand and Co. Pvt. Ltd.,
6. Schaum's Outline Series, Frank Ayres and Elliott Mendelson, 5th ed.
USA: Mc. Graw Hill., 2008.
7. Mathematical Analysis, S C Malik, Wiley Eastern.
8. A Course in Abstract Algebra, Vijay K Khanna and S K Bhambri,
Vikas Publications.
9. Text Book of B.Sc. Mathematics, G K Ranganath, S Chand & Company.

PRACTICAL

MATDSCP 2.1: On Algebra -II and Calculus - II	
Practical Hours : 4 Hours/Week	Credits: 2
Total Practical Hours: 56 Hours	Max. Marks: 50 (S.A.-30 + I.A. – 20)

Course Learning Outcomes: This course will enable the students to

- Learn *Free and Open Source Software (FOSS)* tools for computer programming
- Solve problem on algebra and calculus by using FOSS software's.
- Acquire knowledge of applications of algebra and calculus through FOSS

Practical/Lab Work to be performed in Computer Lab

Suggested Software's: Maxima/Scilab/Maple/MatLab/Mathematica/Python/R.

1. Program for verification of binary operations.
2. Program to construct Cayley's table and test Abelian for given finite set.
3. Program to find all possible cosets of the given finite group.
4. Program to find generators and corresponding possible subgroups of a cyclic group.

5. Programs to verification of Lagrange's theorem with suitable examples.
6. Program to verify the Euler's ϕ function for a given finite group.
7. Program to verify the Euler's theorem and its extension.
8. Programs to construct series using Maclaurin's expansion for functions of two variables.
9. Program to evaluate the line integrals with constant and variable limits.
10. Program to evaluate the Double integrals with constant and variable limits.
11. Program to evaluate the Triple integrals with constant and variable limits.
12. Program to evaluate volume using triple integral.

Open Elective

(For students of Science stream who have not chosen Mathematics as one of the Core subjects)

MATOET 2.1(A): Basic Mathematics – II	
Teaching Hours : 3 Hours/Week	Credits: 3
Total Teaching Hours: 42 Hours	Max. Marks: 100 (S.A.- 60 + I.A. – 40)

Course Learning Outcomes: This course will enable the students to

- Recognize the mathematical objects called Groups.
- Link the fundamental concepts of groups and symmetries of geometrical objects.
- Explain the significance of the notions of Cosets, normal subgroups and factor groups.
- Understand the concept of differentiation and fundamental theorems in differentiation and various rules.
- Find the extreme values of functions of two variables.
- To understand the concepts of multiple integrals and their applications.

Unit-I: Groups: Definition of a group with examples and properties, congruence, problems. Subgroups, center of groups, order of an element of a group and its related theorems, cyclic groups, Coset decomposition, Factor groups, Lagrange's theorem and its consequences. Fermat's theorem and Euler's ϕ function. **14 hours**

Unit-II: Partial Derivatives: Functions of two or more variables-explicit and implicit functions, partial derivatives. Homogeneous functions- Euler's theorem, total derivatives, differentiation of implicit and composite functions, Jacobians and standard properties and illustrative examples. Taylor's and Maclaurin's series for functions of two variables, Maxima-Minima of functions of two variables. **14 hours**

Unit-III: Integral Calculus: Recapitulation of definite integrals and its properties. *Line integral:* Definition of line integral and basic properties, examples on evaluation of line integrals. *Double integral:* Definition of Double integrals and its conversion to iterated integrals. Evaluation of double integrals by changing the order of integration and change of variables. Computation of plane surface areas, volume underneath a surface of revolution using double integral. *Triple integral:* Definition of triple integrals and evaluation-change of variables, volume as triple integral. Differentiation under the integral sign by Leibnitz rule.

14 hours

Reference Books:

1. Topics in Algebra, I N Herstein, 2nd Edition, Wiley Eastern Ltd., New Delhi.
2. Higher algebra, Bernard & Child, Arihant Pub.
3. Modern Algebra, Sharma and Vasishta, Krishna Prakashan Mandir, Meerut, U.P.
4. A Course in Abstract Algebra, Vijay K Khanna and S K Bhambri, Vikas Publications.
5. Differential Calculus, Shanti Narayan, S. Chand & Company, New Delhi.
6. Integral Calculus, Shanti Narayan and P K Mittal, S. Chand and Co. Pvt. Ltd.,
7. Schaum's Outline Series, Frank Ayres and Elliott Mendelson, 5th ed. USA: McGraw Hill., 2008.
8. Mathematical Analysis, S C Malik, Wiley Eastern.
9. Text Book of B.Sc. Mathematics, G K Ranganath, S Chand & Company.

Open Elective

(For Students of other than science stream)

MATOET 2.1(B): Business Mathematics-II	
Teaching Hours : 3 Hours/Week	Credits: 3
Total Teaching Hours: 42 Hours	Max. Marks: 100 (S.A.- 60 + I.A. -40)

Course Learning Outcomes: This course will enable the students to

- Integrate concept in international business concept with functioning of global trade.
- Evaluate the legal, social and economic environment of business.
- Apply decision-support tools to business decision making.
- Will be able to apply knowledge of business concepts and functions in an integrated manner.

Unit - I: Commercial Arithmetic: Interest: Concept of Present value and Future value, Simple interest, Compound interest, Nominal and Effective rate of interest, Examples and Problems Annuity: Ordinary Annuity, Sinking Fund, Annuity due, Present Value and Future Value of Annuity, Equated Monthly Installments (EMI) by Interest of Reducing Balance and Flat Interest methods, Examples and Problems.

14

Hours

Unit - II: Measures of central Tendency and Dispersion: Frequency distribution: Raw data, attributes and variables, Classification of data, frequency distribution, cumulative frequency distribution, Histogram and give curves. Requisites of ideal measures of central tendency, Arithmetic Mean, Median and Mode for ungrouped and grouped data. Combined mean, Merits and demerits of measures of central tendency, Geometric mean: definition, merits and demerits, Harmonic mean: definition, merits and demerits, Choice of A.M., G.M. and H.M. Concept of dispersion, Measures of dispersion: Range, Variance, Standard deviation (SD) for grouped and ungrouped data, combined SD, Measures of relative dispersion: Coefficient of range, coefficient of variation. Examples and problems.

14 Hours

Unit - III: Correlation and regression: Concept and types of correlation, Scatter diagram, Interpretation with respect to magnitude and direction of relationship. Karl Pearson's coefficient of correlation for ungrouped data. Spearman's rank correlation coefficient. (with tie and without tie) Concept of regression, Lines of regression for ungrouped data, predictions using lines of regression. Regression coefficients and their properties (without proof). Examples and problems.

14 Hours

Reference Books:

1. Practical Business Mathematics, S. A. Bari New Literature Publishing Company New Delhi
2. Mathematics for Commerce, K. Selvakumar Notion Press Chennai
3. Business Mathematics with Applications, Dinesh Khattar & S. R. Arora S. Chand Publishing New Delhi
4. Business Mathematics and Statistics, N.G. Das & Dr. J.K. Das McGraw Hill New Delhi
5. Fundamentals of Business Mathematics, M. K. Bhowal, Asian Books Pvt. Ltd New Delhi
6. Mathematics for Economics and Finance: Methods and Modelling, Martin Anthony and Norman, Biggs Cambridge University Press Cambridge

7. Financial Mathematics and its Applications, Ahmad Nazri Wahidudin Ventus Publishing APS Denmark
8. Fundamentals of Mathematical Statistics, Gupta S. C. and Kapoor V. K., Sultan Chand and Sons, New Delhi.
9. Statistical Methods, Gupta S. P.: Sultan Chand and Sons, New Delhi.
10. Applied Statistics, Mukhopadhyaya Parimal New Central Book Agency Pvt. Ltd. Calcutta.
11. Fundamentals of Statistics, Goon A. M., Gupta, M. K. and Dasgupta, B. World Press Calcutta.
12. Fundamentals of Applied Statistics, Gupta S. C. and Kapoor V. K., Sultan Chand and Sons, New Delhi.

Open Elective: MATOE 2.1(C): Competitive Mathematics-II (Other than science stream students)

MATOET 2.1(C): Competitive Mathematics-II	
Teaching Hours : 3 Hours/Week	Credits: 3
Total Teaching Hours: 42 Hours	Max. Marks: 100 (S.A.- 60 + I.A. – 40)

UNIT-I: Mathematical Operations: Questions on simple mathematical operations. There are four fundamental operations, namely: addition (+), subtraction (–), multiplication (\times) and division (\div). There are also statements less than (<), greater than (>), equal to (=), not equal to (\neq) etc. Such operations are represented by symbols different from the usual ones. The candidates have to make the substitution of the real signs and solve the equations accordingly. While attempting to solve a mathematical expression, proceed according to the rule BODMAS – that is brackets of division multiplication addition and subtraction. We can perform addition and subtraction in any order.

Unit-II: Direction Sense Test: There are four directions such as north, south, east, and west. There are four regions (i) north-east (ii) north-west (iii) south-east (iv) south-west. Based on these directions problems have to perform with different mathematical techniques.

Unit-III-Time and Clock: Find the day of the week on a given data for this use the concept odd days, ordinary year and leap year. For a given time find the degree made by the hands of clock.

Unit-IV: Inserting the missing character: This includes type of questions, a figure, a set of figures, the arrangement of the matrix in given, each of which bears certain characters, be it numbers, letters or a group/combination of letters/numbers; following a certain pattern. It is required to decipher the pattern and accordingly find the missing

character in the figure.

References:

1. Quantitative aptitude for competitive exam, R.S .Aggarwal exam series 2020 book by Dr.R.S .Aggarwal and Abhijit Guha.
2. Quantitative Aptitude Quantum for CAT, II Edition, PHI Learning Pvt Ltd. Delhi, by Abhijit Guha.
3. GMAT Volume 1 and 2, Ignus Power Education Publication
4. Faster Track Objective Arithmetic (Revised Edition), Arihant Publications by Rajesh Verma

Open Elective: MATOE 2.1(D): Mathematical Modelling-II:

MATOE 2.1(D): Mathematical Modelling -II	
Teaching Hours : 3 Hours/Week	Credits: 3
Total Teaching Hours: 42 Hours	Max. Marks: 100 (S.A.- 60 + I.A. – 40)

Unit-I: Mathematical Modelling through Systems of Ordinary Differential Equations of First Order: Mathematical Modelling in Population Dynamics, Mathematical Modelling of Epidemics through Systems of Ordinary Differential Equations of First Order, Compartment Models through Systems of Ordinary Differential Equations

Unit-II: Mathematical Modelling through Systems of Ordinary Differential Equations of First Order: Mathematical Modelling in Economics through Systems of Ordinary Differential Equations of First Order.

Unit-III: Mathematical Models in Medicine, Arms Race, Battles and International Trade in Terms of Systems of Ordinary Differential Equations.

Unit-IV: Mathematical Modelling in Dynamics through Systems of Ordinary Differential Equations of First Order.

References:

1. Mathematical Modeling Models, Analysis and Applications by Sandip Banerjee, published by CRC Press, Taylor and Francis Group.
2. Mathematical Modeling Techniques - Rutherford Aris, Dover Publications.
3. Mathematical Analysis for Modeling- Judah Rosenblatt, Stoughton Bell, CRC Press, Taylor and Francis Group.


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KUVEMPUR UNIVERSITY

B.A.: Political Science Semester Course

III - Semester

Paper – III: Modern Government

- ❖ Title of the course: **Constitutions and Government**
- ❖ Number of teaching hours per week : 6 Hours
- ❖ Total marks: 80

Course Rationale:

- To acquaint the students with to major constitutions of the world.

Chapter 1: Constitution


- ☞ Meaning and importance of the study of Constitution
- ☞ Constitutionalism
- ☞ Types or kinds of constitution.

Chapter 2: Constitution of U.K.

- ☞ Salient Features
- ☞ Conventions
- ☞ Executive: Crown, Prime Minister and Cabinet.
- ☞ Legislature: The Parliament
 - ❖ House of Commons: Composition Powers and functions.
 - ❖ House of Lords: Composition, Powers and functions.
 - ❖ Supremacy of the parliament.
- ☞ Rule of Law

Chapter 3: Constitution of U.S.A.

- ☞ Salient Features:
- ☞ The Executive:
 - ❖ President- election, Powers, Functions & Position of the President.
 - ❖ The Vice-president
- ☞ The Legislature - The Congress:
 - ❖ The Senate. Composition. Powers and Functions.
 - ❖ House of Representatives- Compositions. Powers and Functions.
- ☞ The Judiciary- The Supreme Court- Composition. Powers and Functions of the Supreme Court.
- ☞ Judicial Review.


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Chapter 4: Constitution of Switzerland


- ☞ **Salient features of the Swiss Constitution**
- ☞ **The Executive - Federal Council:** Unique Features of federal council, Organization, Powers & Functions of Federal council.
- ☞ **The Legislature- Federal Assembly:**
 - National Council: Composition
 - Council of States: Composition.
 - Powers and Functions of Federal Assembly.
- ☞ **The Judiciary - Federal Tribunal:** composition, Powers and Functions.
- ☞ **Direct Democratic Devices in Switzerland:** Referendum, Initiative and Recall – Merits and Demerits of DDD.

Chapter 5: Constitution of Srilanka

- ☞ **Salient Features of the Srilankan Constitution**
- ☞ **The Executive**
- ☞ **The Legislature**

BOOKS FOR REFERENCE

- | | | |
|-----------------------------------|---|---------------------------|
| ➤ Herman Finer | - | Govt. of European Powers |
| ➤ D. D. Basu | - | Comparative Federalism |
| ➤ A. C. Kapoor | - | Select Constitutions |
| ➤ F. Ogg and H. Zink | - | Modern Political System |
| ➤ Vishnu Bhavan and Vidya Bhushan | - | Select Modern Governments |
| ➤ ಹೆಚ್. ಆರ್. ದಾಸೇಗೌಡ | - | ಸಂವಿಧಾನ ಮತ್ತು ಸರ್ಕಾರ |
| ➤ ಎಂ.ನಂಜುಂಡ ಸ್ವಾಮಿ | - | ಆಧುನಿಕ ಸರ್ಕಾರಗಳು |
| ➤ ಯು.ಗುರುಮೂರ್ತಿ | - | ಆಧುನಿಕ ಸರ್ಕಾರಗಳು |
| ➤ ಹೆಚ್. ಟಿ.ರಾಮಕೃಷ್ಣ | - | ಆಧುನಿಕ ಸರ್ಕಾರಗಳು |
| ➤ ಟಿ. ಮಲ್ಲಪ್ಪ | - | ಆಧುನಿಕ ಸರ್ಕಾರಗಳು |
| ➤ ಡಿ. ಜಿ. ಸುರೇಶ್ | - | ಆಧುನಿಕ ಸರ್ಕಾರಗಳು |
| ➤ ಎಂ. ಎಸ್. ಪಾಟೀಲ | - | ಆಧುನಿಕ ಸರ್ಕಾರಗಳು |


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B.A.: Political Science Semester Course

IV - Semester

Paper – IV: **Indian Government and Politics**

Title of the course: Indian Government and Politics

- ❖ **Number of teaching hours per week :** 6 Hours
- ❖ **Total marks:** 80

Course Rationale:


- To acquaint the students with the knowledge of Indian Political system.

Chapter 1: Basic Aspects of Indian Political System

- ☞ Preamble
- ☞ Salient Features
- ☞ Fundamental Rights and Duties
- ☞ Directive Principles of State Policy

Chapter 2: Union Government

- ☞ **The Executive:**
 - ❖ **The President:** Election, Power and Functions.
 - ❖ **The Vice-President:** Election, Power and Functions.
 - ❖ **The Prime-Minister and council of Ministers:** Powers and Functions
- ☞ **The Legislature - The Parliament**
 - ❖ **Lok Sabha:** Composition, Powers and functions.
 - ❖ **Speaker:** Election. Powers and functions.
 - ❖ **Rajya Sabha:** Composition, Powers and functions.
- ☞ **The Judiciary**
 - ☞ **Supreme Court:** Composition, Powers and Functions.
 - ☞ Judicial Activism
 - ☞ Public Interest Litigation.


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Chapter 3: State Government**A. The Executive:**

- ☞ **The Governor:** Appointment, Powers and Functions,
- ☞ **Chief-Minister and Council of Minister:** Powers and Functions

B. The State Legislature. :

- ☞ **Legislative Assembly:** Composition, Powers and Functions

C. The Judiciary

- ☞ **High Court:** Composition, Powers and Functions.

Chapter 4: Local Self Governments

- ☞ Grama Panchayat , Taluk Panchayat , Zilla Panchayat – Organization, Powers and Functions

Chapter 5: Elections.

- ☞ Election commission of India. Composition, Powers and Functions
- ☞ Political Parties and Pressure Groups.

BOOKS FOR REFERENCE

- | | | |
|---------------------------|---|--|
| ➤ V.D. Mahajan | - | Indian Constitution |
| ➤ D.D.Basu | - | Introduction to the constitution of India |
| ➤ Gopal N.K Choudhary | - | Indian Constitution |
| ➤ B.L.Fadia | - | Indian Government and politics |
| ➤ B.L.Fadia | - | The constitution of India |
| ➤ M.V.Pylee | - | An introduction to the constitution of India |
| ➤ H M Rajashekar | - | Indian Government and politics |
| ➤ M S Patil | - | Indian Constitution |
| ➤ ಚಿಕ್ಕೋಡಿ ಸಿ.ಎಂ | - | ಭಾರತದ ಸಂವಿಧಾನ |
| ➤ ಭುವನೇಶ್ವರ ಪ್ರಸಾದ್ ಎಂ.ಪಿ | - | ಭಾರತದ ಸಂವಿಧಾನ |
| ➤ ಬಿ. ಜಿ. ಸಾಅಮಂ | - | ಭಾರತದ ಸಂವಿಧಾನ ಮತ್ತು ಸರ್ಕಾರ |
| ➤ ಕೆ. ಜೆ. ಸುರೇಶ | - | ಭಾರತ ಸರ್ಕಾರ ಮತ್ತು ರಾಜಕೀಯ |
| ➤ ಹೆಚ್. ಎಂ. ರಾಜಶೇಖರ್ | - | ಭಾರತ ಸರ್ಕಾರ ಮತ್ತು ರಾಜಕೀಯ |
| ➤ ಎಮ್. ಎಸ್. ಪಾಟಿಲ್ | - | ಭಾರತ ಸಂವಿಧಾನ |
| ➤ ಹೆಚ್. ಟಿ. ರಾಮಕೃಷ್ಣ | - | ಭಾರತ ಸಂವಿಧಾನ |


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KUVEMPU UNIVERSITY

B.A.: Political Science Semester Course

V - Semester

Paper – V: Principles of Public Administration.

- ❖ **Title of the course:** Principles of Public Administration
- ❖ **Number of teaching hours per week :** 6 Hours
- ❖ **Total marks:** 80

Course Rationale

- To introduce the basics of public administration to the student.
- To make the students to realize the significance of structure, organizational aspects.
- To make them to understand and motivate about personnel administration and civil service system in India.

Chapter 1: Public Administration: The Framework


- ☞ Meaning, Nature/Scope and Importance of Public Administration.
- ☞ New Public Administration and Development Administration.
- ☞ Delegated Legislation - Need, merits and demerits, safeguards.
- ☞ Administrative Tribunals – Meaning , Features, Merits, Demerits and Safeguards

Chapter 2: Organization

- ☞ **Meaning of Organization**
- ☞ **Principles of Organization**
 - a. Hierarchy
 - b. Unity of command
 - c. Span of Control
 - d. Centralization and Decentralization
 - e. Co-Ordination
- ☞ **Theories of Organization**
 - a. Scientific Management, b. Human Relations

Chapter 3: Personnel Administration

- ☞ **Civil Service:** Meaning, Features and Functions.
- ☞ **Recruitment:** Qualifications and Methods.
- ☞ **Training:** Objectives and Types.
- ☞ **Morale:** Motivating factors.
- ☞ **Conduct and Discipline.**


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Chapter 4: Civil Service in India

- ☞ All India Services, Central Services and State Services.
- ☞ Union Public Service commission – Organization and Functions.
- ☞ State Public Service Commission – Organization and Functions. .
- ☞ Political Neutrality and Commitment.

Chapter 5: Public Relations:

- ☞ Corruption in Civil Service. Meaning , Definitions and Causes
- ☞ Lokpal and Lokayukta
- ☞ Redressal of Public Grievances.
- ☞ ARC Recommendations.

BOOKS FOR REFERENCE

- A Avasthi and S.R. Mahesvari - Public Administration
- Mohit Biiattacharya - Public Administration
- A. R. Tyagi - Public Administration
- C.P.Bhambri - Public Administration
- Dr. Rumki Basu - Public Administration
- Hans Roi - Public Administration
- Vishnu Bhagvan and Vidya Bushan - Public Administration
- S.P.Verma and S.N. Swaroop - Personnel Administration
- R.S. Shiva - Globalization and Indian Liberalization
- Dubahashi - Public Administration.
- N. Hallappa - NET, KAS, IAS
- ಹೆಚ್. ಟಿ. ರಾಮಕೃಷ್ಣ - ಸಾರ್ವಜನಿಕ ಆಡಳಿತ
- ಕೆ. ಜಿ. ಸುರೇಶ - ಸಾರ್ವಜನಿಕ ಆಡಳಿತ
- ಎಂ. ಎಸ್. ಪಾಟಿಲ್ - ಸಾರ್ವಜನಿಕ ಆಡಳಿತ
- ವಾ ಅಮುದ್ದಣ್ಣ - ಸಾರ್ವಜನಿಕ ಆಡಳಿತ
- ಎಂ. ನಂಜುಂಡರಾಜ ಅಂಸು - ಸಾರ್ವಜನಿಕ ಆಡಳಿತ


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KUVEMPU UNIVERSITY

B.A.: Political Science Semester Course

V - Semester

Paper – VI: Principles of International Relations

- ❖ **Title of the course:** Principles of International Relations
- ❖ **Number of teaching hours per week :** 5 Hours
- ❖ **Total marks:** 80

Course Rationale

- To introduce the students the basic concepts of International Relations.
- To acquaint the students with the major factors that determine the nature of International Relations.

Chapter 1: The Framework of International Relations.


- ☞ Meaning, Nature, Scope and Importance of International Relations.
- ☞ Approaches to the Study of International Relations.
- ☞ **National Power :** Meaning and Elements of National Power
- ☞ **National Interest:** Importance of National interest.

Chapter 2: Principles regulating Inter-State Relations.

- ☞ Balance of Power
- ☞ Collective Security
- ☞ Peaceful settlement of international Disputes

Chapter 3: Foreign Policy

- ☞ Meaning, objective and importance of Foreign Policy.
- ☞ Factors influencing on the formulation of Foreign Policy.
- ☞ Relation between Foreign Policy and Domestic Policy.
- ☞ Indian foreign policy- formulation and its features
 - a. India and USA since 2000.
 - b. India and Palestine since 2000.


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Chapter 4: Instruments of Foreign Policy

- ☞ **Diplomacy:** Meaning, Nature, Privileges, Immunities, Kinds and Functions.
- ☞ **Propaganda and Subversion :** Meaning, Types, Methods and Role of Propaganda in International Politics
- ☞ **Economic Instruments**
- ☞ **War:** Causes, Effects and Remedies of War

BOOKS FOR REFERENCE

- | | | |
|-------------------------------|---|--|
| ➤ Hans J. Morgenthau | - | Politics among Nations 6 ^m Ed - 1985. |
| ➤ Palmer and Perkins | - | International relations. |
| ➤ Stanley H. Hoffiman | - | Contemporary Theory in International Relations. |
| ➤ Quincy Wright | - | International Politics-A Study of International Relations, |
| ➤ D.A Boldwin | - | NIO Realism and Neo Liberalism, New York. Columbia University, Pron 1993. |
| ➤ M.S. Rajan | - | Non alignment of the Non-alignment Movement in the Present World order in the Komos (!994) |
| ➤ Peter calvocorissi | - | World Politics Since 1945 |
| ➤ V.P.Datt | - | Indian Foreign Policy Vikos- New Delhi 1999. |
| ➤ M.S. Rajan | - | United Nation at Fifty- and Beyon 1996 Ed. |
| ➤ Prakash Chandra Prem Arora- | - | International Relations (Pub: Book Hie-New Delhi) |
| ➤ ಹೆಚ್. ಟಿ. ರಾಮಕೃಷ್ಣ | - | ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು |
| ➤ ಕೆ. ಜೆ. ಸುರೇಶ | - | ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು |
| ➤ ಎನ್. ಹಾಲಪ್ಪ | - | ರಾಜ್ಯಶಾಸ್ತ್ರ (ಎನ್.ಇ.ಟಿ-ಐ.ಎಸ್.ಎಸ್) ಕನ್ನಡ |
| ➤ ಆರ್. ಜೆ. ಜಂಗಮ್ | - | ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು |
| ➤ ಡಿ. ಟಿ. ದೇವೇಗೌಡ | - | ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು |
| ➤ ವಾಅಮದ್ಧಣ | - | ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು |
| ➤ ಎಮ್.ಎಸ್. ಪಾಟೀಲ ಹಾಗೂ ನರಗುಂದ | - | ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಬಾಂಧವ್ಯ |



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B.A. : Political Science Semester Course

VI - Semester

Paper – VII: Public Policy and Financial Administration

- ❖ Title of the course: Public Policy and Financial Administration
- ❖ Number of teaching hours per week : 5 Hours
- ❖ Total marks: 80

Course Rationale

- To introduce the students to the basics of Public Policy.
- To enable them to know about financial administration.
- To understand the accountability of civil service and emerging trends in administration.

Chapter 1: Introduction

- ☞ Meaning – Nature – Scope and Significance of Public Policy.
- ☞ Determinants of Public Policy

Chapter 2: Public Policy Making in India.

- ☞ Major Agencies in Policy Making.
- ☞ Determining Factors of Policy Making.

Chapter 3: Financial Administration.

- ☞ Meaning and importance of Financial Administration.
- ☞ Budget - meaning and essentials for Good Budget
- ☞ **Budgetary process**
 - a. Preparation of budget
 - b. Submission of budget
 - c. Execution of budget
 - d. Control over Budget.


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Chapter 4: Control over Public Finance.

- ☞ Legislative control
- ☞ Executive control
- ☞ Judicial control
- ☞ Popular control

Chapter 5: Accounting and Auditing.

- ☞ Comptroller and Auditor General – Composition, Powers and Functions.

BOOKS FOR REFERENCE

- A. Avarthi and S. R. Maheswari - Public Administration
- Mohit Bhattacharya - Public Administration
- A. R. Tyagi - Public Administration
- C. P. Bhambri - Public Administration
- Dr. Rumki Basu - Public Administration
- Hans Roi - Public Administration
- Vishnu Bhagvan and Vidya Bhushan - Public Administration
- S.P.Venna - S.N. Swaroop. - Personnel Administration
- R.S.Shiva - Globalization and Indian Liberalization
- Dubahashi - Public Administration
- MS Patil - Public Administration
- ಹೆಚ್. ಟಿ. ರಾಮಕೃಷ್ಣ - ಸಾರ್ವಜನಿಕ ಆಡಳಿತ
- ಕೆ. ಜೆ. ಸುರೇಶ್ - ಸಾರ್ವಜನಿಕ ಆಡಳಿತ
- ಎನ್ ಹಾಲಪ್ಪ - ರಾಜ್ಯಶಾಸ್ತ್ರ (ಎನ್.ಇ.ಇ-ಬಿ.ಎಸ್.ಎಸ್) ಕನ್ನಡ
- ಎಂ. ಎಸ್. ಪಾಟಿಲ್ - ಸಾರ್ವಜನಿಕ ಆಡಳಿತ
- ವಾ ಅಮುದ್ದಣ್ಣ - ಸಾರ್ವಜನಿಕ ಆಡಳಿತ
- ಎಂ. ನಂಜುಂಡರಾಜ ಅರಸು - ಸಾರ್ವಜನಿಕ ಆಡಳಿತ


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B.A.: Political Science Semester Course

VI - Semester

Paper – VIII: Major Issues in International Relations

- ❖ **Title of the course:** Major Issues in International Relations
- ❖ **Number of teaching hours per week :** 5 Hours
- ❖ **Total marks:** 80

Course Rationale

- To introduce the students the basic concepts and issues of International Relations,
- To acquaint the students with the major factors-that determine the nature of International Relations.

Chapter 1: Arms Control and Disarmament

- ☞ Meaning and Importance
- ☞ Nuclear arms Control Measures
- ☞ Disarmament and its Limitations.

Chapter 2: International Law


- ☞ Meaning, Sources, Kinds and Importance
- ☞ Sanctions of International Law
- ☞ Limitations of international Law

Chapter 3: International Organization

- ☞ **UNO:** Origin, Objectives and Principles of International Organizations
- ☞ **UNO:** achievements and Shortcomings – Restructuring of U. N
- ☞ **Specialized Agencies of UNO:** UNESCO, WHO, FAO, ILO
- ☞ **Regional Organizations:** EU and SAARC and BRICS: aims, Objectives and role

Chapter 4: International Economic Relations

- ☞ New International Economic Order
- ☞ Neo-imperialism


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Chapter 5: Contemporary Issues

- ☞ Human Rights
- ☞ Global warming and environment.
- ☞ Terrorism: Causes of terrorism, Types of terrorism.

BOOKS FOR REFERENCE

- Hans J. Morgenthau - Politics among Nations 6th Ed - 1985.
- Palmer and Perkins - International relations.
- Stanley H Hoffman - Contemporary Theory in International Relations,
- Quincy Wright - International Politics. A Study of international Relations.
- D.A Boldwin - NIO Realism and Neo Liberalism, New York Columbia University. Pron 1993.
- M S. Rajan - Non alignment Movement in the Present World order in the Komos (1994)
- Peter calvocorissi - World Politics Since 1945
- V. P. Datt - Indian Foreign Policy Vikos- New Delhi 1999
- M. S. Rajan - United Nation at Fifty and Beyon 1996 Ed.
- Prem Arora - INR Publications Bookhive, New Delhi
- ಹೆಚ್. ಟಿ. ರಾಮಕೃಷ್ಣ - ಅಂತರರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು
- ಕೆ. ಜಿ. ಸುರೇಶ್ - ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು
- ಎನ್. ಹಾಲಪ್ಪ - ರಾಜ್ಯಶಾಸ್ತ್ರ (ಎನ್.ಇ.ಇ-ಐ.ಎಸ್.ಎಸ್) ಕನ್ನಡ
- ಆರ್. ಜಿ. ಜಂಗಮ್ - ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು
- ಚಕ್ರವರ್ತಿ - ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು
- ಬಿ. ಡಿ. ಮಹಾಜನ್ - ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು
- ಡಿ. ಟಿ. ದೇವೇಗೌಡ - ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು
- ಮಾ ಅಮದ್ದಣ್ಣ - ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು
- ಎಮ್.ಎಸ್ ಪಾಟೀಲ ಹಾಗೂ ನಂಗುಂದ - ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಬಾಂದವ್ಯ

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JNANASAHYADRI, SHANKARAGHATTA

Under Graduate (BA) Syllabus
for
Political Science Discipline
Under NEP-2020

M. V. K.
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Curriculum Structure for the Undergraduate Degree Program

BA / BSc/BCom/BBA/BCA

Total Credits for the Program:

Starting year of implementation:2021-22

Name of the Degree Program: BA Without Practical Course

Discipline/Subject: Political Science

Program Articulation Matrix: Core Courses

This matrix lists only the core courses. Core courses are essential to earn the degree in that discipline/subject. They include courses such as theory, laboratory, project, internships etc. Elective courses may be listed separately

Semester	Title /Name Of the course	Program outcomes that the course addresses (not more than 3 per course)	Pre-requisite course(s)	Pedagogy	Assessment
1	Basic Concepts in Political Science	1.Political Science, theoretically and will gain knowledge to explain and analyze politics at large. 2.The dynamics of politics. 3.To inculcate the democratic spirit.		The course shall be taught through the Bridge Courses, Lecture, Tutorial, Interactive Sessions, Self-guided Learning Materials, Open Educational Recourses (OER) as reference materials, Practical Exercises, Assignments, Seminars, Group Discussions and Week-end Counseling Classes.	60+40=100
	Political	1.The nature and relevance of Political		-do-	60+40=100

BASIC CONCEPTS IN POLITICAL SCIENCE**DSC-1**

Course Title: BASIC CONCEPTS IN POLITICAL SCIENCE	
Total Contact Hours: 45	Course Credits: 3
No. of Teaching Hours/Week: 3	Duration of ESA/Exam: 3Hours
Formative Assessment Marks: 40	Summative Assessment Marks: 60+40=100

Course Objective:

Develop an understanding about the nature and philosophy of Political Science and its interface with society. Enable the students to develop qualities of responsible and active citizens in a democracy.

Learning Outcome:

At the end of the course the students shall understand -

- Political Science, theoretically and will gain knowledge to explain and analyze politics at large.
- The dynamics of politics.
- To inculcate the democratic spirit.

Unit	Contents of Course- 1	45 Hours
Unit-I	<p>Chapter -1 Meaning of Politics, Nature, Scope and Importance of Political Science, Approaches to the study of Political Science, Emergence of the idea of Political Domain</p> <p>Chapter- 2 Meaning, Definitions and Elements of State, Difference between State and Government, State and Society, State and Association, Theories of State- Idealist Theory, Liberal, Neo-Liberal Theory, Marxist and Gandhian Theory of State</p> <p>Chapter-3 Civil Society- Meaning and Importance.</p>	15 Hours

Unit-II	<p>Chapter-4 Emergence, Meaning and Characteristics of Sovereignty and Law</p> <p>Chapter-5 Kinds of Sovereignty: Austin's Concept of Sovereignty and Pluralistic Critique</p> <p>Chapter-6 Theories of Sovereignty -Monistic, Pluralistic, Historical, Philosophical, Pluralism Theory, Challenges to the State Sovereignty in the age of Globalization.</p>	15 Hours
Unit- III	<p>Chapter-7 Liberty: Meaning and Kinds; Positive and Negative</p> <p>Chapter-8 Equality: Meaning and Kinds (Social, Economic and Political)</p> <p>Chapter-9Power and Justice: Meaning and kinds, Political Obligation: Nature and Theories</p>	15 Hours

Exercise:

1. List out the modern elements of State
2. List out the countries and identify the issues related to equality
3. Identify an issue and discuss the role of civil society

Suggested Readings:

1. Political Theory: Ideas & Concepts, S. Ramswamy, Delhi, Macmillan, 2002.
2. Modern Political Theory, S. P. Verma, New Delhi, Vikas, 1983.
3. Principles of Modern, Political Science, JC Johri, Sterling Publishers Pvt. Ltd. 1995.
4. Principles of Political Science, AC Kapur, New Delhi, Sultan Chand and Sons, 2004.
5. Principles of Political Science, N.N Agarwal, Vidya Bhushan, Vishnoo Bhawan, R. Chand & Co, New Delhi, 1998.
6. Political Science Theory, S.C Pant, Prakashan Kendra, Lucknow, 1998.
7. Political Science Theory, S. N Dubey, Lakshmi Narain Agarwal, Agra, 2002.
8. Principle of Modern Political Science, J C Johari, Sterling Publications, New York, 2009.

9. Principles of Political Science, Anup Chand Kapur, S Chand & Co Ltd, 2010.

Pedagogy:

The course shall be taught through the Bridge Courses, Lecture, Tutorial, Interactive Sessions, Self-guided Learning Materials, Open Educational Recourses (OER) as reference materials, Practical Exercises, Assignments, Seminars, Group Discussions and Week-end Counseling Classes.

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Assessment Test-1	10
Seminar/Presentation/Group Discussion	10
Assessment Test-2	10
Assignment	10
Total	40


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POLITICAL THEORY**DSC-2**

Course Title: POLITICAL THEORY	
Total Contact Hours: 45	Course Credits: 3
No. of Teaching Hours/Week: 3	Duration of ESA/Exam: 3Hours
Formative Assessment Marks: 40	Summative Assessment Marks: 60+40=100

Course Outcome:

This course aims to introduce certain key aspects of conceptual analysis in political theory and the skills required to engage in debates surrounding the application of the concepts.

Learning Outcomes:

At the end of the course the students shall understand -

- The nature and relevance of Political Theory.
- The different concepts like Liberty, Equality, Justice and Rights.
- To reflect upon some of the important debates in Political Theory.

Unit	Contents of Course- 2	45 Hours
Unit-I	<p>Chapter-1 Meaning, Nature and Importance of Theory and Political Theory, Traditional Approaches to Political Theory- Normative, Historical, Philosophical, Institutional</p> <p>Chapter-2 Modern Approaches- Behavioral, Post-Behavioral, David Easton's Political System and Marxian Approach</p> <p>Chapter-3 Relevance of Political Theory, Decline and Resurgence of Political Theory</p>	15 Hours
Unit-II	<p>Chapter-4 Liberalism: J.S Mill</p> <p>Chapter-5 Neo- Liberalism: Rawls</p>	15 Hours

	Chapter-6 Libertarianism: Nozick	
Unit- III	Chapter-7 Communitarianism and Multiculturalism: Indian perspective, Colonial Discourse and Post Colonialism, Post Colonial Response and its Limitations Chapter-8 Proponents of Secularism – Nehru, Gandhi, Rajiv Bhargav. Chapter-9 Critics of Secularism: Ashish Nandy, T.N. Madan, S.N. Balagangadhara.	15 Hours

Exercise:

- Write about the Myth and Reality on Communitarianism in India
- Compare the concept of Liberty, Equality and Justice to the Modern world
- Write the understanding of secularism in India

Suggested Readings:

1. Ahmed. V, Theory: Classes, Nations Literatures.: Verso,London, 1992.
2. Arendt. H.,On Revolution, Viking,New York, 1963
3. Ashcroft. B, The Post-Colonial Studies Reader, Rout ledgeLondon,1995
4. Bryson. V, Feminist political Theory, Macmillan,London, 1992.
5. Christopher Butler. Postmodernism: A very Short Introduction, OUPOxford, 2002.
6. Christopher Norris,The Truth about Postmodernism.: Wiley- Blackwell,New Jersey, 1993.
7. Connolly. W, Identity/Difference: Democratic Negotiations,Cornell University Press,NY, 1991.
8. Edward Said, Orientalism, Pantheon Books, New York,1978.
9. Elshtain. J. B, Public Man, Private Man: women in Social and Political Thought, Princeton University Press,Princeton NJ,1981.
10. Fanon. F. Black skin, white Masks, translated by C. L. Markham, Grove Press,New York, 1967.
11. Jean Francis Lyotard. The Postmodern Condition- A report on Knowledge. Parris: Minuit,1979.

12. Balagangadhara, S.N., and Jakob De Roover, "The Secular State and "Religious Conflict: Liberal neutrality and the Indian Case of Pluralism". The Journal of Political Philosophy 15, no. 1: 67-92, 2007.
13. Bhargava, Rajeev. ed. Secularism and Its Critics, Oxford University Press, New Delhi, 1998.
14. Veena Das, Dipankar Gupta and Patricia. eds.. Tradition, Pluralism and Identity, Uberoi New Delhi, 1999.
15. Nehru, Jawaharlal. 1946. The Discovery of India. Jawaharlal Nehru Memorial Fund, Oxford University Press, New Delhi, 1988.
16. Rochana Bajpai, The conceptual vocabularies of secularism and minority rights in India, Journal of Political Ideologies, 2002.
17. ರಾಜಾರಾಮಹೆಗೆಡೆಮತ್ತುಸದಾನಂದಜೆ.ಎಸ್. (ಸಂ) "ಪೂರ್ವಾವಲೋಕನ", ವಸಂತಪ್ರಕಾಶನ, ಬೆಂಗಳೂರು, 2016

Pedagogy:

The course shall be taught through the Bridge Courses, Lecture, Tutorial, Interactive Sessions, Self-guided Learning Materials, Open Educational Recourses (OER) as reference materials, Practical Exercises, Assignments, Seminars, Group Discussions and Week-end Counseling Classes.

Formative Assessment	
Assessment Occasion/ type	Weightage in Marks
Assessment Test-1	10
Seminar/Presentation/Group Discussion	10
Assessment Test-2	10
Assignment	10
Total	40


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HUMAN RIGHTS**Open Elective OE-1**

Course Title: HUMAN RIGHTS	
Total Contact Hours: 45	Course Credits: 3
No. of Teaching Hours/Week: 3	Duration of ESA/Exam: 3Hours
Formative Assessment Marks: 40	Summative Assessment Marks: 60+40=100

Course Objective:

This course aims to introduce the students to basic concepts and practices of Human Rights in the global and local domain. This course also exposes them to certain recent issues confronting the Human Rights debates.

Learning Outcomes:

After completing this course students will be able to-

- Explain the basic concept of Human Rights and its various formulations.
- Have necessary knowledge and skills for analyzing, interpreting, and applying the Human Rights standards and sensitize them to the issues.
- Develop ability to critically analyse Human Rights situations around them.

Unit	Contents of Course- OE-1	45 Hours
Unit-I	<p>Chapter-1 Meaning, nature, scope and Classification of Human Rights</p> <p>Chapter-2 The Human Rights of First generation (Civil and Political Rights), Second generation (Economic, Social and Cultural Rights), Third generation (Collective Rights) and Fourth generation (Subjective Rights)</p> <p>Chapter-3 Universal Declaration of Human Rights</p>	15 Hours
Unit-II	<p>Chapter-4 Human Rights and Fundamental Rights, Fundamental Rights and Fundamental Duties in India</p> <p>Chapter- 5 National Human Rights Commission (NHRC) -</p>	15 Hours

	Composition and its function Chapter-6 Karnataka State Human Rights Commissions (KSHRCs) – Composition and its functions	
Unit- III	Chapter -7 National Commission and Committees for SCs/STs, Minorities’ Commission, Women’ Commission Chapter-8 Major issues and concerns of Human Rights- Discrimination and violence against women, children, Dalits and Minorities, Trafficking, Child Labour and Bonded Labour Chapter-9 Challenges to Human Rights	15 Hours

Exercise:

- Group Discussion on Human Rights and its types (comparison of Western and Eastern concept of Human Rights).
- Students can be asked to do collage making and present the same.
- Find out the different types of complaints received by NHRC and bring out the end results on any one of such case.
- In order to make it more participatory learning, the students are required to visit the website of NHRC (www.nhrc.nic.in), wherein at the left-hand side, a link is provided to the ‘instructions. After going through the guidelines issued by NHRC’s, briefly explain the guidelines on – Custodial death/rape, Encounter death, and Guidelines on arrest.


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WESTERN POLITICAL THOUGHT

DSC-3

Course Title: WESTERN POLITICAL THOUGHT	
Total Contact Hours: 45	Course Credits: 3
No. of Teaching Hours/Week: 3	Duration of ESA/Exam: 3Hours
Formative Assessment Marks: 40	Summative Assessment Marks: 60+40=100

Course Objective: The Syllabus is designed to understand Political Philosophy, traditions that evolved in Europe from Ancient to the beginning of modern era. To examine the contributions of the Greek, Medieval and early Modern thinker's Philosophical thought.

Learning Outcomes:

At the end of the course the students shall understand -

- And get an introduction to the Schools of Political Thought and Theory making in the West.
- And introduce the richness and variations in the political perceptions of Western Thinkers.
- And familiarize themselves to the Thought and Theory of Western Philosophy.

Unit	Contents of Course-3	45 Hours
Unit-I	<p>Chapter -1 Salient Features of the Greek Political Thought, Plato: Theory of Justice, Philosopher King, Aristotle: State and Its Classification, Theory of Revolution</p> <p>Chapter -2 Salient Features of Medieval - Political Thought, Christian Tradition</p> <p>Chapter -3 St. Thomas Aquinas: Church v/s State, St. Augustine: Theory of Two Swords, Machiavelli: On Politics and State Craft, Views on ends and means</p>	15 Hours
Unit-II	Chapter -1 Hobbes: Theory of Sovereignty, Locke: Social Contract and Theory of Government, Tolerance; Rousseau: Social Contract, General Will	15 Hours

	<p>Chapter -2 Bentham: Theory of Utilitarianism</p> <p>Chapter -3 J.S. Mill: Views on Liberty</p>	
Unit- III	<p>Chapter -1 A. Hegel - Dialectical Materialism B. Karl Marx - Classless and stateless society</p> <p>Chapter -2 Jurgen Habermas-Communicative action, Public Sphere, Theory of truth and knowledge</p> <p>Chapter -3 Hannah Arendt-Theory of Action, Modernity, Conception of Citizenship.</p>	15 Hours

Exercise:

- Compare Greek State with the Roman state and make points
- Imagine the present situation with that of Contractualist's Social Contract Theory and write the summary
- Can we have a classless society in the modern world? Comment

Suggested Readings:

1. A. Hacker, Political Theory: Philosophy, Ideology, Science New York, Macmillan, 1961.
2. G.H. Sabine. A History of Political Theory. New Delhi: Oxford and IBH, 1937.
3. C.L. Wayper. Political Thought. Bombay: B.I. Publications, 1977.
4. Ernest Barker, Greek Political Theory: Plato and his Predecessors. London: Methuen & Co., 1970.
5. M. Butterfield, The State Craft of Machiavelli, New York: The Macmillan Company, 1956.
6. O.P. Bakshi; Politics and Prejudice: Notes on Aristotle's Political Theory. Delhi: The Delhi University Press, 1975.
7. M.A. Shepard, "Sovereignty at the Crossroads: A Study of Bodin", Political Science Quarterly XLV, pp.580-603.
8. L. Colleti. From Rousseau to Lenin. New Delhi: Oxford University Press, 1969.
9. G.H. Sabine. A History of Political Theory. New Delhi: J.L. Thorson, Oxford and IBH, 1937.
10. C.E. Vaghan. The Political Writings of Jean Jacques Rousseau, 2 Vols. New York, Jojn Wiley, 1962.
11. C.L. Wayper, Political Thought. Bombay: B.I. Publication, 1977.

INDIAN NATIONAL MOVEMENT AND CONSTITUTIONAL DEVELOPMENT**DSC-4**

Course Title: INDIAN NATIONAL MOVEMENT AND CONSTITUTIONAL DEVELOPMENT	
Total Contact Hours: 45	Course Credits: 3
No. of Teaching Hours/Week: 3	Duration of ESA/Exam: 3 Hours
Formative Assessment Marks: 40	Summative Assessment Marks: 60+40=100

Course Objective:

- To familiarize the students with the ideas of Nationalism and contemplate on how colonial rule was overthrown by the Indian Nationalists.
- To acquaint the students with the problems of Independent India.
- To enable the students to understand the role of India in World affairs and the contributions of great men towards freedom.

Learning Outcome:

At the end of the course the students shall -

- Understand how the colonial rule was overthrown by the Indian nationalists.
- Appreciate the ideals and values of Gandhi that resulted in freedom.
- Examine the problem of Independent India and the role played by great leaders in solving them.

Unit	Contents of Course-4	45 Hours
Unit-I	Chapter-1 Indian National Movement: Features, The Liberal, The Extremist and Revolutionary Phase Chapter-2 The Gandhian Phase: Non-Cooperation movement Chapter-3 Civil Disobedience Movement and the Quit India	15 Hours

	movement.	
Unit-II	<p>Chapter-4 Morley-Minto Reform Act of 1909, Montague Chelmsford Act of 1919: main provisions and Dyarchy, The Nehru Report and Jinnah's 14-point Formula</p> <p>Chapter-5 Government of India Act of 1935: main provisions: Round Table, provincial Autonomy and federal system</p> <p>Chapter-6 Indian Independence Act of 1947: main provisions, Simon Commission and Cabinet Mission Plan</p>	15 Hours
Unit- III	<p>Constituent Assembly Debates on</p> <p>Chapter-7 Citizenship State Structure</p> <p>Chapter-8 Minority Rights, UCC v/s Personal Law</p> <p>Chapter-9 Language and Union of States</p> <p>(The above three should be discussed in the context of Constituent Assembly Debates)</p>	15 Hours

Exercise:

- Think over a situation in India and identify at least two political and socio-economic conditions that are present and two that are not present in Indian democracy
- List out in a table giving some democratic roles of a citizen, explore yourself how democratic you are.
- Write some good qualities required in a citizen

Suggested Readings

1. Bandopadhyay, S. From Plassey to Partition: A History of Modern India. New Delhi: Orient Longman, 2004.
2. Thapar, R. 'Interpretations of Colonial History: Colonial, Nationalist, Post-colonial', in DeSouza, P.R. (ed.) Contemporary India: Transitions. New Delhi: Sage Publications, 2000.
3. Sarkar, S. Modern India (1885-1847). New Delhi: Macmillan, 1983.

INDIAN POLITY: ISSUES AND CONCERNS**Open Elective OE-2**

Course Title: INDIAN POLITY AND CONCERNS	
Total Contact Hours: 45	Course Credits: 3
No. of Teaching Hours/Week: 3	Duration of ESA/Exam: 3Hours
Formative Assessment Marks: 40	Summative Assessment Marks: 60+40=100

Course Objective: To make the students aware on different issues that exists in Indian polity. Through this paper students need to understand the emerging issues and their causes to the Indian Democracy.

Learning Outcome:

At the end of the course the students shall -

- Understand the reasons behind the causes of these issues and also the constitutional provisions that existed.
- Familiarize with the debates that emerged.
- Be able to suggest the measures to control such issues.

Unit	Contents of Course-OE-2	45 Hours
Unit-I	<p>Chapter-1National Integration and Social Harmony - Meaning and Need of National Integration and Suggestions for securing National Integration</p> <p>Chapter-2Society and Politics in India: Caste and Its Impact, Problems in understanding caste system as a social system in India, and Role of Caste and its Impact on Indian Polity.</p> <p>Chapter-3Language- Role and Constitutional Provisions, Issues</p>	15 Hours
Unit-II	Chapter-4Religion and Local Traditions - Role and	15 Hours

	Constitutional Provisions Chapter-5 Development and Inclusiveness: Issues and Concerns Chapter-6 Regionalism – Reasons for the Growth, Forms and Measures	
Unit- III	Chapter-7 Corruptions- Causes and Measures Chapter-8 Terrorism- Types, Causes and Measures Chapter-9 Celebrating Diversity – Consensus and Challenges	15 Hours

Exercise:

- Classify the major factors which are an impediment to National Integration and give your suggestions
- Identify the terrorist's group in the world
- Make a point on 2011 Anti- Corruption movement in India

Suggested Readings:

1. M. Galanter, 'The Long Half-Life of Reservations', in Z. Hasan, E. Sridharan and R. Sudarshan (eds.) India's Living Constitution: Ideas, Practices, Controversies, New Delhi: Permanent Black, 2002.
2. C. Jaffrelot, 'The Politics of the OBCs', in Seminar, Issue, 2005.
3. Singh, M.P. & Saxena, R. Indian Politics: Contemporary Issues and Concerns. New Delhi: PHI Learning, 2008.
4. Vanaik, A. & Bhargava, R. (eds.) Understanding Contemporary India: Critical Perspectives. New Delhi: Orient Blackswan, 2010.
5. Dunkin Jalaki "Bharatadalli Jativyavste ideye?", Malladahalli Publication, Malladahalli.

KUVEMPU UNIVERSITY

BOARD OF STUDIES (BOS) IN PHYSICS
(UNDER GRADUATE PROGRAMME)

APPROVED SYLLABUS

(To be effective from the academic year 2021-22)

For

I AND II SEMESTER PHYSICS PAPERS

of

B.SC./B.SC.(HONS.) DEGREE PROGRAMME

[Framed in according with the National Education policy (NEP-2020)
& based on **Model Physics Syllabus** prepared by physics expert committee,
Karnataka State Higher Education Council, Bangalore]

*Syllabus approved in the Board of Studies (BOS) meeting held on ...23-09-2021 at the
Department of Post-Graduate in Physics and Research, Jnana Sahyadri, Shankaraghatta*


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Course Content Semester – I
Mechanics and Properties of Matter

Course Title: Mechanics and Properties of Matter	Course Credits:4
Total Contact Hours: 52	Duration of ESA: 3 hours
Formative Assessment Marks: 30	Summative Assessment Marks: 70

<u>Mechanics & Properties of Matter</u>		
Credit: 4+2		Theory: 4 hours /Week
Unit – 1		
Topics to be covered/taught/learnt:		Teaching Hours
Chapter No. 1	Units and measurements: System of units (CGS and SI), measurement of length, mass and time, dimensions of physical quantities, dimensional formulae. Minimum deviation, errors and significant figures.	2
Chapter No. 2	Frames of reference: Inertial frames – Galilean principle of relativity (statement and proof) – Non-inertial frames – To show that uniformly accelerated frame is non-inertial – Pseudo force – examples - Rotating frames of reference - derivation of expression for force. Types of forces in rotating frame. Discussion of the earth as an inertial frame.	5
Chapter No. 3	Momentum and Energy: - Conservation of linear momentum –examples. Rocket motion – expression for instantaneous and final velocities – effect of earth’s gravity. Work done by a variable force: Work – energy theorem(derivation) – conservative force fields, potential energy - conservation of energy, examples – Atwood machine (calculation of acceleration using conservation of energy).	6
Topic for self-study	Foucault Pendulum	
Suggested Activities		
Activity No. 1	1. i). Students can measure diameters of small balls of different size and estimate their volumes. 2. ii). Students can measure lengths of nails of different size. iii). Students can measure volume of a liquid iv). Students can measure distances and put the result both in CGS and SI units in 2, 3 and 4 significant figures. Ask them to mention the precession of the measurement. v). students can estimate standard deviations wherever possible.	
Activity No. 2	Students can try and understand conservation of energy in every day examples. For example: i) What happens in solar conservation panels ii) Pushing an object on the table it moves iii) Moving car hits a parked car causes parked car to move. In these cases, energy is conserved. How? Understand and verify if possible.	
Unit – 2		
Chapter No. 4	Laws of Motion: Newton’s Laws of motion. Dynamics of single and a system of particles- Centre of mass -Equations of motion --Linear & angular momentum of a system of particles - Conservation of angular momentum – examples.	2

Chapter No. 5	Dynamics of Rigid bodies: Rotational motion about an axis, moment of inertia (MI) - General Theorems on moment of inertia –(with proofs). MI of a rectangular Lamina and solid cylinders – Derivation of expressions. Relation between torque and angular momentum, Rotational energy. Flywheel–(qualitative discussion) - Theory of compound pendulum and determination of g.	6
Chapter No. 6	Gravitation: Central force – characteristics & examples - Motion of a particle in a central force field (motion is in a plane, angular momentum is conserved, areal velocity is constant) - Law of Gravitation (Vector form). Kepler’s laws (statements)–orbit equation (no derivation) - conditions for different orbits. Satellite in a circular orbit – derivation of expressions for orbital velocity, time period and escape velocity.	5
Topics for self-study	Geosynchronous orbits. Basic idea of global positioning system (GPS).	
Suggested Activities		
Activity No.3	Moment of inertia is an abstract concept. It simply gives a measure of rotational inertia of a rigid body and it is proportional to the product of the square of radius, r of the body and its mass, m. Students by referring to websites, can construct and perform simple experiments to verify that $MI \propto mr^2$. Reference: www.khanacademy.org, www.pinterest.com, www.serc.cerleton.edn	
Activity No. 4	Prepare suitable charts and give seminar talks in the class.	
Unit – 3		
Chapter No. 7	Elasticity: Hooke’s law - Stress-strain diagram, elastic moduli-relation between elastic constants (Derivation), Poisson’s ratio, expression for Poisson’s ratio in terms of elastic constants. Work done in stretching (Derivation) and work done in twisting a wire- Twisting couple on a cylinder (Derivation). Torsional pendulum—Expression for Time-period (Derivation) - Determination of rigidity modulus and moment of inertia – Determination of q , η and σ by Searle’s method with necessary theory. Bending of beams – Expression for Bending moment (derivation). Theory of Single cantilever.	13
Suggested Activities		
Activity No. 5	Arrange a steel spring with its top fixed with a rigid support on a wall and a meter scale alongside. Add 100 g load at a time on the bottom of the hanger in steps. This means that while putting each 100g load, we are increasing the stretching force by 1N. Measure the extension for loads up to 500g. Plot a graph of extension versus load. Shape of the graph should be a straight line indicating that the ratio of load to extension is constant. Go for higher loads and find out elastic limit of the material	
Activity No. 6	Repeat the above experiment with rubber and other materials and find out what happens after exceeding elastic limit. Plot and interpret	


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Unit – 4

Chapter No. 8	Surface tension: Definition of surface tension. Surface energy, relation between surface tension and surface energy, pressure difference across curved surface (derivation) -examples, excess pressure inside spherical liquid drop & bubble, angle of contact - Determination of surface tension by drop weight method with necessary theory, Factors affecting surface tension of a liquid.	8
Chapter No. 9	Viscosity: Streamline flow, turbulent flow, equation of continuity, determination of coefficient of viscosity by Poiseuille's method (derivation), Stokes law (derivation from dimensional formula), terminal velocity, factors affecting viscosity of a liquid.	5
Topics for Self-study	Capillarity and its applications.	
Suggested Activities		
Activity No. 7	1. Measure surface tension of water and other common liquids and compare and learn i) Why water has high ST? think of reasons. ii) Check whether ST is a function of temperature? You can do it by heating the water to different temperatures and measure ST. iii) Plot ST versus T and learn how it behaves. Mix some quantity of kerosene or any oil to water and measure ST. Check whether ST for the mixture is more or less than pure water. List the reasons.	
Activity No. 8	2. Collect a set of different liquids and measure their viscosity. i) Find out whether sticky or non-sticky liquids are most viscous. List the reasons. ii) Mix non sticky liquid to the sticky liquid in defined quantities and measure viscosity. Find out viscosity is increasing or decreasing with increase of non-sticky liquid concentration. iii) Do the above experiment by mixing sticky liquid to the non-sticky liquid. Find out change in viscosity with increase of concentration of sticky liquid. List the applications where concept of Viscosity plays a dominant role.	

NOTE: *Sufficient number of numerical problems must be worked out in each chapter.*

Text Books:

Sl No	Title of the Book	Authors Name	Publisher	Year of Publication
1	Mechanics by, New Edition	D. S. Mathur	S.Chand & Co.	2000
2	Mechanics and Relativity by 3 rd Edition.	Vidwan Singh Soni.	PHI Learning Pvt. Ltd.	
3	Mechanics Berkeley Physics Course, Vol.1:	Charles Kittel, <i>et al.</i>	Tata McGraw-Hill	2007
4	Properties of Matter	Brijlal & Subramanyam.		

References Books

Sl No	Title of the Book	Authors Name	Publisher	Year of Publication
1	Physics, 9 th Edn.	Resnick, Halliday & Walter.	Wiley	2010
2	Physics Vol-I	Halliday and Resnick.		

List of Experiments to be performed in the Laboratory:

1.	Determination of g using bar pendulum (L versus T and L versus LT^2 graphs).
2.	Determination of moment of inertia of a Fly Wheel.
3.	Determination of rigidity modulus using torsional pendulum.
4.	Modulus of rigidity of a rod – Static torsion method.
5.	Determination of elastic constants of a wire by Searle's method.
6.	Young's modulus by Koenig's method.
7.	Viscosity by Stoke's method.
8.	Verification of Hook's law.
9.	Determination of surface tension of a liquid and the interfacial tension between two liquids using drop weight method.
10.	Study of motion of a spring and to calculate Spring constant, g and unknown mass.
11.	Determination of Young's modulus of a bar by the single cantilever method.
12.	Determination of Young's modulus of a bar by uniform bending method.
13.	Radius of capillary tube by mercury pellet method.
14.	Verification of parallel and perpendicular axis theorems.

(Minimum EIGHT experiments have to be carried out)

Reference Book for Laboratory Experiments

Sl No	Title of the Book	Authors Name	Publisher	Year of Publication
1	Physics through experiments	B.Saraf	Vikas Publications	2013
2	A lab manual of Physics for undergraduate classes, 1 st Edition.		Vikas Publications.	
3	BSc Practical Physics Revised Ed	CL Arora	S.Chand & Co.	2007
4	An advanced course in practical physics.	D. Chatopadhyay, PC Rakshit, B.Saha	New Central Book Agency Pvt Ltd.	2002


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Semester – II

Electricity & Magnetism

Course Title: Electricity and Magnetism	Course Credits: 4
Total Contact Hours: 52	Duration of ESA: 3 hours
Formative Assessment Marks: 30	Summative Assessment Marks: 70
Model Syllabus Authors:	Physics Expert Committee

Electricity & Magnetism		
Credit: 4+2		Theory: 4 hours /Week
Unit – 1		
Topics to be covered/taught/learnt:		Teaching Hours
Chapter No. 1	Electric charge and field: Coulomb's law, electric field strength, electric field lines, point charge in an electric field and electric dipole, work done by a charge (derivation of the expression for potential energy).	2
Chapter No. 2	Gauss's law and its applications (electric fields of a (i) spherical charge distribution, (ii) line charge and (iii) an infinite flat sheet of charge).	5
Chapter No. 3	Electric potential: line integral, gradient of a scalar function, relation between field and potential. Potential due to point charge and distribution of charges (Examples: potential associated with a spherical charge distribution, infinite line charge distribution, infinite plane sheet of charges). Potential (and field) due to a dipole (derivation) and electric quadrupole.	6
Topic for self-study	Constant potential surfaces.	
Suggested Activities		
Activity No. 1	1. Learn the difference between and DC and AC electricity and their characteristics. Voltage and line frequency standards in different countries. 2. A small project report on production of electricity as a source of energy: Different methods.	
Activity No. 2	1. Learn to use a multimeter (analog and digital) to measure voltage, current and resistance. Continuity testing of a wire. 2. Learn about household electrical connection terminals: Live, neutral and ground and voltage between the terminals. Role of earthing and safety measures	
Unit – 2		
Chapter No. 4	Conductors in electrostatic field: Conductors and insulators, conductors in electric field. Capacitance and capacitors, calculating capacitance in a parallel plate capacitor, parallel plate capacitor with dielectric, dielectrics: an atomic view. Energy stored in a capacitor, Gauss's law for a dielectric medium.	5
Chapter No. 5	Electric currents and current density: Electrical conductivity and Ohm's law. Physics of electrical conduction - conduction in metals and semiconductors. Circuits and circuit elements: Variable (Transient) currents in capacitor circuits, Resistor, inductor and capacitor and their combination (RL & RC) – expression for voltage and current (derivations) – Time constant in each case.	8
Topic for self-study	<i>Currents and voltage behaviour in series combination of R, L and C circuits</i>	

Suggested Activities

Activity No. 3	1. Learn about electrical appliances which work with AC and DC electricity 2. Learn about types of resistors and their colour codes and types of capacitors (electrolytic and non-electrolytic).	
Activity No. 4	1. Learn about power transmission: 3-phase electricity, voltage and phase 2. Visit a nearby electrical power station. Interact with line men, Electrical engineers and managers. Discuss about power loss in transmission. How to reduce it? 3. Prepare a small project report on street lighting and types of electrical bulbs.	

Unit – 3

Chapter No. 6	Magnetism: Definition of magnetic field, Ampere's law and Biot-Savart law (magnetic force and magnetic flux) - Application of Ampere's law to calculate magnetic fields due to (a) a straight long conductor (b) a long solenoid. Magnetic force on a moving charge, Magnetic force on a current carrying conductor, Electromagnetic induction, conducting rod moving in a magnetic field – expression for induced emf, law of induction. Relation between self- and mutual inductance for a pair of co-axial coils. Energy stored in a magnetic field.	7
Chapter No. 7	Alternating current circuits: Types of AC (sinusoidal and non-sinusoidal) - Complex representation (j-operator) of AC- RL, RC, LCR series circuits - derivation of expressions for current and impedance –Condition for Resonance, Bandwidth, quality factor and voltage magnification, Parallel LCR Resonant circuit – Bandwidth, quality factor and Current magnification. Power and energy in AC circuits -power factor.	6
Topic for self-study	Hall effect	

Suggested Activities

Activity No. 5	Activity: 1. Prepare a small project report on street lighting and types of electrical bulbs. 2. Learn the measurement of electric current using tangent galvanometer.	
Activity No. 6	Build a small coil with insulated copper wire. Connect an ammeter micro/milli ammeter. Verify magnetic induction using a powerful bar magnet.	

Unit – 4

Chapter No. 8	Electromagnetic waves: Equation of continuity, Maxwell's equations - Deduction of equations from empirical laws of Gauss, Faraday and Ampere, displacement current concept and significance, electromagnetic wave -Derivation of wave equations for E and B - light as an EM wave, Characteristics of EM waves, energy transported by electromagnetic waves -Poynting vector, significance of Poynting vector - Poynting theorem. Electromagnetic waves in different frames of reference (Qualitative).	9
Chapter No. 9	Field of a current loop, magnetic moment, Electric current in atoms, electron spin and magnetic moment, magnetization and magnetic susceptibility. Types of magnetic materials: diamagnetic, paramagnetic and ferromagnetic materials - Origin of dia, para and ferromagnetism on the basis of electronic structure of atoms Variation of susceptibility with temperature.	4
Topic for Self-study	<i>B-H hysteresis curves and its characteristics - Ferrites</i>	

Suggested Activities

Activity No. 7	1. Prepare a small project report on production of magnetic field: Permanent magnets, electromagnets and superconducting magnets. 2. Learn the principle of working of a Gauss meter to measure magnetic field	
Activity No. 8	1. Model the earth's magnetic field with a diagram. Explain the effect of tilt of the earth's axis and reasons for the change in the tilt of the earth's axis over thousands of years.	

NOTE: Sufficient number of numerical problems must be worked out in each chapter.

References Books:

Sl No	Title of the Book	Authors Name	Publisher	Year of Publication
1	Physics-Part-II,	David Halliday and Robert Resnick	Wiley Eastern Limited	2001
2	Berkeley Physics Course, Vol-2, Electricity and Magnetism, Special Edition	Edward M Purcell	Tata Mc Graw-Hill Publishing Company Ltd, New Delhi	2008

List of Experiments to be performed in the Laboratory

1.	Experiments on tracing of electric and magnetic flux lines for standard configuration.
2.	Determination of components of earth's magnetic field using a Ballistic galvanometer.
3.	Determination of capacitance of a condenser using B.G.
4.	Determination of high resistance by leakage using B.G.
5.	Determination of mutual inductance using BG.
6.	Charging and discharging of a capacitor(energy dissipated during charging and time constant measurements).
7.	Series and parallel resonance circuits (LCR circuits).
8.	Impedance of series RC circuits- determination of frequency of AC.
9.	Study the characteristics of a series RC and RL Circuit.
10.	Determination of self inductance of a coil.
11.	Verification of laws of combination of capacitances and determination of unknown capacitance using de - Sauty bridge.
12.	Determination of B_H using Helmholtz double coil galvanometer and potentiometer.

(Minimum EIGHT experiments have to be carried out)


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Activity Based Pedagogy:

(Design, Activity and Assessment)

Conducting activity based teaching-learning experience for students empower students with several graduate attributes by addressing several Outcomes at different levels of the Cognitive Blooms Taxonomy of Learning: like Clarity of Concept, ability to apply knowledge, evaluate and analyse the results, while they are also learn through the Affective and Psycho-motor domains of Learning through self-learning, group dynamics and team work, communication and presentation skills, ethics, life-long learning, etc. These experiments must be ones that do not involve sophisticated instrumentation and should be able to be performed outside laboratories.

Example 1: Elastic Properties of Solids:

The most important concept of studying elastic properties of solids is the Hooke's Law, which defines the stress-strain relationship.

Class 1: Defining problems, forming groups and giving instructions:

- The students should be made into forced groups of 6 to 8 members, depending on the class strength, consisting of diverse kinds of students in cognition, cultural, sex, behaviour, etc.
- Different materials of varying elastic properties should be given to each group, and should be asked to plot a graph of stress-strain of these materials in 8-10 days.
- Give clear instructions and clarify doubts, but not giving the procedure for the experiments. Students should discuss among themselves and consult books and internet to identify the procedure to obtain the Stress-strain graph. They should use only house-hold items or other commonly available tools to perform all the experiments.

Class 2: Presentation and discussion by students (max 8-10 mins each)

- Each group will be asked to make a presentation of 2 power point slides, where the first one explains the process they went through to arrive at the results and the second one shows their measured graph and an ideal text book plots. This slide should also contain two or three explanations of why both the plots differ.
- The student who will make the presentation on behalf of the group will be randomly selected just before the presentations. This will ensure that all group members will be mutually train each other for the presentation.
- The teacher should give equal marks to each member of a group depending on the methods adopted and clarity of concepts and results obtained and ability to analyse.

The following Program Outcomes will be attained by the students in such an activity based learning:

- P.O. 1 : Discipline Knowledge: Knowledge of science and ability to apply to relevant areas.
- P.O. 3 : Modern tool usage: Use a modern scientific, engineering and IT tool or technique for solving problems in the areas of their discipline.
- P.O. 5 : Individual and teamwork: Work effectively as an individual as a team member in a multidisciplinary team.
- P.O. 6 : Communication: Communicate effectively with the stake holders, and give and receive clear instructions.



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Example 2: Periodic and Non-Periodic Motions

Most important aspect of understanding this topic is to distinguish them with the amplitude versus distance and amplitude versus time plots.

Class 1: Defining problems and giving instructions

- Each student will be asked to list as many observations as possible, under the two types of motion as they observe in the external world (home, market, college, etc) in 8-10 days.
- The student will be asked to identify any one motion in each of the lists and plot graphs of amplitude versus distance and amplitude versus time for each of them in the 8-10 days.

Class 2: Peer evaluation by students and defending self

- Each student is asked to submit the lists of periodic and non-periodic motions observed in everyday life.
- Each student is also asked to submit the amplitude versus distance and amplitude versus time of one periodic motion and one non-periodic motion of his/her choice among his/her list.
- The submissions are randomly distributed among other students. Teacher now discusses the two types of motions in the lists of students and shows how the graphs will ideally look like.
- Now students are asked to evaluate and mark the submissions of other students they have with them and then the marked papers are returned to the respective students.
- Each student should be given an opportunity to question the marks he has got and each student who has given the marks should be able to defend his choice or marks.
- While observing the lists, marks obtained and the plots made, the teacher can assign marks to each student.

The following Program Outcomes will be attained by the students in such an activity based learning:

- P.O. 1. Discipline Knowledge: Knowledge of science and ability to apply to relevant areas.
- P.O. 4. Ethics: Apply the professional ethics and norms in respective discipline.
- P.O. 6. Communication: Communicate effectively with the stake holders, and give and receive clear instructions.



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Student seminars

Student (4 to 5 students in a group) groups may be assigned to give a seminar on a topic. They need to make a detailed study on the topic and prepare power point slides for the presentation. One student out of the group may be called randomly to present the certain portion of the topic. Similarly, other students may be called randomly to present remaining portion of the topic, so that each student must study whole topic. In a class 2 to 3 groups may present their topic.

Model Seminar Topics

1. Calorimetry
2. Thermometry
3. Kinetic theory of matter
4. Behavior of real gases
5. Transmission of heat
6. Transport phenomena in gases
7. Radiation laws
8. Laws of thermodynamics
9. Thermodynamical relationships
10. Heat engines
11. Production of low temperatures
12. Air conditioning systems
13. Entropy
14. Global warming
15. Classical and quantum statistics


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B.Sc. DEGREE FORMATIVE AND SUMMATIVE ASSESSMENTS

(Under New syllabus of NEP-2020 Scheme; Effective from Academic Year 2021-22)

SEMESTER: I/II

CORE COURSE and PAPER: PHYSICS – I/II

1. FORMATIVE ASSESSMENT (Max. Marks = 30)		
ASSESSMENT TYPE	DETAILS/METHOD	MARKS
Test	Theory paper IA tests	20 (Av. of Two tests)
Activity 1 (Experiment Based)	Experimental Set Up + Measurements + Results	10
Activity 2 (Seminar Based)	Chart/Slide preparation and presentation	10
2. SUMMATIVE ASSESSMENT (End Semester Examination)		
A. Theory Examination (Max. Marks = 60; Duration -3 Hrs)		
Question Paper Pattern		
There are <u>THREE</u> sections A, B and C. Answer SEVEN questions in section A, FOUR questions in section B and FIVE questions in section C		
Section – A (Short Answer questions) Answer any SEVEN questions out of NINE		
<ul style="list-style-type: none">• Each question carries 2 marks• Max.Marks = $7 \times 2 = 14$ Marks.• ONE question must be of conceptual Reasoning type.• TWO questions must be of simple numerical problem type		
Section –B (Medium Length Answer questions/Problems) Answer any FOUR questions out of SIX		
<ul style="list-style-type: none">• Each question carries 4 marks• Max.Marks = $4 \times 4 = 16$ Marks• TWO main questions (or 10 Marks) must be of numerical problems type.		
Section –C(Long Answer questions) Answer any FIVE questions out of SEVEN		
<ul style="list-style-type: none">• Each question carries 6 marks• Max.Marks = $5 \times 6 = 30$ Marks• Questions requiring detailed explanation, analysis, derivation etc. are to be given.• Numerical problems are to avoided in this section.		
B. Practical Examination (Max. Marks = 50; Duration – 3 Hrs)		
Practical internal 25 marks and practical Exam 25 marks		

Basis for Awarding Practical Internal Assessment Marks:

SIN	Particulars	IA Marks
1	Practical Test	10
2	Report on data sheet of Physics experiments/Seminar on Physics experiments, etc.	10
3	Active participation in practical classes	05
TOTAL Practical IA Marks		25

SYLLABUS FOR OPEN ELECTIVES**FIRST SEMESTER
PHYSICS FOR ALL****Time: 2 hrs./week + 01 Hr tutorial****Max Marks:**

Unit I	Energy and Power Explosions and energy; Energy, heat and its units; Energy table and discussions; Discussion of cost of energy; Measuring energy; Power; Different power sources; Kinetic energy.	(13 Hours)
Unit II	Gravity, Force and Space The force of Gravity; Newton's third law; Weightlessness; Low earth orbit; Geosynchronous satellites; Spy satellites; Medium Earth Orbit satellite; Circular Acceleration; momentum; Rockets; Airplanes, helicopters and fans; Hot air and helium balloons; angular momentum and torque.	(13 Hours)
Unit III	Nuclei and radioactivity Radioactivity; Elements and isotopes; Radiation and rays; Seeing radiation; The REM – The radiation poisoning; Radiation and cancer; The linear hypothesis; Different types of radiation; The half-life rule; Smoke detectors; measuring age from radioactivity; Environmental radioactivity; Glow of radioactivity; Nuclear fusion.	(13 Hours)
Unit IV	Climate change Global warming; IPCC; A brief history of climate; carbon dioxide; The greenhouse effect; Enhancement of Greenhouse effect; Hurricane and tornadoes; Antarctica; Fluctuations; Paleoclimate; Global warming vs Human caused global warming; Can we stop global warming?, Fossil Fuel Resources; Energy security; Energy efficiency and conservation; Bio-fuels; Nuclear, Wind and Solar power.	(13 Hours)
	References This course is extracted from the book titled "Physics and Technology for Future Presidents: An Introduction to the Essential Physics Every World Leader Needs to Know" by Richard A Muller, WW Norton and Company, 2007. (Unit-1 to 4 are from chapters 1, 3, 4 and 10, respectively).	

Sports Science

Time: 2 hrs./week + 01 Hr tutorial

Max Marks:

Content (Use maths of 10 th Std only – Only qualitative discussion)		Hrs
Unit - 1		
Chapter No. 1	Measurement: Physical quantities. Standards and Units. International system of Units. Standards of time, length and mass. Precision and significant figures.	04
Chapter No. 2	Newton's laws of motion: Newton's first law. Force, mass. Newton's second law. Newton's third law. Mass and weight. Applications of Newton's laws.	03
Chapter No. 3	Projectile motion: Shooting a falling target. Physics behind Shooting, Javelin throw and Discus throw.	03
Topics for self study (If any)	https://www.real-world-physics-problems.com/physics-of-sports.html	
Unit - 2		
Chapter No. 4.	Conservation laws: Conservation of linear momentum, collisions – elastic and inelastic. Angular momentum. (Physics behind Carom, Billiards, Racing)	04
Chapter No. 5.	Centre of mass: Physics behind Cycling, rock climbing, Skating,	02
Chapter No. 6.	Gravitation: Origin, Newton's law of gravitation. Archimedes's principle, Buoyancy (Physics behind swimming)	04
Topics for self study (If any)	Archimedes' Principle: Made EASY Physics in You tube	
Unit - 3		
Chapter No.7	Food and Nutrition: Proteins, Vitamins, Fat, Blood pressure. Problems due to the deficiency of vitamins.	04
Chapter No. 8	Energy: Different forms of Energy, Conservation of mass-energy.	03
Chapter No . 9	Physical exercises: Walking, Jogging and Running, Weight management.	03
Topics for self study (If any)	10 Best Exercises for Everyone – Healthline	
Suggested Activities		
Activity No. 1	Identify the methods of measurement of time, length and mass from ancient time and build models for them.	02
	Reference : History of measurement - Wikipedia https://en.wikipedia.org › wiki › History_of_measurem	

Activity No. 2	Identify Physics principles behind various Sports activities.	01
	https://www.real-world-physics-problems.com/physics-of-sports.html	
Activity No. 3	List the difficulties experienced in Gymnastics, Cycling and weight lifting.	02
Activity No. 4	List the difficulties experienced in swimming.	01
Activity No. 3	List the difficulties experienced in Gymnastics, Cycling and weight lifting.	02
Activity No. 4	List the difficulties experienced in swimming.	01
Activity No. 5	Learn breathing exercises.	02
	Reference : 1) Simple Breathing Exercise for Beginners Swami Ramdev 2) https://www.yogajournal.com	
Activity No.6	Write an essay on Physical health v/s Mental health or conduct a debate on Physical health v/s Mental health.	01

Text Books

SI No	Title of the Book	Authors Name	Publisher	Year of Publication
1	Physics for Entertainment	Yakov Perelman	Createspace Independent Pub.	
2	Physics Everywhere	Yakov Perelman	Prodinnova	2014
3	Mechanics for Entertainment	Yakov Perelman	Prodinnova	2014
4	Handbook of Food and Nutrition	M.Swaminathan	Bangalore Press 2012	2012
5	Food Science	B. Srilakshmi	New Age International Pub	2015

References Books

SI No	Title of the Book	Authors Name	Publisher	Year of Publication
1	Physics	Resnick, Halliday and Krane, Vol 1	Wiley Student Edition.	
2	For the love of Physics	Walter Lewin	Taxmann Publications Private Limited	2012
3	An Introduction to the Physics of Sports	VassiliosMcInnesS pathopoulos	CreateSpace Independent Publishing Platform	2013

Internet resources

<https://www.topendsports.com/biomechanics/physics.htm>

<https://www.real-world-physics-problems.com/physics-of-sports.html>

<https://www.healthline.com/>

SYLLABUS FOR OPEN ELECTIVES

SECOND SEMESTER

ELECTRICAL INSTRUMENTS

Time: 2 hrs./week + 01 Hr tutorial

Max Marks:

	Content	H
Unit - 1		
Chapter No. 1	Voltage and current sources, Kirchoff's current and voltage laws, loop and nodal analysis of simple circuits with dc excitation. Ammeters, voltmeters: (DC/AC)	03
Chapter No. 2	Representation of sinusoidal waveforms, peak and rms values, power factor. Analysis of single-phase series and parallel R-L-C ac circuits. Three-phase balanced circuits, voltage and current relations in star and delta connections. Wattmeters: Induction type, single phase and three phase wattmeter, Energy meters: AC. Induction type single phase and three phase energy meter	05
Chapter No. 3	Instrument Transformers: Potential and current transformers, ratio and phase angle errors, phasor diagram, methods of minimizing errors; testing and applications.	05
Topics for self study (If any)	Types of switches and Circuits, Safety precautions and rules in handling electrical appliances, Electric shock, first aid for electrical shocks, Fuses, MCB, ELCB and Relays, Filament lamp, Tube light, CFL and LED	
Suggested Activities		
Activity No. 1	Identify variety of electrical switches and note down their applications/utility. Reference: Weblink/Youtube/Book	
Activity No. 2	Identify the hazards involved in handling electrical circuits and instruments, make a list of safety precautions as well as first aid for electrical shocks. Reference : Weblink/Youtube/Book	
Unit - 2		
Chapter No. 4.	Galvanometers: General principle and performance equations of D'Arsonval Galvanometers, Vibration Galva nometer and Ballistic Galvanometer.	03
Chapter No. 5.	Potentiometers: DCPotentiometer, Crompton potentio meter, construction, standardization, application. AC Potentio meter, Drysdalepolar potentio meter; standardization, application.	03

Chapter No. 6.	DC/AC Bridges: General equations for bridge balance, measurement of self inductance by Maxwell's bridge (with variable inductance & variable capacitance), Hay's bridge, Owen's bridge, measurement of capacitance by Schearing bridge, errors, Wagner's earthing device, Kelvin's double bridge.	07
Topics for self study (If any)	Importance of grounding and Earthing , Methods for Earthing ,	
Suggested Activities		
Activity No. 3	Make a study of importance of grounding in electrical circuits. Reference : Weblink/Youtube/Book	
Activity No. 4	Prepare a detailed account of various methods of earthing and their utility/applications Reference : Weblink/Youtube/Book	
Unit - 3		
Chapter No.7	Transducer: Strain Gauges, Thermistors, Thermocouples, Linear Variable Differential Transformer (LVDT), Capacitive Transducers, Piezo-Electric transducers, Optical Transducer, Hall Effect Transducer	06
Chapter No. 8	CRO: Block diagram, Sweep generation, vertical amplifiers, use of CRO in measurement of frequency, phase, Amplitude and rise time of a pulse. Digital Multi-meter: Block diagram, principle of operation	03
Chapter No. 9	Basics of lead acid batteries, Lithium Ion Battery , Battery storage capacity, Coulomb efficiency, Numerical of high and low charging rates, Battery sizing.	04
Topics for self study (If any)	Fuses, MCB, ELCB and Relays, Filament lamp, Tube light, CFL and LED	
Suggested Activities		
Activity No. 5	Prepare a document on evolution of incandescent bulbs to the present day LED lights Reference : Weblink/Youtube/Book	
Activity No.6	Make a comparative study of Fuses, MCB, ELCB and Relays highlighting their use and applications Reference : Weblink/Youtube/Book	

Text Books

AK.Sawhney, A Course in Elec.&Electronics Measurements&Instrumentation , Dhanpatrai& Co. 1978
A.D. Helfrick& W.D. Cooper, Modern Electronic Instrumentation and Measurement Techniques PHI,2016

References Books

1. D C Kulshreshtha, Basic Electrical Engineering, Mc Graw Hill Publications, 2019
2. David G Alciatore and Michel B Hstand, Introduction to Mechatronics and Measurement Systems, 3rd, Tata McGraw Hill Education Private Limited, New Delhi., 2005
3. Vincent Del Toro, Electrical Engineering Fundamentals Prentice Hall India 2009

List of Experiments to be performed in the Laboratory

Sl No	Experiment
1	Introduction to Lab Equipment
2	Voltmeter Design
3	Ammeter Design
4	Ohmmeter Design
5	Multimeter Design
6	Measurement of Resistance using Wheatstone Bridge
7	Measurement of Capacitance using Schering Bridge
8	Measurement of Inductance using Maxwell Bridge
9	Measurement of Light Intensity
10	Measurement of Temperature
	Reference Book for Laboratory Experiments
	AK.Sawhney A Course in Elec.&Electronics Measurements&Instrumentation:
	Helfrick& Cooper, Modern Electronic Instrumentation and Measurement Techniques:


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SPACE MISSIONS

Time: 2 hrs./week + 01 Hr tutorial

Max Marks:


Unit 1:	Introduction to Space Missions : Rockets, types and their applications, Different types of orbits, Artificial satellites – basic idea and their applications, Introduction to Space Missions, Beginning of Space Missions - World and India, Applications of Space Research, Space crafts, Launching Vehicles.	13 Hours
Unit 2:	National Aeronautics and Space Administration (NASA) About NASA and its Goals, History of Creation. Foundational human spaceflight: X-15 program (1954–1968), Project Mercury (1958–1963), Project Gemini (1961–1966), Project Apollo (1960–1972), Skylab (1965–1979), Apollo-Soyuz (1972–1975). Modern human spaceflight programs: Space Shuttle program (1972–2011), International Space Station (1993–present), Constellation program (2005–2010), Commercial Crew Program (2011–present), Journey to Mars (2010–2017), Artemis program (2017–present).	13 Hours
Unit 3:	Indian Space Research Organisation (ISRO) About ISRO and its Goals, History of Creation. General Satellite Programmes: The IRS series, The INSAT series. Gagan Satellite Navigation System, Navigation with Indian Constellation (NavIC), Other satellites. Launch vehicles: Satellite Launch Vehicle (SLV), Augmented Satellite Launch Vehicle (ASLV), Polar Satellite Launch Vehicle (PSLV), Geosynchronous Satellite Launch Vehicle (GSLV). Experimental Satellites: Details and applications (Any Five) Earth Observation Satellites: Details and applications (Any Five) Communication satellites: Details and applications (Any Five)	13 Hours
	<p>Self Study: Major Space Centres in the World (at least 10) – brief idea about their location, establishment, capabilities and achievements. People behind space programs – at least 2 from India. Successful Missions (Any Five).</p> <p>Activities*:</p> <ul style="list-style-type: none"> • Design of working model of Rocket launching. • Preparation of report and presentation on application of satellites in agriculture, communication, weather forecasting, exploration of natural resources and Global positioning system (GPS). <p>* Faculty may suggest any other relevant activity as well. Preparation of report and presentation on Apollo 11: A Success story</p> <p>Activities:</p> <ul style="list-style-type: none"> • Preparation of report and presentation on the recent space missions of NASA. • Preparation of report on any one proposed space programme of NASA. <p>* Faculty may suggest any other relevant activity as well. Chandrayaan 1: Details and applications. Mars Orbiter Mission: Details</p>	

and applications.

Activities:

- Preparation of report and presentation on the recent space missions of ISRO.
- Preparation of report and presentation on any one proposed space programme of ISRO.
- Preparation of report and presentation on the contributions of Scientists from Karnataka to Indian Space Program and use of space technology in the local district.

* Faculty may suggest any other relevant activity as well.


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B.Sc. DEGREE EXAMINATIONS

(Under New syllabus of NEP-2020 Scheme; Effective from Academic Year 2021-22)

SEMESTER: I/II

ELECTIVE COURSE and PAPER: PHYSICS – I/II

1. FORMATIVE ASSESSMENT (Max. Marks = 10)		
ASSESSMENT TYPE	DETAILS/METHOD	MARKS
Test	Theory paper IA tests	10
2. SUMMATIVE ASSESSMENT (End Semester Examination)		
Theory Examination (Max. Marks = 40; Duration -2 Hrs)		
Question Paper Pattern		
Section – A (Medium Length Answer questions)		
<ul style="list-style-type: none">• Total Questions = 5. Questions to be answered = 4• Each question carries 5 marks• Max. Marks = 4 x 5 = 20 Marks		
Section – B (Long Answer questions)		
<ul style="list-style-type: none">• Total Questions = 3. Questions to be answered = 2• Each question carries 10 marks• Max. Marks = 2 x 10 = 20 Marks		


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KUVEMPU UNIVERSITY

DEPARTMENT OF SOCIOLOGY

**REVISED SYLLABUS FOR THE BACHELOR OF ARTS
UNDER GRADUATE**

**WITH EFFECT FROM THE ACADEMIC YEAR 2018-19
ONWARDS**

KUVEMPU UNIVESITY

UG SOCIOLOGY SYLLABUS


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Semester	Title of the Papers	Teaching Hours
I	Paper I - INTRODUCTION TO SOCIOLOGY	90 (06 hours per week)
II	Paper II - STUDY OF INDIAN SOCIETY	90 (06 hours per week)
III	Paper III - RURAL SOCIOLOGY	90 (06 hours per week)
IV	Paper IV - RESEARCH METHODOLOGY	90 (06 hours per week)
V	Paper V - FOUNDATIONS OF SOCIOLOGICAL THOUGHT (Compulsory Paper)	80 (05 hours per week)
	Paper VI - POPULATION STUDIES (Optional Paper)	80 (05 hours per week)
	Paper VI - MEDICAL SOCIOLOGY (Optional Paper)	80 (05 hours per week)
VI	Paper VII - URBAN SOCIOLOGY (Compulsory Paper)	80 (05 hours per week)
	Paper VIII - CURRENT SOCIAL PROBLEMS OF INDIA (Optional Paper)	80 (05 hours per week)
	Paper VIII - INDUSTRIAL SOCIOLOGY (Optional Paper)	80 (05 hours per week)


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MODEL QUESTION PAPER PATTERN FOR B.A. SOCIOLOGY

- Maximum Marks:80 per Subject
- Examination Duration: 03 Hours
- Each Question paper is divided into three Sections. Viz A, B and C.

SECTION- A

- Short answer Questions
- Answer any four out of Six – $04 \times 05 = 20$ Marks

SECTION –B

- Medium answer Questions
- Answer any three out of five- $03 \times 10 = 30$ Marks

SECTION – C

- Long answer Questions
- Answer any two out of three- $02 \times 15 = 30$ Marks

Note: The award of Internal Assessment (IA) is based on the performance in one internal test and one skill development activity related to prescribe syllabus. (Weightage: 10 Marks for One Internal Test + 10 Marks for One Skill Development Activity = 20 Marks)

I Year BA Semester-I

Paper-I: INTRODUCTION TO SOCIOLOGY

Unit-I: Introduction

The Meaning and Definition of Sociology. Nature, Scope and importance.
Development of Sociology in India.

Unit-II: Basic Sociological Concepts

Meaning, Definition and Characteristics of (A) Community (B) Institution
(C) Social Structure (D) Role and Status.

Unit- III: Heredity and Environment

A) Heredity- Meaning, Mechanism and the Role of Genes.
B) Environment- Meaning, Types and Influence of Environment on Personality

Unit-IV: Socialization and Culture

A) Socialization- Meaning and Definition, Agencies of Socialization - Family, Education Peer Group, Mass Media. Importance of Socialization. Theory of Looking glass self.
B) Culture- Meaning and Definition. Characteristics and Recent Trends.

Unit-V: Social Control:

Meaning, Definition and Importance of Social Control.
Types – Formal (law and education), Informal (folkways and mores)

Unit-VI: Social Change:

Meaning, Definition and Characteristics. Factors of Social Change-Physical, Biological, Cultural and Technological.

Reference Books

1. Gisbert - Fundamentals of sociology. Ed. 3rd, Pub. Orient Black Swan Publication 1973
2. Harry M Johnson- Sociology – A Systematic Introduction. First published in 1998.
Routledge is an imprint of Taylor & Francis, an informa company.
3. Jayaram, N- Introduction to sociology, Rawat Publications, 2015
4. Kingslay Devis - Human society. 4th edition pub. Macmillan Company, 1952
5. Shankar Rao, C.N - Sociology. Edition Reprint, S. Chand Limited, 1990


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I Year BA SEMESTER-II
PAPER-II: STUDY OF INDIAN SOCIETY

Unit- 1 Indian culture

Characteristics - Spiritual basis, Universal Outlook, Spirit of Inquiry, Unity in Diversity, Integral Approach, Harmony with Nature, Tolerance, Respect of Women hood.

Unit-II: Caste System:

Meaning, Definition, Positive and Negative aspects of Caste System. Caste and politics.

Unit-III: Hindu Marriage and Family:

- a) Objectives of Hindu Marriage, Recent trends and legislation (Hindu Marriage Act, Special Marriage Act and Dowry prohibition Act)
- b) Family: i) Joint family- Meaning, Definition, Merits and Demerits.
ii) Nuclear Family- Meaning, Definition and Functions.

Unit-IV: Status of Indian Women

- a) Status of Hindu Women through the Ages
- b) Status of Christian Women
- c) Status of Muslim Women

Unit V: Social Stratification

Meaning, Definition and Characteristics

Unit-VI: Backward Class and Minority

- a) Tribal of India- Meaning, Definition and Problems of Tribals.
- b) Schedule Caste- Meaning, Problems of SCs. Protection of Civil Rights Act.
- c) Backward Class Movement with special reference to Karnataka
- d) Religious Minorities- Problems of Muslims and Christians.

Reference Books

- 1) Ghurye, G.S - Caste and race in India. Pub. Popular Prakashana Bombay.
- 2) Kapadia KM - Marriage and Family in India, Ed.3, Oxford University Press, 1972
- 3) Prabhu, P.H - Hindu Social Organization. (I.S.I. Publications, New Delhi: Sterling Publishers (P) Ltd., 1972),
- 4) Ram Ahuja - Indian Social System. Ed. Reprint, Rawat Publ., 2006
- 5) Ramachandra Rao S. K- Social Institutions among the Hindus. Wesley Press, Mysore, the printers of this book- Bangalore
- 6) Srinivas, M.N. - Caste in Modern India and other Essays. Media Promoters & Publishers, 1989


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II Year BA SEMESTER –III
PAPER – III: RURAL SOCIOLOGY

Unit – I: Introduction

Meaning, Definitions, Scope and Importance of Rural Sociology. Historical Development of Rural Sociology with special reference to India. Characteristics of Rural Community. Villages in India: Types, Changes in Rural Society.

Unit-II: Rural Problems:

Problems and Remedies of (1) Agriculture (2) Cottage Industries (3) Child and Women Labour (4) Health and sanitation (5) Farmer's Suicide.

Unit III: Globalization and Rural Change

Meaning, Definition, Characteristics and Impacts of Globalization on Rural Change.

Unit –IV: Rural Political Structure

Panchayat Raj -Objectives, Structure and Functions with special reference to Karnataka. Role of Women in Panchayat, Crisis in Rural Politics.

Unit-V: Rural Development

(1) Role of NGO's in Rural Development (2) Self Help Groups
(3) SEZ (Special Economic Zone):- Positive and Negative Aspects (4) Rural Leadership

Reference Books

- 1) Boden, Powell - The Indian Village Community, the University of California, Longmans, Green, and Company, 1896
- 2) Desai, A. R. - Rural Sociology in India , Pub. Popular Prakashan
- 3) Chidambaram Introduction to Rural Sociology –, John Wiley & Sons Canada, Limited, 1977
- 4) Dube, S.C. - Indian Villages, First published in 1998. Rutledge is an imprint of Taylor & Francis, an informa company.
- 4) Gurusurthy, U - Panchayath Raj and the Weaker Sections, New Delhi, Ashish Publishing House, 1987, xiii, 211 p.
- 5) Jain, S. C., Community Development and Panchayati Raj in India, Allied Publishers, Bombay, 1967. Jayaswal, K. P., Hindu Polity, The Bangalore Printing and Publishing Company, Bangalore, 1967.
- 6) Madan, G.R. - The Indian Rural Problems, Allied Publishers
- 7) Nanavathi, M.B and Anjaria, J. J - The Indian Rural Problems, Pub. (the Indian Journal of Statistics), Calcutta, Vol. 7, Part 3, 1946.


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II Year BA SEMESTER – IV

PAPER –IV: RESEARCH METHODOLOGY

Unit –I: Social Research

Meaning, Definitions, Types and Qualities of Social Researcher. Research Design (Meaning and Uses). Stages of Social research. Uses and Limitations of Social Research.

Unit-II: Social Survey

Meaning, Definitions, Types, Advantages and Limitations.

Unit – III: Sampling

Meaning, Definitions, Types, Advantages and Limitations.

Unit-IV: Observation

Meaning, Definitions, Types, Advantages and Limitations.

Unit - V: Questionnaire

Meaning, Definitions, Types. Schedule- Meaning and Characteristics. Construction of Mailed Questionnaire, Uses and Limitations.

Unit – VI: Interview

Meaning, Definitions, Types, Advantages and Limitations.

Unit-VII: Report Writing

Interpretation of Data- Classifications, Editing, Coding and Tabulation.
Report Writing- Meaning, Contents of Report.

Reference Books

- 1) Ahuja, Ram - Research Methods, Reprint, Rawat Publications, 2001
- 2) Goode and Hatt - Methods in Social Research, Surjeet Publication, 2006
- 3) Gopal, M.H - Introduction to Research Procedure in Social Science, Asia Publishing House, 1964
- 4) Clause Adolf Moser - Survey Methods in Investigation, Ed. 2, reprint, Pub. Gower, 1979
Cornell, University 12 Jan 2009
- 5) Raj, Hans - Theory and Practice in Social Research, Pub. Surjeet Publications, 1979
- 6) Sharma, BAV., Prasad ,Ravindra., Sathyanarayana, P - Research Methods in Social Science (New Delhi : Sterling, 1985),
- 7) Wilkinson and Bandarkar - Methodology and Techniques of Social Research. Ed.9
Himalaya Publishing House, 1999
- 8) Young, P.V- Scientific Methods in Social Survey and Research, Editor Herbert Blumer,
Literary Licensing, LLC, 2012

III Year BA SEMESTER -V

PAPER-V: FOUNDATIONS OF SOCIOLOGICAL THOUGHT (Compulsory Paper)

Unit –I: Development of Sociological Thought

Meaning, Definition and Importance. Stages of Social thought.

Unit – II: Auguste Comte: Brief Life History and his contributions - (a) Law of Three Stages

(b) Hierarchy of Sciences (c) Religion of Humanity.

Unit-III: Herbert Spencer: Brief Life History and his contributions - (a) The law of Evolution

(b) The organic Analogy.

Unit-IV: Emile Durkheim: Brief Life History and his contributions:- (a) Division of Labor
(b) Typology of Suicide.

Unit –V: Max Weber: Brief Life History and his contributions - (a) Bureaucracy
(b) Social Action.

Unit – VI: Karl Marx: Brief Life History and his contributions - Class Struggle.

Unit-VII: Indian Sociologist

- a) A.R. Desai – Brief Life history and his contributions on Rural Society
- b) M.N. Srinivas- Brief Life history and his contributions on - (a) Social Mobility
(b) Dominant Caste.
- c) Iravati Karve – Brief Life history and her contributions on Kinship Organization in India.

Reference Books

- 1) Raymond Aron - Main Currents in Sociological Thought. Transaction Publishers, 1998
- 2) Emory Stephen Bogardus - The Development of Social Thought, Longmans, Green, 1947
- 3) Chambliss, Rollin - Social Thought, Pub.Fb&c Limited, 30-Sep-2016
- 4) Collin. R and Makowsky M.-The Discovery of Society, Pub. McGraw-Hill, 2010
- 5) Lewis A Coser- Masters of Sociological Thought: Ideas in Historical and Social Context, Pub, Waveland Press, 2003
- 6) Nishet R - The Sociological Tradition.Ed.Reprint, revised, Pub Transaction Publishers, 1993


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III Year BA SEMESTER – V

PAPER –VI: POPULATION STUDIES (Optional Paper)

Unit –I: Meaning and Definitions of Population Studies:

Development of Population Studies in general. Development of Population Studies in India and Importance of its Study.

Unit-II: Source of Population:

- 1) Census: Meaning and Importance of Census, Procedure and Problems of Census Taking.
- 2) Civil Registration System: Meaning and Importance.

Unit –III: Population Theories:

- a) Malthusian theory of Population with critical evaluation.
- b) Optimum population theory with critical evaluation.
- c) Demographic transition theory with critical evaluation.

Unit-IV: Compositional Characteristics of Population:

Age and Sex -Meaning and Importance. Dependency Ratio, Population Pyramid, Ageing of Population.

Unit-V: Demographic Process:

Fertility- Birth Process. Influencing Factors:- Socio- Cultural and Physiological Factors.

Mortality – Meaning and causes of Mortality.

Infant and Maternal Mortality - Meaning and Causes.

Migration – Meaning, Types, and Determinants of Migration.

Unit –VI: Population in India:

- a) Causes and Effects of Over Population.
- b) Family Planning: Meaning, Objectives, Methods, Success and Failure.
- c) Population Education: Objectives and Importance.
- d) Family Welfare Program: Meaning and Objectives.

Reference Books

1. Agarwal, S.N. - Some Problems of India's Population, Publisher Vora, 1966, the University of Michigan.
2. Bhende , Asha and Kanitkar, Tara - Principles of Population Studies, Himalaya Publishing House, 1994
3. Cox, Peter R. Demography. Cambridge University Press, 1955. Pp. 11–67. Eldridge,
4. Andrew G. Onokerhoraye- Population Studies, A.G. Onokerhoraye, 1985, Indiana University.
5. Kuppu Swamy : Population and Society in India, Popular Prakashan Private Ltd., 1975,
6. Thomson and Lewis - Population Problems,5th edition, Publisher, McGraw-Hill, 1970

III Year BA SEMESTER – V

PAPER –VI: MEDICAL SOCIOLOGY (Optional Paper)

Unit I: Medical Sociology

- a. Health: Goals and Definitions
- b. Related Terms/; Sociology of Health and Sociology of Disease
- c. Difference between Sociology of Medicine and Sociology in Medicine

Unit II: Constructing Illness

- a. Definitions of Illness, Sick and Disease
- b. Sick Role- Role of Nurses and other Paramedics
- c. Stigma of Mental Illness and HIV Positive

Unit III: Socio-Cultural Determinants of Health

Family, Gender, Housing, Sanitation, Environment, Nutrition and Cultural Practices.

Unit IV: Healthcare and Systems

- a. Hospital as a Social Institution
- b. Role of Pharmaceutical Industry and Advertisements
- c. Introduction of Healthcare Systems- Folk Medicine/ Ethnomedicine, Ayurveda, Unani, Siddha, Yoga, Homeopathy and Allopathy

Unit V: Healthcare Delivery in India

- a. Health Policies, Mental Health Policies
- b. Overview of Health Programmes related to Women, Children and the Disabled

Reference Books

1. Albert, Gary L. and R. Fitzpatrick (1994). Quality of Life In Healthcare: Advances in Medical Sociology, Mumbai: Jai Press.
2. Annandale Allen (2001). The Sociology of Health and Medicine- A Critical Introduction, Cambridge: Polity Press.
3. Bloom, Samuel W. (1963). The Doctor and His Patient, New York: Free Press.
4. Chloe Bird, Peter Conrad and Alan Fremont eds. (2000). Handbook of Medical Sociology, New York: Prentice Hall.
5. Cocker ham, William C. (1997). Medical Sociology, New Jersey, Prentice Hall.
6. Coe, Rodney M, (1970). Sociology of Medicine, New York: McGraw Hill.
7. Conrad, Peter ed. (2005). Sociology of Health and Illness: Critical perspectives, New York: Worth Publishing.
8. Dutta, P.R. (1955). Rural Health and Medical Care in India, Amble: Army Education Press.
9. Schwartz, Howard (1994). Dominant Issues in Medical Sociology, New York: McGraw Hill.
10. Venkataratnam, R (1979). Medical Sociology in an Indian Setting, Madras:

III Year BA SEMESTER – VI

PAPER-VII: URBAN SOCIOLOGY (Compulsory Paper)

Unit-I: Urban Sociology and Urban Community

- a) Urban Sociology – Introduction, Definition, Scope and Importance.
- b) Urban Community-Characteristics, Distinction between Rural-Urban Communities.

Unit-II: Urbanism and Urbanization

- a) Urbanism-Meaning and Definition.
- b) Urbanization-Meaning and Definition. Factors responsible for Urbanization.
Urbanization in India. Theories of Urbanization- (i) Concentric zone circle theory
(ii) Sector theory.

Unit-III: Industrialization and Work

- a) Industrialization-Meaning, Industrialization and Social Change, Effects of Industrialization
- b) Work- Social Importance of work

Unit-IV: Urban Problems

Causes, Effects and Remedies of:

- a) Housing Problem
- b) Slum Problem
- c) Problems of Sex Workers (Prostitution)
- d) Drug Addiction

Unit-V: Urban Planning and Development

- a) Urban Planning-Meaning, Objectives, Problems of Urban Planning in India.
- b) Urban Development – Meaning, Objectives and Agencies of Urban Development.

Reference Books

1. Ahuja, Ram- Social problem in India Rawat Publications; 3rd Revised & Updated edition (2014)
2. Slums and urbanization. /Edited by A. R. Desai and S. Devadas Pillai. Bombay : Popular Prakashan, [1970]
3. Burgess Ernest - Urban Sociology ,University of Chicago Press; Abridged edition (June 1, 1967)
4. Madan, G.R - Indian Social Problems (Vol-1): Social Disorganization and Reconstruction Volume 1 of Seventh edition, Allied Publishers, 1966
5. Rao, M. S. A. - Urban Sociology in India. Orient Longman, 1992


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III Year BA SEMESTER – VI

PAPER-VIII: CURRENT SOCIAL PROBLEMS OF INDIA (Optional Paper)

Unit- I: Structural Problem

- a) Casteism: Meaning, Definitions, Causes, Effects and Remedies.
- b) Communalism: Meaning Definitions, Causes, Effects and Remedies (Social and legal).

Unit-II: Familial problems

- a) Problems of Aged: Meaning, Definitions, Causes, Effects and Remedies.
- b) Gender Discrimination: Meaning, Definitions, Causes, Effects and Remedies.
- c) Domestic problems:
 1. Dowry- Act of 1961 and 1986.
 2. Divorce – Meaning and Definition. Divorcee as Social Evil. Causes and Remedies

Unit-III: Developmental problems

- (a) Regional Disparities: Meaning, Definitions, Causes, Effects, Remedies and Legislations (Article – 371(J)).
- (b) Globalization: Meaning, Definitions, Causes and Effects-positive and Negative Impacts.

Unit-IV: Organizational problems:

- a) Terrorism: Meaning, Definitions, Causes, Effects Remedies and Legislations.
- b) Corruption: Meaning, Definitions, Causes, Effects and Remedies. The role of Lokayukta and CBI.
- c) Youth Unrest: Meaning, Definition, Causes, Effects and Remedies.
- d) Juvenile Delinquency: Meaning, Definition, Types, Causes, Effects and Remedies (Social and Legal).

Reference Books

1. Ahuja, Ram- Social problem in India Rawat Publications; 3rd Revised & Updated edition (2014)
2. ATTAR, A D: Juvenile delinquency: A comparative study. (Popular Prakashan, Bombay, 1964)
3. Gerald Berreman. "Social Inequality: A Cross-Cultural Analysis" in Social Inequality: Comparative and Developmental Approaches, pp. 3–40. Ed. New York: Academic Press.
4. Ghurye, G.S Social Tensions in India. Bombay: Popular Prakashan, 1968. xi + 552 pp., index. Rs. 72 (cloth).

III Year BA SEMESTER – VI

PAPER-VIII: INDUSTRIAL SOCIOLOGY (Optional Paper)

Unit I: Industrial Sociology

- a. Nature and Scope of Industrial Sociology
- b. Definition- Industry- Sociological Approach
- c. Rise and Development of Industry
- d. Rise of Industrial Sociology

Unit II: Dimensions of Work

- a. The Concept of Work- Work as a Universal Activity
- b. Monotony-Fatigue-Alienation-Gender-Unpaid Work and Forced Labour

Unit III: Forms of Industrial Culture and Organization

Industrialism, Post-Industrial Society, Information Society

Unit IV: Problems in Industry

Industrial Sickness- Industrial Disputes- Absenteeism- Management and Labour Relationship.

Labour Organization: Nature and Functions, Collective Bargaining and its Features, Risk- Hazards and Disaster

Unit V: Labour Legislation

- a. Post 1990's Labour Laws in India
- b. Labour Welfare: Changing Policy Orientations (Pre 1990's and Post 1990 decades)
- c. International Labour Organization

Reference Books

1. Agarwal, R.D. (1974) Dynamics of Labour Relations in India. New Delhi, Tata McGraw Hill Publishing Company.
2. Baldev Sharma, R (1974) The Indian Industrial Worker. Bombay, Vikas Publishing House.
3. Giri, V.V. (1972) Labour Problems in Indian Industry. Bombay, India Asia Publishing House.
4. Gisbert Pascal (1972) Fundamental of Industrial Sociology. Bombay, Tata McGraw Hill.
5. Jain, S.C. (1971) The India Manager, Somalia Publication.
6. Miller, D.C. and Form, W.H. (1964) Industrial Sociology. New York, Harper and Row.
7. Parker, S.R. (et.el.) (1990) The Sociology of Industry. London, Allen and Unwind.
9. Schneider, E.V. (1960) Industrial Sociology (Ed). New York, McGraw Hill.
10. Sing, V.B. (1963) Industrial Labour in India. Bombay, Asia Publishing House.
11. Spaulding, Charles B. (1970) An Introduction to Industrial Sociology. Bombay, D.B.Taraporevala Sons and Co. Pvt Ltd.
12. Warner and Low (1947) the Social System of the Modern Factory, Yale University Press.



KUVEMPU UNIVERSITY
SHANKARAGHATTA-577451, SHIVAMOGGA, KARNATAKA

COURSE STRUCTURE AND SYLLABUS IN URDU (UG)

**As per the Choice Based Credit System (CBCS) designed
in accordance with**

**Learning Outcomes -Based Curriculum Framework (LOCF)
Under NEP 2020**

For

UNDER GRADUATE IN URDU LANGUAGE AND OPTIONAL

Leading to

**Ability Enhancement Compulsory Course (AECC) And
Discipline Specific Core (DSC)/Discipline Elective /Open
Elective**

**III and IV Semester B.A. B.Sc. B.Com. &
BBA/ BBA (T&T)/ BCA/BSW/BHA/B. Home
Science/ BA Music/ BA (FA) Etc. Degree Courses**

**With effect from
For Academic Year 2022-23 and onwards...**

Prof. RESHMA KAUSER, B
HOD of Urdu Department
D.V.S. Arts & Science College
SHIVAMOGGA

Principal
D.V.S. College of Arts & Science
Shivamogga

Syllabus of B. A., Ability Enhancement Compulsory Course (AECC)

Course Title: B.A. Under Graduate Programme (UG) IIB

Course Code: AECC -3 -L-2-Urdu (B.A.) Effect from 2022-23 and onwards

Second Year		URDU LANGUAGE PAPER - III	Credit	3
		Title: Prose, Poetry, Drama and Essay Writing	Hours	4
Semester	Third	<p style="text-align: center;">نثر، نظم و ڈرامہ اور مضمون نویسی</p> <p style="text-align: center;">Texts: 1. Pasban-e-Adab Edt. By Editorial Board SSCSmg. 2. Urdu Ke Mukhtasar Drame Edt. By Dr. Asma Kouser Published by Nasheman Publishers, Shivamogga</p>	Total Hours	64

Summative Assessment Marks: 60 Formative Assessment Marks: 40 Total=100: 4 Hours per week

Learning Outcomes	<ol style="list-style-type: none"> 1. Fair knowledge about Urdu Language 2. Brief knowledge about Urdu Literature 3. Introduction about the famous Urdu Writers, Poets & Drama Writers 4. Brief Knowledge about Essay Writing 	Suggested Pedagogy	<ol style="list-style-type: none"> 1. Lecture Method using Boards 2. Virtual Mode of Teaching 3. Power Point Presentation 4. Assignment, Presentations, etc. 5. Group discussions and class Seminars
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<p>Unit-I Prose</p> <ol style="list-style-type: none"> 1. Hamari Zaban ka Naam 2. Junoobi Hind ka ek 3. Saheb Bathroom Mein Hain 4. Gesu-e-Urdu Gesudaraz..... 5. Bhagwan ki Aamad 	<p>Syed Suleman Nadvi Suleman Athar Javeed Mujtaba Hussain Jawaid Danish Krishenchander</p>	15	<p>سید سلیمان ندوی سلیمان اٹھار جاوید مجتبیٰ حسین جاوید دانش کرشن چندر</p>	<p>اکائی-1 نثر</p> <ol style="list-style-type: none"> 1- ہماری زبان کا نام 2- جنوبی ہند کا ایک نامکمال شاعر 3- صاحب باغیچہ میں ہیں 4- گیسوے اردو گیسو دار چاہانی گرو 5- بھگوان کی آمد
<p>Unit-II Poems and Ghazals</p> <p>Poems:</p> <ol style="list-style-type: none"> 1. Masnavi Dar Hajo 2. Aye Sharief Insano 3. Walda Marhoomaki .. 4. Dawath-e-Inqilab 5. Mujhse Pehlisi <p>Ghazals:</p> <ol style="list-style-type: none"> 1. Khabar Tahaur Ishq 2. Mujhe Chhedneko Saqi... 3. Rasm-e- Duniya Sahi 4. Khush Jamalonki Yad... 5. Samne Unke Tadap..... 6. Tere Ishq ki Inteha..... 7. Sar Mein Soudabhi Nahi 8. Honton pe kabhi Unke.... 	<p>Mirza Rafi Souda Sahir Ludhiyanvi Allama Iqbal Joshi Malihabadi Faiz Ahmed Faiz</p>	14	<p>مرزا رفیع سودا ساحر لودھیانوی عمر اقبال جوش ملیح آبادی فیض احمد فیض</p>	<p>اکائی-11 افسانے اور نثریں</p> <ol style="list-style-type: none"> 1- مشہور دور کا ناول 2- اے شریف انسانو 3- والدہ مرحومہ کی یاد میں 4- دولت اکتاب 5- مجھ سے پہلی کی محبت مرے محبوب <p>نثریں:</p> <ol style="list-style-type: none"> 1- خیر خیر عشق میں نہ جنوں 2- مجھے مجھ پرے کو سائی 3- رسم و ریت کسکی فرض 4- خوش حالوں کی یاد 5- سامنے ان کے تپ 6- تیرے عشق کی انتہا پہنچا ہوں 7- سر میں سوراہی نہیں 8- ہونٹوں پہ کبھی ان کے
<p>Unit-III Drame</p> <ol style="list-style-type: none"> 1. Begum Ki Billi 2. Darwaza 3. Anjam Bakhair 	<p>Imtiyaz Ali Taj Krishnerchander Pitras Bukhari</p>	14	<p>امتیاز علی تاج کرشن چندر پیتراں بھاری</p>	<p>اکائی-111 ادا سے</p> <ol style="list-style-type: none"> 1- تکم کی لیلی 2- دروازہ 3- انجام بخیر
<p>Unit-IV Essay Writing</p>	<p>Siyasi , Samaji, Adabi Mazameen</p>	06	<p>سیاسی، سماجی، ادبی مضامین</p>	<p>اکائی-IV مضمون نویسی</p>

Syllabus of B. A., Ability Enhancement Compulsory Course (AECC)

Course Code: AECC -1 -L-2-Urdu (B.A.,) Effect from 2021-22 and onwards

URDU LANGUAGE PAPER - I

Credit 3
Hours 4

Title: Prose , Poetry, Short Stories and Forms of Prose

نثر، نظم، انسانی اور اصناف نثر

Total Hours 64

Texts: 1.Karwan-e-Adab Edt. By Dr. Syed Sanaula
2. Das Muqtasar Afsane Edt. By Dr. Syed Sanaula
Published by Nasheman Publishers, Shivamogga

Summative Assessment Marks: 60 Formative Assessment Marks: 40 Duration: 4 Hours per week

Outcomes	1.Fair knowledge about Urdu Language 2.Brief knowledge about Urdu Literature 3.Introduction about the famous Urdu Writers, Poets & Short Story Writers 4. Brief Knowledge about Forms of Prose	Suggested Pedagogy	1.Lecture Method using Boards 2.Virtual Mode of Teaching 3.Power Point Presentation 4. Assignment, Presentations, etc. 5.Group discussions and class seminars
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Unit-I Prose	Suggested Pedagogy	Suggested Pedagogy	Unit-I Prose
1. Bintah-e-Bahadur Shah 2. Khututh-e-Ghalib 3. Kafan 4. Faiz Ahmed Faiz 5. Sawere Jo Kal Aankh ...	15	15	اکائی-1 نثر 1- بنت بہادر شاہ 2- خطوط غالب 3- کفن 4- فیض احمد فیض 5- سورے جو کل آنکھ میری کھلی
Unit-II Poems and Ghazals Poems: 1. Awardan Mushtari 2. Khaid Khane ki Raath 3. Aata Daal 4. Jadeed Tarakhiyath 5. Zamana Ghazals: 1. Piya Baj Pyala piya.... 2. Jis Sar ko Ghuroor aaj.... 3. Hasti Apni Hubab ki si... 4. Asar Usko Zara Nahi 5. Layi Hayath Aayi 6. Badao na Aapas mein 7. Tamasha-e-Dair-o-Haram.. 8. Duniya Meri Bala Jane....	14	14	اکائی-II نظمیں اور غزلیں 1- آوردن مشتزی محمد قلی درابہ محل 2- قید خانے کی رات 3- آتا دال 4- جدید ترقیات 5- زمانہ غزلیں: 1- پیابانچ پیالہ پیاجائے نا 2- جس سر کو غرور آج 3- ہستی اپنی حباب کی 4- اثر اس کو ذرا نہیں 5- لائی حیات آئی قضا 6- بڑھا دنہ آپس میں 7- تماشاے دیرو حرم 8- دنیا میری بلا جائے نا

Course Title: BBA, BCA, BBA (T&T) Etc. Under Graduate Programme(UG) IIB
 Course Code: AECC-1-1-2-Urdu (BBA, BCA, BBA (T&T) Etc.,)
 Effect from 2021-22 and onwards

First Year	First	URDU LANGUAGE PAPER - I		Credit	3
		Title: Prose , Poetry, Drama and Forms of Prose		Hours	4
		نثر، نظم، ڈرامہ اور اصناف نثر		Total Hours	64
		Text: Armughan-e-Adab Vol.1Part-1 Edt. By Prof. M.N. Sayeed And Prof. Iqbalunnisa Pub. by: India Urdu Institute, Opp. Jeevan Bima Nagar Park, Bengaluru-75			

Summative Assessment Marks: 60 Formative Assessment Marks: 40 Duration: 4 Hours per week

Outcomes	1.Fair knowledge about Urdu Language 2.Brief knowledge about Urdu Literature 3.Introduction about the famous Urdu Writers, Poets & Drama Writers 4. Brief Knowledge about Forms of Prose.	Suggested Pedagogy	1.Lecture Method using Boards 2.Virtual Mode of Teaching 3.Power Point Presentation 4. Assignment, Presentations, etc. 5.Group discussions and class seminars
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Unit-I Prose 1. Khwaja Sag, Parast 2. Maulvi Abdul Haq 3. Jahan Mein Rehta Hun 4. Toba Tek Singhi 5. Hest-e-e- Padma	Meer Aman Dehelvi Khwaja Ahmed Farooqi Nazeer Siddiqui Sadath Hussain Manto Parast	15	میر امن دہلوی خواجہ احمد فاروقی نظیر صدیقی سعادت حسن منٹو احمد شاہ بخاری پطرس	اکائی-1 نثر 1- خواجہ سگ پرست 2- مولوی عبدالحق 3- جہاں میں رہتا ہوں 4- ٹوبا ٹیک سنگھ 5- ہست میں پدمنا
Unit-II Poems and Ghazals Poems: 1. Tazbeek-e-Rozgar 2. Khushnamad 3. Daulat aur Waqt 4. Bahar-e-Dehli pulhar 5. Hyder Ali Ghazals: 1. Fida-e-Dilbar rangeen ... 2. Madrasa tha Dair tha ... 3. Patti ... 4. Zamana ... 5. Dehen pe ham unke ... 6. Har ek bath pe kehne ... 7. Ab tho ghabrake yeh ... 8. Ghazab kiya tere wade ...	Mirza Rafi Souda Nazeer Akbar Abadi Altaf Hussain Hali Ehsan Danish Saghar Nizami Wali Aurangabadi Khwaja Meer Dard Meer Faqir Meer Mirza Rafi Souda Hyder Ali Aatish Mirza Ghalib Ibrahim Zouqh Mirza Dagh Dehelvi	14	مرزا محمد رفیع سودا نظیر اکبر آبادی الٹاف حسین حالی احسان دانش ساغر نضائی ولی اورنگ آبادی خواجہ میر درد میر تقی میر مرزا محمد رفیع سودا خواجہ حیدر علی آتش مرزا غالب محمد ابراہیم ذوق مرزا داغ دہلوی	اکائی-II نظمیں اور غزلیں 1- تنخیک روزگار 2- خوشنامہ 3- دولت اور وقت 4- بہار کی ایک دو پہر 5- حیدر علی غزلیں: 1- فدائے دلبر رنگین ادا ہوں 2- مدرسہ تقادیر تھا یا کعبہ 3- پتہ پتہ یونانی نا حال ہمارا 4- زمانہ جمو سے اگر ہونا ساز 5- وہ دن پہ ہیں ان کے کماں 6- ہر ایک بات پہ کہتے ہو تم 7- اب تو گھبرا کے یہ کہتے ہیں 8- غضب کیا تے وعدے پہ

Syllabus of B. A., Ability Enhancement Compulsory Course (AECC)

Course Code: AECC - 1 -L-2-Urdu (B.A.,) Effect from 2021-22 and onwards

URDU LANGUAGE PAPER - I

First Year

Title: Prose, Poetry, Short Stories and Forms of Prose

Credit

3

Hours

4

Semester

First

Texts: 1. Karwan-e-Adab Edt. By Dr. Syed Sanaula
2. Das Muqtasar Afsane Edt. By Dr. Syed Sanaula
Published by Nasheman Publishers, Shivamogga

Total Hours

64

Summative Assessment Marks: 60 Formative Assessment Marks: 40 Duration: 4 Hours per week

Outcomes	1. Fair knowledge about Urdu Language 2. Brief knowledge about Urdu Literature 3. Introduction about the famous Urdu Writers, Poets & Short Story Writers 4. Brief Knowledge about Forms of Prose	Suggested Pedagogy	1. Lecture Method using Boards 2. Virtual Mode of Teaching 3. Power Point Presentation 4. Assignment, Presentations, etc. 5. Group discussions and class seminars
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Unit-I Prose

1. Banz-e-Bahadur Shah
2. Khututh-e-Ghalib
3. Kafan
4. Faiz Ahmed Faiz
5. Sawere Jo Kal Aankh ...

Khwaja Hassan Nizami
Mirza Ghalib
Premchand
Mujtaba Hussain
Pitras Bukhari

15

خواجه حسن نظامی
مرزا غالب
پريم چند
مجتبی حسین
احمد شاہ پطرس بخاری

کہانی-انثر
1- بخت بہادر شاہ
2- مخلوط غالب
3- کفن
4- فیض احمد فیض
5- سورے جو کل آنکھ میری کھلی

Unit-II Poems and Ghazals

1. Awardan Mushtari
2. Khaid Khane ki Raath
3. Aata Daal
4. Jaded Tarakhiyath
5. Zamana

Mulla Wajhi
Meer Anees
Nazeer Akbar Abadi
Altaf Hussain Hali
Alama Iqbal

14

غلام جمالی
میر انیس
ظہیر اکبر آبادی
الطاف حسین حالی
علامہ اقبال

کہانی-II نظمیں اور غزلیں
1- آوردن مشتري محمد تقی رابہ محل
2- قید خانے کی رات
3- آٹا دال
4- جدید ترقیات
5- زمانہ
غزلیں:

Ghazals:

1. Piya Baj Pyala piya....
2. Jis Sar ko Ghuroor aaj....
3. Hasti Apni Hubab ki si....
4. Asar Usko Zara Nahī
5. Layi Hayath Aayi
6. Badao na Aapas mein
7. Tamasha-e-Dair-o-Haram..
8. Duniya Meri Bala Jane....

Khuli Khutub Shah
Meer Taqi Meer
Meer Taqi Meer
Momin
Ibrahim Zouq
Altaf Hussain Hali
Mirza Dagh
Fani Badayuni

14

تقی قطب شاہ
میر تقی میر
میر تقی میر
مومن
ابراہیم ذوق
الطاف حسین حالی
مرزا داغ دہلوی
فانی بدایونی

1- بیابانچہ یا لہریا جائے نا
2- جس سر کو غرور آج
3- ہستی اپنی حباب کی
4- اثر اس کو ذرا نہیں
5- لائی حیات آئی فنا
6- بڑھانے آپس میں
7- تماشا ہے دیر و حرم
8- دنیا میری بلا جائے

Syllabus of B.Com., Ability Enhancement Compulsory Course (AECC)

Course Title: B.Com. Under Graduate Programme (UG) IIB

Course Code: AECC -3 -L-2-Urdu (B.Com.,) Effect from 2022-23 and onwards

Second Year	URDU LANGUAGE PAPER - III		Credit	3
	Title: Prose, Poetry, Journalism and Precise Writing		Hours	4
Third	نثر، نظم، صحافت اور اختصاریہ تحریر		Total Hours	64
Text:	Pasban-e-AdabEdt. By Editorial Board SSC Smg. and Aina-e-SahafathEdt. By Dr. Syed Aleemullah Hussaini and Dr. Syed Taj-ul-Huda			

Summative Assessment Marks: 60 Formative Assessment Marks: 40 Total=100: 41 Hours per week

Learning Outcomes	1. Fair knowledge about Urdu Language 2. Brief knowledge about Urdu Literature 3. Introduction about the Urdu Journalism and Journalists 4. Brief Knowledge about Precise Writing	Suggested Pedagogy	1. Lecture Method using Boards 2. Virtual Mode of Teaching 3. Power Point Presentation 4. Assignment, Presentations, etc. 5. Group discussions and class Seminars
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Unit-I Prose Hamari Zabanka Nam Junooobi Hind kaek..... Saheb Bathroom mein... Gesu-e-Urdu Gesudaraz Bhagwan kiAamad	Syed Suleman Nadvi Suleman Athar Javeed Mujtaba Hussain Jawaid Danish Krishenchander	15	سید سلیمان ندوی سلیمان اظہر جاوید مجتبیٰ حسین جاوید دانش کرشن چندر	اکائی-انثر 1۔ ہماری زبان کا نام 2۔ جنوبی ہند کا ایک باکمال شاعر 3۔ صاحب ہاتھ روم میں ہیں 4۔ گیسوئے اردو گیسو دراز چاپانی کرو 5۔ بھگوان کی آمد
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Unit-II Poems and Ghazals Masnavi Dar Hajo.... Ae ShareefInsano Walida Marhoomaki. Dawath-e-Inqalab Mujhse Pehlisi	Mirza Md. Rafi Souda Saher Ludhiyanavi Allama Iqbal Josh Malihabadi Faiz Ahmed Faiz	14	مرزا محمد رفیع سودا ساحر لدھیانوی علامہ اقبال جوش ملیح آبادی فیض احمد فیض	اکائی-۱۱ اقصیٰ اور غزلیں 1 مشغور در بچو قولادخان کو تو ال 2 اے شریف انسانو 3 والد و مرحومہ کی یاد میں 4 دعوت انقلاب 5 مجھ سے پہلی سی محبت مرے محبوب نہ مانگ غزلیں:
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Unit-III Ghazals: Khabar TahaurIshq... Mujhe Chhedneko ... Rasm-e-Duniya no.... Khush Jamalunki.... Sarne unketadap Tere Ishqkiinteha. ... Sar me Soudabhi..... Honton pebhiunke....	Siraj Aurangabadi Insha Allah Khan Insha YasYagana Changezi Sikarder Ali Wajad Asghar Goundavi Allama Iqbal Firaq Gorakhpuri Ada Jafary	15	سراج آدرنگ آبادی انشاء اللہ خاں انشاء یاس یگانہ چنگیزی سکندر علی وجد اصغر گوندوی علامہ اقبال فراق گورکھپوری ادا جعفری	1- خیر خیر عشق من تاجوں۔۔ 2۔ مجھے چھیڑنے کو ساقی۔۔۔۔۔ 3۔ سر سم دنیانہ سکی فرض۔۔۔۔ 4۔ خوش بھالوں کی یاد آتی ہے۔۔۔۔ 5۔ سامنے ان کے تڑپ۔۔۔۔۔ 6۔ ترے عشق کی انتہا چاہتا ہوں۔۔۔۔ 7۔ سر میں سودا بھی نہیں۔۔۔۔۔ 8۔ ہونٹوں پہ بھی ان کے۔۔۔۔۔
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Unit-III Journalism Online Media ka Khabron kiAhmiyat. Press Conference Interview Mulaqath Nigari	Dr. Md. Ikramuddin Naseem Ahmed O.P. Verma O.P. Verma Dr. Ghazanfar Iqbal	14	ڈاکٹر خواجہ محمد اکرام الدین نسیم احمد او۔ پی۔ ورما او۔ پی۔ ورما ڈاکٹر حفصہ اقبال	اکائی-۱۱ صحافت 1۔ آن لائن میڈیا کا تصور اور اردو 2۔ خبروں کی اہمیت اور ترتیب 3۔ پریس کانفرنس 4۔ انٹرویو 5۔ ملاقات نگاری
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Unit-IV Precise Writing Urdu Passage 1/3 rd		06		اکائی-۱۷ اردو عبارت کو درست کر کے ایک تہائی بنانا ہے
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KUVEMPU UNIVERSITY

DEPARTMENT OF POST GRADUATE STUDIES AND RESEARCH IN
ENGLISH

JNANASAHYADRI, SHANKARAGHATTA – 577451

Prof Rachel Bari
Chairperson (BOS UG)

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Ref/NO/KU/ENG/ 593 /2020-21


Date:17.11.2020

CIRCULAR

FOR IMMEDIATE ATTENTION OF TEACHERS OF ENGLISH IN THE UNDERGRADUATE COLLEGES AFFILIATED TO KUVEMPU UNIVERSITY.

The Covid- 19 situation in the country has brought in new challenges in the academic structure. We have had to adapt and re learn many things. Teaching has to take on a new approach as there is a delay in the commencement of classes. Confident that our teachers in the undergraduate classes are competent and willing to take up this new challenge, here are a few clarifications and information that they are requested to keep in mind before the academic year begins by the 17th of November 2020.

1. They syllabus is uploaded on the University website. Kindly access it as everything now is digital.
2. The textbooks are available in the bookstalls. The names of the textbooks are also available in the syllabus
3. There are two Workbooks from Orient Blackswan
 - a. Practising Language (Ist and 2nd Semester)
 - b. Practising communication skills (3rd and 4th semester)


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The practice of allotting 5 marks for the workbook is withdrawn from this year. However the workbooks are to be treated as compulsory reference material for the writing skills section of the syllabus. The teachers are requested to supplement the exercises in the workbook with practice sessions of their own to make it effective.

The teachers of the respective colleges have to conduct two tests for a total of 20 marks each semester. **The marking scheme of the tests can be modified to suit practical applicability and marking requirements.**

Teachers are required to take note of the following:

The Textbook for the II year Bsc/BCA/BSc Int/BSc Home Science is titled INVENTIONS-II. The first poem in the syllabus which has been prescribed is Mother (translated by A K Ramanujan) by P Lankesh. But the translation used in the text is by Komalesh and not A K Ramanujan. Teachers are requested to download the translation by A K Ramanujan available on the internet and use it in class. Kindly acknowledge the translation of Komalesh in class, but use the translation of A K Ramanujan.

Wishing you all the best of luck in the year of the Covid-19 and hope we do justice to our students.


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Shimoga.


RACHEL BARI

(Chairperson BOS UG)

CHAIRMAN
B.O.S. in English (UG)
Kuvempu University
Jnaneswari
B.R. Project 577 11*

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Revised and Approved Syllabus
Effective from 2020-21

Enhancing Language - I
I Year B.Com/ BBA/TTM
I Semester

Section- A

<u>Prose</u>	26 Marks	1 hr/wk
1. Not Just Oranges	: Isai Tobolsky	
2. The Luncheon	: Somerset Maugham	
3. What makes people unhappy?	: Bertrand Russell	
4. What is Science?	: George Orwell	
5. The Englishman and the Russian	: K.P.S Menon	

Section- B

<u>Poetry</u>	24 Marks	1 hr/wk
1. The Road Not Taken	: Robert Frost	
2. Chimney Sweeper (Songs of experience)	: William Blake	
3. A Request	: Kamala Das	
4. The Seven Ages of man	: William Shakespeare	
5. Go and catch a falling star	: John Donne	

Section – C

Language Skills and Grammar	30 Marks	2 hrs/wk
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(Work Book -Common for all 1st and 2nd semester courses)

Grammar:	1. Reading Comprehension	10 Marks
	2. Be, Do, Have forms	06 Marks
	3. Articles	02 Marks
	4. Tenses	04 Marks
	05. Subject Verb Agreement	04 Marks
	06. Dialogue Writing	04 Marks


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Revised and Approved Syllabus

Effective from 2020-21

I Year B.Com/ BBA/ TTM

II Semester

Section- A

Prose

26 Marks

1 hr/wk

1. The Cabuliwallah : Rabindranath Tagore
2. Pret in The House : Ruskin Bond
3. Dangers of Drug Abuse : Hardin B Jones
4. Film Making : Satyajit Ray
5. Hagar : A Story of a Woman and Water : Sara Joseph

Section- B

Poetry

24 Marks

1 hr/wk

- 1 To Autumn : John Keats
2. She Dwelt among the Untrodden ways : William Wordsworth
3. Ozymandias : P.B. Shelley
4. The Patriot : Nissim Ezekiel
5. I Know why the Caged Bird Sings : Maya Angelou

Section- C

Language Skills and Grammar

30 Marks

2 hrs/wk

(Work book -Common for all 1st and 2nd semester courses)

- Grammar:**
1. Reading Comprehension 10 Marks
 2. Vocabulary 04 Marks
 3. Interrogative Sentences 02 Marks
 4. Voice – Active to Passive 02 Marks
 - Passive to Active 02 Marks
 05. Negative Sentences 02 Marks
 06. Prepositions 02 Marks
 07. Correction of sentences 02 Marks
(Verb forms only)
 08. Dialogue Writing 04 Marks


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Kuvempu University

Revised and Approved Syllabus

Effective from 2018-19

Reading Room

I year BA/BSW

I Semester

Section - A

Prose: **26 Marks** **1 hr/wk**

1. Ransom of the Red Chief : O. Henry
2. The Open Window : Saki
3. Silent Spring : Rachel Carson
4. Issues in the Writing of Environmental History : Mahesh Rangarajan
5. The Happy Prince : Oscar Wilde

Section - B

Poetry: **24 Marks** **1 hr/wk**

1. Father Returning Home : Dilip Chitre
2. Africa : David Diop
3. Animals : Walt Whitman
4. Because I could not stop for Death : Emily Dickinson
5. Richard Cory : E.A. Robinson

Section- C

Grammar and Language Skills : **30 Marks** **2 hrs/wk**

(Work book -Common for all 1st and 2nd semester courses)

Grammar:	1. Reading Comprehension	10 Marks
	2. Vocabulary	04 Marks
	3. Interrogative Sentences	02 Marks
	4. Voice – Active to Passive	02 Marks
	Passive to Active	02 Marks
	05. Negative Sentences	02 Marks
	06. Prepositions	02 Marks
	07. Correction of sentences	02 Marks
	(Verb forms only)	
	08. Dialogue Writing	04 Marks

Note: Existing question paper pattern to be followed

Board of Studies in English (Undergraduate)

Kuvempu University

Revised and Approved Syllabus

Effective from 2018-19

Reading Room

I year BA/BSW

II Semester

SECTION A

Prose: **26 Marks** **1 hr/wk**

1. Further Progress in Specialization : Stephen Leacock
2. The Need for Excellence : Narayana Murthy
3. The World Renowned Nose : Vaikom Muhammed Basheer
4. How Much Land Does a Man Need : Leo Tolstoy
5. **Maintaining Democracy** : **Ambedkar**

SECTION B

Poetry: **24 Marks** **1 hr/wk**

1. A Psalm of Life : Henry Wadsworth Longfellow
2. I Sit and Sew : Alice Dunbar Nelson
3. The Chimney Sweeper : William Blake
4. I Know My Soul : Claude Mckay
5. When in Disgrace : William Shakespeare

SECTION C

Language Skills and Grammar **30 Marks** **2 hrs/wk**

(Work book -Common for all 1st and 2nd semester courses)

- Grammar:**
1. Reading Comprehension 10 Marks
 2. Vocabulary 04 Marks
 3. Interrogative Sentences 02 Marks
 4. Voice – Active to Passive 02 Marks
 - Passive to Active 02 Marks
 05. Negative Sentences 02 Marks
 06. Prepositions 02 Marks
 07. Correction of sentences 02 Marks
 - (Verb forms only)
 08. Dialogue Writing 04 Marks

Note: Existing question paper pattern to be followed

Board of Studies in English (Undergraduate)

Kuvempu University

Revised and Approved Syllabus

Effective from 2020-21

Pursuit of Language- II

II Year BA/BSW

III Semester

Section- A

Poetry

22 Marks

1 hr/wk

1. Aggression : Meena Kandaswamy
2. The Pulley : George Herbert
3. Mending Wall : Robert Frost
4. Crutches : Bertolt Brecht
5. Lake Isle of Innisfree : W.B Yeats

Section- B

Prose

28 Marks

1 hr/wk

1. My Brother, My Brother: Norah Burke
2. Yellow Fish : Ambai
3. The Chipko Women's Concept of Freedom : Vandana Shiva
4. My Thai Cat- Pratoomeratha Zeng
5. War: Luigi Pirandello

Section- C

Writing Skills :

30 marks

2 hrs/wk

1. Letter to the Principal : a) Conducting educational tour
b) Arranging a program in the college
6 marks
2. Paragraph writing - Proverbs or **ideas**
6 marks
3. Drafting Speeches
(Introduction of guest, welcome speech, Vote of thanks)
6 marks
4. Soft skills and interview skills
6 marks
5. Everyday expressions
6 marks

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Kuvempu University

Revised and Approved Syllabus

Effective from 2020-21

II Year BA/BSW

IV Semester

Section- A

Drama (Short Plays)

50 Marks

2 hrs/wk

1. The Pie and the Tart: Hugh Chesterman
2. Never, Never Nest: Cedric Mount
3. The Bear: Anton Chekov
4. Purpose: T.P. Kailasam

Section- B

Writing Skills

30 marks

2 hrs/wk

1. Application for a job with CV preparation 6 marks
2. Report writing on college events 6 marks
3. e-mail - enquiry and reply, placing an order, complaints 6x2 = 12 marks
4. Column writing on contemporary Themes 6 marks


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Kuvempu University

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Effective from 2018-19

I year B.Sc./ BSc Int/B.C.A./B.Sc. Home Science

INNOVATION

I Semester

Section A

Prose: **26 Marks** **1 hr/wk**

- | | |
|--------------------------|------------------|
| 1. Gift of the Magi | : O. Henry |
| 2. Half a Rupee Worth | : R. K. Narayan |
| 3. The Model Millionaire | : Oscar Wilde |
| 4. All About a Dog | : A. G. Gardiner |
| 5. The Child | : Premchand |

SECTION B

Poetry: **24 marks** **1 hr/wk**

- | | |
|-----------------------------------|--------------------------------|
| 1. Where the Mind is Without Fear | : Rabindranath Tagore |
| 2. Daffodils | : William Wordsworth |
| 3. The Slave Auction | : Frances Ellen Watkins Harper |
| 4. A Noiseless Patient Spider | : Walt Whitman |
| 5. I felt a Funeral, in my Brain | : Emily Dickinson |

Section- C

Language Skills and Grammar **30 Marks** **2 hrs/wk**

(Work book -Common for all 1st and 2nd semester courses)

- | | | |
|-----------------|------------------------------|----------|
| Grammar: | 1. Reading Comprehension | 10 Marks |
| | 2. Vocabulary | 04 Marks |
| | 3. Interrogative Sentences | 02 Marks |
| | 4. Voice – Active to Passive | 02 Marks |
| | Passive to Active | 02 Marks |
| | 05. Negative Sentences | 02 Marks |
| | 06. Prepositions | 02 Marks |
| | 07. Correction of sentences | 02 Marks |
| | (Verb forms only) | |
| | 08. Dialogue Writing | 04 Marks |

Note: Existing question paper pattern to be followed

Board of Studies in English (Undergraduate)

Kuvempu University

Revised and approved syllabus

Effective from 2018-19

I year B.Sc./ BSc Int/B.C.A./B.Sc. Home Science

INNOVATION

II Semester

SECTION A

Prose: **26 marks** **1 hr/wk**

1. The Purloined Letter : Edgar Allan Poe
2. The Chipko Women's Concept of Freedom : Vandana Shiva
3. The Rise and Fall of the Bilingual Intellectual: Ramachandra Guha
4. The Eyes Are Not Here : Ruskin Bond
5. The World Renowned Nose : Vaikom Muhammad Basheer

SECTION B

Poetry: **24 Marks** **1 hr/wk**

- 1) Father Returning Home : Dilip Chitre
- 2) Search for My Tongue : Sujata Bhatt
- 3) Africa : David Diop
- 4) Ecology : A.K. Ramanujan
- 5) The Chimney Sweeper : William Blake

SECTION C

Language Skills and Grammar **30 Marks** **2 hrs/wk**

(Work book -Common for all 1st and 2nd semester courses)

- Grammar:**
1. Reading Comprehension 10 Marks
 2. Vocabulary 04 Marks
 3. Interrogative Sentences 02 Marks
 4. Voice – Active to Passive 02 Marks
 - Passive to Active 02 Marks
 05. Negative Sentences 02 Marks
 06. Prepositions 02 Marks
 07. Correction of sentences 02 Marks
 - (Verb forms only)
 08. Dialogue Writing 04 Marks

Note: Existing question paper pattern to be followed

Board of Studies in English (Undergraduate)

Kuvempu University

Revised and Approved Syllabus

Effective from 2020-21

INVENTIONS - II

II Year BSc/BCA/ B.Sc Int/ B.Sc Home science

III Semester

Section- A

Poetry

25 Marks 1 hr/wk

1. P. Lankesh : Mother (Translated by A.K Ramanujan)
2. John Milton : On his Blindness
3. William Wordsworth : The World is Too Much with us
4. Robert Frost : Birches
5. T.S Eliot : Journey of the Magi

Section- B

Prose

25 Marks 1 hr/wk

1. Oscar Wilde : An Exposure to Naturalism
2. George Orwell : Shooting an Elephant
3. Junior Pears Encyclopedia : Energy Crisis
4. A.K Ramanujan : Annaiah's Anthropology
5. K. Saraswathi Amma : Marriages are Made in Heaven

Section- C

Writing Skills :

30 marks 2 hrs/wk

1. Letter to the Principal : a. Conducting educational tour 6 marks
b. Arranging programme in the college
2. Paragraph writing - Proverbs or ideas 6 marks
3. Drafting Speeches 6 marks
(Introduction of guest, welcome speech, Vote of thanks)
4. Soft skills and interview skills 6 marks
5. Everyday expressions 6 marks

Note:

Existing question paper pattern to be followed for section A and B.

Board of Studies in English (Undergraduate)

Kuvempu University

Revised and Approved Syllabus

Effective from 2020-21

II Year BSc/BCA/ B.Sc Int/ B.Sc Home science

IV Semester

Section- A

Drama **50 Marks** **2 hrs/wk**

Othello by William Shakespeare

Section- B

Writing Skills **30 marks** **2 hrs/wk**

1. Application for a job with CV preparation 6 marks
2. Report writing on college events 6 marks
3. e-mail letters - enquiry and reply, placing an order, complaints 6x2 = 12 marks
4. Column writing on contemporary themes 6 marks

Question Paper Pattern

- Q. 1. Annotations : Three out of Five 3x5 =15
- Q. 2. Short notes : Three out of Five 3x5 =15
- Q. 3. Essay type answers Two out of Three 2x10 =20


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Revised and Approved Syllabus

Effective from 2020-21

Enhancing Language - II

II Year B.Com/ BBA/ TTM

III Semester

Section- A

Poetry

20 Marks 1 hr/wk

1. The Tables Turned : William Wordsworth
2. Green : Kuvempu (K.V Puttappa)
3. On Killing a Tree : Gieve Patel
4. The Pulley : George Herbert
5. The Last Will of a Dalit Poet: Jayant Parmar

Section- B

Prose

20 Marks 1 hr/wk

1. Just One Word : Bama
2. The Lament : Anthon Chekov
3. Playing the English Gentleman : M.K Gandhi
4. The Worship of the Wealthy : G.K Chesterton
5. The Pot Maker : Temsula Ao

Section- C

Writing Skills

40 marks 2 hrs/wk

Business Communication

1. Application letter with Resume 6 Marks
2. Email - Enquiry and Reply, Placing an order, Complaint letters, Status Enquiry
6 x 2=12 Marks
3. Debt Collection letters 6 Marks
4. Request for OD facility and reply [favorable and unfavorable] 6 Marks
5. Circulars a) Change of Premises 6 Marks
b) Opening of a new branch
6. Computer and commercial terms 4 Marks

Board of Studies in English (Undergraduate)

Kuvempu University

Revised and Approved Syllabus

Effective from 2020-21

Enhancing Language - II

II Year B.Com/ BBA/ TTM

IV Semester

Section- A

One Act Plays (4 Plays)

Marks: 50

2 hrs/wk

- a. The Refund :Fritz Karinthy
- b. The Dear Departed: Stanley Houghton
- c. Never, Never Nest : Cedric Mount
- d. The Burden : by T.P Kailasam.

Section B

Writing Skills and Soft Skills

Marks: 30

2 hrs/wk

- 1. Report writing - 05 Marks
- 2. Letter to the editor on civic problems - 05 Marks
- 3. Notice, agenda, minutes of a meeting - 05 Marks
- 4. Soft skills and Interview skills - 05 Marks
- 5. Summarizing a dialogue - 05 Marks
- 6. Everyday expressions - 05 Marks



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Kuvempu University

Revised and Approved Syllabus

Effective from 2020-21

Syllabus for B.A. Programme in Linguistics

Paper – I: Language and Linguistics

UNIT I: Language and Communication: Human and animal communication, Design Feature Framework, Key Properties of Language. Definition of language; Characteristics of language. Theories regarding the origin of language.

UNIT II: Scope and nature of linguistics; Branches of linguistics; Concepts of Syntagmatic and Paradigmatic Relations; Synchronic and Diachronic relations; Competence and Performance; Innateness hypothesis; Langue and Parole. Language universals and specific properties of language

UNIT III: Levels of language and their hierarchy; phonological, morphological, syntactic and semantic. Language relation: genetic, areal, typological and morphological. Language: spoken language and written modes and relation between them; writing systems: evolution of writing systems

UNIT IV: Language variations: Dialect, Idiolect and Language; Dialect geography and isoglosses; Register, Style, Code, Sociolect; Pidgins and Creoles. Standardization of language: processes of standardization. Language as a system of communication: Communicative functions of language: Referential, Emotive, Conative, Poetic, Metalinguistic and Phatic functions of language; Semantics: Basic concepts.


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Paper – II: Introduction to Phonetics

UNIT I: Basic concepts in Phonetics: The role of sound in communication; Major branches of Phonetics; The anatomy and physiology of speech: speech organs & their function; Major components of speech production: Initiation, Phonation, and Articulation; Classification and Description of speech sounds: consonants, vowels, diphthongs; Multiple articulation and Coarticulation; Suprasegmentals; Phonetic Transcription; Acoustic characteristics of speech.

UNIT II: Basic concepts in Phonology : Phoneme and its nature; Phonemic principles: the concepts of contrast, minimal pairs, complementary distribution; Types of distribution; Phonemic variation; Distinctive Feature Theory ; Syllabicity; Procedures for phonemic analysis; Rule writing ; Rule Ordering.


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Paper – III: Approaches to Morphology and Syntax

UNIT I: Place of Morphology in Structural Linguistics and Generative Grammar; Interaction of Morphology with Phonology and Syntax. Concept of word; Kinds of word— Phonological, Orthographic and Grammatical word, lexeme and word form; hierarchical structure of word; word vs. morpheme.

UNIT II: Concept of morpheme, morph and allomorph; Relationship between morph and morpheme; Morphophonemics; Conditioning of allomorphs; Types of morph; Concept of underlying representation and rule ordering in Morphology.

UNIT III: Basic constituents of word structure—Root, Stem, Base, Affixes, Types of affixes; Inflectional vs. Derivational Morphology; Nature and classification of Inflectional and Derivational affixes; Exercises on morphological analysis.

UNIT IV: Basic concepts: IC analysis and its limitations; Generative Grammar; The Transformational framework: recursion, creativity, deep structure – surface structure, competence – performance, observational - descriptive – explanatory adequacy, components of a TG Grammar; Constituents: noun phrase and verb phrase constituents; Lexicon and Features, Simplicity and Linguistic Explanation.

UNIT V: Rules: phrase structure rules, transformational rules, segment structure rules, context free and context sensitive rules, optional and obligatory rules, singularly and generalized rules, meaning changing and meaning preserving rules, structural description and structural change, ordering of rules. Transformations: elementary transformational processes, phrase marker; A few transformations: passivization, reflexivization, extraposition, affix hopping, Do support.


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Paper – IV: Introduction to Applied Linguistics

UNIT I: Introduction to language acquisition; linguistic environment and language acquisition.

UNIT II: Motivation and language acquisition; cross linguistic influences on language acquisition; theoretical models of language acquisition; intra/intercultural language differences and their impact on mainstream communicative competence,

UNIT III: Language acquisition and strategies for facilitating acquisition; normal and pathological language; the nature of deficits in disorders of language, speech, and hearing; intervention and rehabilitation.

UNIT IV: Language and Mind Language as biological behaviour, brain and language; language faculty and language acquisition, motherese; normal and pathological language.


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Paper – V: Applied Translation and Communication

UNIT I: Nature and scope of translation: different theories of translation, use of linguistics in translation.

UNIT II: Principles of translation; role of the translator; types of translation, interpretation and transcreation; problems of translation

UNIT III: Text analysis; process of translation; methods of translation; problem areas in translation

UNIT IV: Language and Machine Computational linguistics and Natural language processing; parsing and generation, computer aided translation and language teaching.

UNIT V: Interpersonal and Intrapersonal communication; message structure and message rewriting; effective textual strategies: clarity, conciseness, consistency and coherence; content, style and persuasion; document summarization; report writing.

Paper – VI: Introduction to Sociolinguistics

UNIT I: Sociolinguistics - Definition, Concepts and Frameworks: defining sociolinguistics, subject matter of sociolinguistics, sociolinguistics and sociology of language, macro and micro sociolinguistics, traditional dialectology and social dialectology, defining speech community, verbal and speech repertoire, restricted and elaborated codes, verbal deficit hypothesis.

UNIT II: Multilingualism and language contact: bilinguals and bilingualism – typologies, bilingual speech community, domains of language use, code-switching and mixing, language maintenance, shift and death, pidgin and creole, lingua franca, language loyalty, attitudes towards bilingualism.

UNIT III: Linguistic Variation: types of variation: standard, non-standard, social, regional and stylistic, variables: marker, indicator and stereotype, sociolinguistic approaches to the study of stylistic variation in language, how language reflects and maintains social stratification, local factors: social network and communities of practice

UNIT IV: Sociolinguistics of Interaction: communicative competence: ethnography of speaking, power and solidarity, introduction to face theory, linguistic politeness, intercultural communication, pronouns of power and solidarity, address terms, communication accommodation, diaglossia.

Paper – VII: Language and Literature

UNIT I: Language and Literature The relation of language to literature; emotive versus scientific language; standard language versus poetic language; aesthetics, and poetics; language variation and styles of language use.

UNIT II: Basic concepts: notion of style and stylistics, nature and function of style, scope of stylistics, standard language vs. poetic language, speech vs. writing; basic parameters for stylistic analysis, stylistics and sociolinguistics, concept of macro- and micro-stylistics. Conceptual apparatus: registers and style, discursive vs. literary language, discourse and text grammars, code and message, structure and texture, signifier-signified-signification, coherence and cohesion, indeterminacy and ambiguity, deviation, foregrounding, and parallelism.

UNIT III: The study of discourse Speech acts Conversational implicature Approaches to pragmatics, Genre Analysis Critical discourse analysis Discourse and culture Applied discourse analysis

Paper – VIII: Language and Media

UNIT I: Linguistics and Media Language use in print media; language in advertising; language in TV and cinema; political discourse; language and empowerment

UNIT II: Media: The Semiotic Approach Sign systems, Components of the Sign, Verbal and Non-verbal Signs, Sequence of Linguistic Signs, Visual Signs, Denotation, Connotation and Myth, Myth and Social Meanings, Myth and Ideology.

UNIT III: The Advertising Business, Ideology in Ads, Ideology of Ads, The Semiotic Critique of Ads, Decoding Advertisements.

UNIT IV: Television Signs and Codes, Television Narrative and Ideology, Viewers' Involvement and positioning, Polysemic Television and Multiaccentuality.

UNIT V: Cinema Cinematic Semiosis: Film signs and codes, Film narrative, Film Genre, Cinema Spectatorship.


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Board of Studies in English (Undergraduate)

Kuvempu University

Revised and Approved Syllabus

Effective from 2019-20

Optional English

II Year BA

III Semester

Section- A

Literary Background

15 Marks 1 Hr/wk

Seventeenth and Eighteenth Century

1. Features of Metaphysical Poetry
2. Rise of the Novel- reasons for the rise of the Novel
3. Major Novelists
4. Development of Prose [Essays]
5. Neo-Classicism

Section- B

Literary Terms

15 Marks 1 Hr/wk

1. Tragedy
2. Three unities
3. Comedy
4. Essay
5. Soliloquy and Aside
6. Pun
7. Negative Capability
8. Narratology
9. Objective- Correlative
10. Metaphysical conceit
11. Paradox
12. Wit

Section- C

Poetry

30 Marks

2 Hrs/wk

1. William Shakespeare :
 1. Sonnet 94- They that have Power to Hurt
 2. No-16. Shall I Compare Thee
 3. No-104- To me Fair Friend you never can be Old
2. John Donne :
 1. Batter my Heart
 2. Canonization
 3. Sun Rising

3. Robert Herrick : 1. Of Love
2. To Daffodils
4. George Herbert : 1. The Pulley
2. The Collar
5. Andrew Marvel : To His Coy Mistress
6. John Milton : On Shakespeare

Section- D

Drama

20 Marks 2 Hrs/wk

Macbeth : William Shakespeare

Note: Existing question paper pattern to be followed


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Board of Studies in English (Undergraduate)

Kuvempu University

Revised and Approved Syllabus

Effective from 2019-20

Optional English

II Year BA

IV Semester

Section- A

Literary Background

15 Marks 1 Hr/wk

Romantic and Victorian Age

1. Features
2. French Revolution and its impact on Literature
3. Industrial Revolution and its impact on Literature
4. Victorian Temper
5. Victorian Prose

Section- B

Literary Terms

15 Marks 1 Hr/wk

1. Imagination and Fancy
2. Types of Novel : a) Picaresque
b) Historical
c) Adventure
3. Realism
4. Ideology
5. Class and Class structure
6. Neo- Classicism
7. Utilitarianism
8. Ode

Section- C

Poetry

30 Marks 2 Hrs/wk

1. William Blake : 1. The Tyger
2. Song: How Sweet I Roam'd from Field to Field
3. Sick Rose
2. William Wordsworth : 1. Tintern Abbey
2. Resolution and Independence
3. Coleridge : Kubla Khan
4. John Keats : Ode to a Nightingale
Ode to Autumn
5. P.B Shelley : Ozymandias


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6. Alfred Lord Tennyson : 1. Ulysses
2. The Lotus Eaters
7. Robert Browning : The Lost leader
8. Mathew Arnold : Dover Beach

Section- D

Fiction

20 Marks 2 Hrs/wk

Wuthering Heights : Emily Bronte

Note: Existing question paper pattern to be followed


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Board of Studies in English (Undergraduate)

Kuvempu University

Revised and Approved Syllabus

Effective from 2020-21

Optional English

III Year BA

V Semester

Paper V: 20th Century Literature

Fiction-	George Orwell-1984	20 Marks	1hr
Drama-	Ibsen: A Doll's House	20 Marks	2hrs
Poetry:		40 Marks	2hrs
T.S Eliot:	1 The Love Song of J. Alfred Prufrock 2. Hollow Men		
W.B Yeats:	1. Second Coming 2. Sailing to Byzantium 3. An Irish Airman Foresees His Death		
Robert Frost:	1. Mending Wall 2. Stopping by Woods 3. Fire and Ice		
W.H. Auden:	1. In Memory of W.B. Yeats 2. Musee des Beaux Arts 3. Consider		
D. H. Lawrence:	1.Snake 2. Butterfly		
Maya Angelou:	1. Still I rise 2. Alone 3. Equality		


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Ted Hughes: 1 The Thought-Fox

2. The Jug war

Sylvia Plath: 1.Lady Lazarus 2. Daddy

Suggested Reading:

- Bloom, Harold. *Modern Critical Interpretations: Poetry*. New York; Macmillan, 1998.
- Brooks, Cleanth. *Modern Poetry and Tradition*. London; Faber, 1939.
- Cox, James. *Twentieth Century Views on Robert Frost*. New York; Prentice Hall Pvt Ltd, 1960.
- Hall, James. *Permanence of W.B. Yeats*. London; Macmillan, 1950.
- Thomas C.T. *Twentieth Century Anglo American Poetry*. New Delhi; Macmillan, 1997.
- Williams, George. *Reader's Guide to T.S. Eliot*. New York; Syracuse University Press, 1998.


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Board of Studies in English (Undergraduate)

Kuvempu University

Revised and Approved Syllabus

Effective from 2020-21

Optional English

III Year BA

V Semester

Paper VI- World Literature

Drama: Three Penny Opera - Bertolt Brecht	20 Marks	2hrs
Fiction: The Fall- Albert Camus	20 Marks	1hr
Poetry:	40 Marks	2hrs

1. Bertolt Brecht - From a German War Primer

1. General, your tank is a power full vehicle
2. When it comes to marching many do not know
3. The war which is coming
4. Burning of Books

2. Pablo Neruda: 1. I do not love you

2. Enigma with flower

3 Chant to Bolivar

3. Anna Akhmatova : 1. I am not one those who left the land

2. Our Native Earth

3. The Guest

4. Gabriel Okara:

1. You Laughed and Laughed and Laughed

2. Snowflakes Sail Gently Down

5. Wole Soyinka:

1. Civilian and Soldier In the small house

6. Derek Walcott :

1. A Far Cry from Africa

Suggested Readings:

Williams, Raymond. *Drama: From Ibsen to Brecht*. London; Vintage, 1987.

Rajashekara G. Bertolt Brecht. Bengaluru, Abhinava, 2016.

Camus, Albert. *A Collection of Critical Essays*. Edited by Germaine Bee
London; Prentice- Hall, 1962.

Axthelm, Peter. *Modern Confessional Novel*. London; Yale University Press. 1967


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Board of Studies in English (Undergraduate)

Kuvempu University

Revised and Approved Syllabus

Effective from 2020-21

Optional English

III Year BA

VI Semester

Paper VII: Indian Writing in English

Fiction:	1 The Palace of Illusion - Chitra Banerjee Divakaruni	10 Marks	1hr
	2. Such a long journey -Rohinton Mistry	10 Marks	1hr
Poetry:		28 Marks	1hr

1. Meena Kandaswamy: 1. Aggression
2. Apologies of Living On
2. Vaidehi: 1. Don't look into the Vanity bag
2. Rasam
3. P. Lankesh 1. Avva (Mother) (Trans. By Ramanujan A.K)
4. Nissim Ezekiel: 1. The Night of the Scorpion
2. Goodbye Party for Miss Pushpa T.S
3. Patriot / Minority Poem
5. N.K Hanumanthaiah: 1. Mother and Sari. (P.371)
2. Elephants Melting In The Mouth of an Earthworm (P.374)
6. Prathibha Nandakumar: 1. The Tigress
2. The House wife


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Short Stories:

16 Marks 1hr

Bharati Mukherjee - Nostalgia

Lalithambika Antharjanam - The Goddess of Revenge

Mahashweta Devi - The Hunt

Masti Venkatesh Iyengar- Curds Seller

Devanur Mahadeva- Amasa

Prose:

16 Marks 1hr

1. A.K Ramanujam - Three Hundred Ramayanas
2. Dr. B. R. Ambedkhar : Speech on Presenting Constitution of India
3. Savitri Bai Phule- 'A Forgotten Liberator' ed: by Braj Ranjan, Bamani & Pamela Sardar.
4. D. R. Nagaraj- Flaming Feet. The Chapter titled Gandhi and the Dalit Question: A Comparison with Marx and Ambedkar

Suggested Reading:

1. Joseph, Manganet Paul, "Jasmine on a String: A Survey of Women Writing in English Fiction in India. New Delhi; OUP 2014
2. King, Bruce. *Modern Indian Poetry in English*. New Delhi; OUP 1987.
3. Mehrotra, Arvind Krishna(ed). *A History of Indian Literature in English*. New York: Columbia University Press.
4. Nagaraj D.R. *Flaming Feet, Bangalore 1993*.
5. Naik M.K.: *A History of Indian English Literature*.
6. Ramanujan. A.K. *The Collecting essay of A.K.Ramanjun*. Penguin; New Delhi, 1991.
7. Satyanarayana K. and Susie ed.s Tharu. *Steel Nibs are sprouting* New Delhi, Harper Collins, 2013

Board of Studies in English (Undergraduate)

Kuvempu University

Revised and Approved Syllabus

Effective from 2020-21

Optional English

III Year BA

VI Semester

Paper VIII : Literary Theory

a. Literary Concept: 25Marks 2 hrs

1. Text and the Reader
2. Ideology
3. Hegemony
4. Subaltern
5. Hybridity
6. New Historicism
7. Popular Culture
8. Post Modernity
9. Sex and Gender
10. Patriarchy
11. Post Colonialism
12. Translation - Transcreation- Transliteration/Inter textuality

b. Critical Approaches: 45Marks 2hrs

- Feminism - 1. Cora Kaplan-Speaking/writing Feminism
2. Chandra Talpade Mohanty- Under Western Eyes-
Feminist Scholarship and Colonial Discourses
- New Criticism - Cleanth Brooks
- Post Colonialism - Ania Loomba - Selections

c. Practical Criticism - Close Reading of a Poem 10Marks 1hr


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Suggested Reading:

- Berton, Hans. *Literary Theory: The Basics*. Routledge ; London, 2001.
- Culler, Jonathan. *Literary Theory: A Very Short Introduction*. OUP; New Delhi, 1997.
- Cuddon. J.A. *A Penguin Dictionary of Literary Terms and Theory*. New Delhi; Penguin, 2000.
- Eagleton, Terry. *Literary Theory: An Introduction*. London; Blackwell. 1996.
- Groden, Michael ed. *The John Hopkins Guide to Literary Theory and Criticism*: 2005.
- Habib M.A.R. *A History of Literary Criticism: From Plato to the Present*. OUP; London, 2001
- Loomba, Ania. *Colonialism/ Post Colonialism*. Routledge ; London, 1997.
- Nagarajan M.S., *English Literary Criticism and Theory*. Madras; Orient Black Swan, 2006.
- Raman, Selden. *A Reader's Guide to Contemporary Literary Theory*. London; Taylor & Francis Ltd. 1994.
- *The Bloomsbury Handbook to Literary and Cultural Theory*-2019.


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English Language

Question Paper Pattern of the new syllabus for III Semester of BA/BSW (effective from 2020-21)

III Semester

Time 3:Hours

[Max. Marks : 80]

SECTION – A

(POETRY)

1. Annotate any TWO of the following : 2x 5 = 10
- a)
 - b)
 - c)
2. Write short notes on any ONE of the following in about a page : 1 x 4 = 04
- a)
 - b)
3. Answer any ONE of the following in about two pages: 1x8 = 8
- a)
 - b)
 - c)

SECTION – B (PROSE)

4. Write Short notes on any TWO of the following in a page each: 2 x 4 = 08
- a)
 - b)
 - c)
5. Answer any TWO of the following in about two pages: 2x10 = 20
- a)
 - b)
 - c)

SECTION – C

(WRITING SKILLS)

- | | |
|--|------------|
| 6. Letter to the Principal | 1 x 6 = 06 |
| 7. Paragraph writing (One out of three) | 1 x 6 = 06 |
| 8. Drafting Speeches : | 1 x 6 = 06 |
| 9. Soft skills and interview skills (Three out of Five) | 3x 2 = 06 |
| 10. Use any SIX everyday expressions in sentences of your own:
Six out of eight expressions given | 6 x 1 = 06 |


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English Language

Question Paper Pattern of the new syllabus for IV Semester of BA/BSW (effective from 2020-21)

IV Semester

Time 3:Hours

[Max. Marks : 80]

SECTION – A

(DRAMA)

1. Annotate any THREE of the following : (Three Out of Five) 3 x 5 = 15
2. Write short notes on any THREE of the following in about a page each:
(Three Out of Five) 3 x 5 = 15
3. Answer any TWO of the following in about two pages each : (Two Out of Three) 2 x10 = 20

SECTION – B

(WRITING SKILLS)

4. a) Letter of application with C.V 6 Marks
- b) Writing a report on college programmes 6 Marks
- c) e-mail (Two out of Three) 2 x 6 = 12
- d) Column writing on contemporary issues (One Out of Three) 1 x 6 = 06


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Third Semester B.Com/BBA/Question Paper Pattern
Enhancing Language – II
Effective from 2020-21

Time: 3Hrs

Max. Marks: 80

Section- A (Poetry)

1. Annotate any TWO of the following: (2 out of 3)

2x 4 = 08

- a)
- b)
- c)

2. Answer any TWO of the following in about a page and a half each. (2 out of 3) 2 x 6 = 12

- a)
- b)
- c)

SECTION – B (Prose)

3. Answer any TWO of the following in about two pages each. (2 out of 3)

2x8 = 16

- a)
- b)
- c)

4. Write Short notes on any ONE of the following. (1 out of 3)

1 x 4 =4

- a)
- b)
- c)

SECTION – C (Commercial Correspondence)

5. Answer any SIX of the following in about two pages each. (6 out of 8)

6x6 = 36

- a)
- b)
- c)
- d)
- e)
- f)
- g)
- h)

5. Explain the meaning of any FOUR commercial and computers terms in one or two sentences.

4x1=4

- | | | |
|----|----|----|
| a) | d) | g) |
| b) | e) | h) |
| c) | f) | |


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Fourth Semester B.Com/BBA/Question Paper Pattern
Enhancing Language – II
Effective from 2020-21

Time: 3Hrs

Max. Marks: 80

Section- A (One Act Plays)

- 1. Annotate any THREE of the following : (3 out of 4) 3 x 5 = 15**
a)
b)
c)
- 2. Answer any THREE of the following in about a page and a half each.(3out of 4)3x10 = 30**
a)
b)
c)
- 3. Write a brief note on any ONE of the following. (1 out of 3) 1 x 5 = 05**

Section- B (Writing Skills)

4. a) Report writing 05
b) Letter to the editor 05
c) Notice, agenda, minutes of a meeting 05
5. Explain the meaning of any FIVE expressions in one or two sentences each.
(5 out of 7) 05
- a) d) g)
b) e) h)
c) f)
6. Soft skills and Interview skills 05
7. Write a summary of the following dialogue 05


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Optional English

**Question Paper Pattern of the new syllabus for V Semester BA
(effective from 2020-21)**

**QP CODE 10558-A V Semester
(SAE 440) Paper V—TWENTIETH CENTURY LITERATURE**

Time 3Hours

[Max Marks : 80]

SECTION – A

(POETRY)

1. Answer any THREE of the following (Three out of Five) 3 x 10= 30
2. Write short notes on any TWO of the following (Two out of Three) 2x 5 = 10

SECTION – B

(DRAMA)

3. Answer any ONE of the following (One out of Two) 1x10=10:
4. Answer any Two of the following: (Two out of Three) 2x 5 = 10

SECTION – C

(FICTION)

5. Answer any ONE of the following (One out of Two) 1x10=10:
6. Answer any Two of the following: (Two out of Three) 2x 5 = 10


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Optional English

**Question Paper Pattern of the new syllabus for V Semester BA
(effective from 2020-21)**

**QP CODE 10559-A V Semester
(SAE 441) Paper VI— WORLD LITERATURE**

Time 3:Hours

[Max Marks : 80]

SECTION – A

(POETRY)

1. Answer any THREE of the following (Three out of Five) 3 x 10= 30

2. Write short notes on any TWO of the following (Two out of Three) 2x 5 = 10

SECTION – B

(DRAMA)

3. Answer any ONE of the following (One out of Two) 1x10=10:
4. Answer any Two of the following: (Two out of Three) 2x 5 = 10

SECTION – C

(FICTION)

5. Answer any ONE of the following (One Out of Two) 1x10=10:
6. Answer any Two of the following: (Two Out of Three) 2x 5 = 10


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Optional English

**Question Paper Pattern of the new syllabus for VI Semester BA
(effective from 2020-21)**

**QP CODE 10658 -A VI Semester
(SAF 440) Paper VII— INDIAN WRITING IN ENGLISH AND
TRANSLATION
(Poetry, Short Stories and Fiction)**

Time 3Hours

[Max.Marks : 80]

SECTION – A

(POETRY)

1. Answer any TWO of the following (Two out of Four) 2 x 10= 20
2. Write short notes on any TWO of the following (Two out of Three) 2x 4 =08

SECTION – B

(FICTION)

3. Answer any ONE of the following (One Out of Two) 1x10=10:
4. Answer any ONE of the following (One Out of Two) 1x10=10:

SECTION – C

(SHORT STORIES)

5. Answer any TWO of the following (TWO out of Three) 2x8=16:

SECTION –D

(PROSE)

5. Answer any TWO of the following (TWO out of Three) 2x8=16:

Optional English

**Question Paper Pattern of the new syllabus for VI Semester BA
(effective from 2020-21)**

**QP CODE 10659 -A VI Semester
(SAF 441) Paper VIII— LITERARY THEORY
(Texts; LITERARY THEORY, CONCEPTS AND PRACTICAL
CRITICISM)**

Time 3Hours

[Max.Marks : 80]

1. Explain briefly any Five of the following concepts (Five out of Eight) 5 x 5= 25
- 2 Answer any Three of the following (Three out of Four) 3x 10= 30
- 3 Write short notes on any Three of the following (Three out of Five) 3x5=15
4. Attempt a critical analysis of any ONE of the following (One out of Two) 1x10=10


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**KUVEMPU UNIVERSITY
JNANASAHYADRI SHANKRGHATTA SHIMOGA**

DEPARTMENT OF ENGLISH

SYLLABUS

UG ENGLISH (AS PER NEP-2020)

FOR THE ACADEMIC YEAR 2021 ONWARDS

PREFACE

It is really a great moment of happiness and a historic opportunity for the Board of Studies of English (UG), Kuvempu University to actively and creatively involve in the task of preparation and implementation of NEP-2020 as per the framework set by Karnataka State Higher Education Council (KSHEC) for the academic year 2021-22.

The committee acknowledges its gratitude to the Kuvempu University and Government of Karnataka for providing opportunity to be part of this historic movement in preparing a model curriculum framework for English (both Generic English, and English as Major/Minor Discipline (English Literature (Basic/Hons. Degree Course)).

The committee feels proud for the opportunity provided to design and contribute to the curriculum framework and also thinks that its a path-breaking policy in transformational education system. Built on the five democratic principles: ACCESS, EQUITY, QUALITY, ACCOUNTABILITY AND AFFORDABILITY as set in NEP-2020, the syllabus is designed to make education multi-disciplinary, holistic, relevant to society, culture, tradition, economy, employability, among other goals. ICT based education system envisages to reach out to all sections of the society and to all sectors of economy with enhanced employability skills and critical thinking.

The Committee comprising BOE members and Special Invitees met off-line for four days and deliberated on the suitable curriculum framework as well as the appropriate syllabi based on the broader general State Level framework provided by Prof. B. Thimme Gowda, Vice Chairman, Karnataka State Higher Education Council.

The Board of Studies is extremely happy to prepare and submit the Curriculum for both Generic and Core Discipline Papers to the the University.

Prof. Nagya Naik B.H
Chairperson
BoS English (UG)
Kuvempu University


Principal
D.V.S. College of Arts & Science
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Proceedings of the meeting of the Board of Studies in English (UG) held on 19th & 25th to 27th October 2021 presided over by Prof. Nagya Naik B.H (Chairperson) in the Department of English, Kuvempu University, Shankraghatta

A meeting of the BOS-UG-English was held on 19th & 25th to 27th October 2021 in the Department of English, Kuvempu University. The following members were present.

List of BoS members and Special Invitees of the textbook committee who have prepared syllabus for I & II Semester L2 Generic English (AECC) of B.A / BSW / B.Com / B.Sc / B.Sc Home Science / BCA / B.B.A / T.T.M , (DSC)-A1, A2, A3 and A4 for B.A in English (Basic/Hons) / Major / Minor, Discipline Elective (DSE) / Open Elective and Skill based enhancement course.

Members of the BOS

1. Prof. Nagya Naik B.H
Chairperson, BOS in English (UG)
Department of PG Studies and Research in English
Kuvempu University, Shankaraghatta.
2. Dr. Channappa C.
Professor,
S.M.R.F.G.C.,Shankaraghatta.
3. Dr. Meti Mallikarjuna,
Professor,
Sahyadri Arts College, Shimoga
4. Dr. Avinash T.,
Professor,
Sahyadri Arts College, Shimoga
5. Mrs. Veena M.V. ,
Associate Professor,
G.F.G.C Shivamogga
6. Mrs. Madhuri Maladkar ,
Assistant Professor,
G.F.G.C, Birur


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Shimoga.

Special Invitees

1. Prof. Siraj Ahmed S.,
Professor,
Sahyadri Arts College Shimoga

2. Raju B.L.
Associate Professor,
Smt. Indira Gandhi Govt First Grade Women's College, Sagar.

3. Dr. Vidya Maria Joseph,
Assistant Professor,
G.F.G.C Birur

4. Dr. Basavan Gowda O G
Assistant Professor,
Smt. Indira Gandhi Govt, First Grade Women's College, Sagar.

5. Mr. Naveena V.,
Assistant Professor
GFG Women's College, Shivamogga

6. Poornima S.V.
Assistant Professor
G.F.G.C. Shivamogga

7. Girish Patel B.S.
Assistant Professor,
G.F.G.C., Sagara

1. The Board of Studies for UG English, Kuvempu University, approved the syllabi for I & II Semesters **L2-Generic English and Ability Enhancement Compulsory Courses, Languages, (AECC)**, and the textbook committee has prepared a separate syllabus for (1) B.A and other courses under the Faculty of Arts namely BSW. Course books: Imaginations – I and Imagination – II. (2) B.com and other courses under the Faculty of Commerce and Management namely BBA TTM. Course books: Ambitions – I and Ambitions – II. (3) B.Sc. and other courses under the Faculty of Science namely BCA / B.Sc. Home Science. Course books: Aspirations – I and Aspirations-II. The Syllabus for the III and IV Semester L2 Generic English as per NEP will be Prepared next Year.

2. The Board of Studies approved the syllabi for **L1 – Additional English under Ability enhancement Compulsory Courses, Languages,(AECC), for 2 Semesters** for all the three streams of Arts, Science and Commerce and Management, for only who have not studied Kannada as a Language up to +12 / II PUC. Course books: 1. **Imaginations – I and Imagination – II** 2. **Aspirations – I and Aspirations-II.** 3. **Ambitions – I and Ambitions – II**
3. The Board of studies approved the syllabi for the I and II Semester of the **Discipline core (DSC) B.A in English (Basic/Hons) / Major / Minor Disciplines Programme** for the following Papers:

Semester I – A1 – Introduction to Literature (3)

A2 – Indian Writing in English: Pre Independent Period (3)

Semester II – A3 –Introduction to Phonetics and Linguistics (3)

A4 – Indian Writing in English – **(Post Independent Period)(3)**

Model Program Structure – II B – Bachelor of Arts (Basic / Hons) in subjects without practical with one major and one minor.

4. The Board of Studies approved the syllabus for Discipline Elective (DSE) / Open Elective (OE) for the following Papers:

English – Open Elective – 1

Functional English Grammar and Study Skills

English – Open Elective – 2

Spoken English for Corporate Jobs

English – Open Elective – 3

Speaking and Listening Skills

English – Open Elective – 4

Translation Theory and Practice

5. The Board approved the syllabi for Eight Semesters Discipline core Subject in Linguistics. The Board also approved open electives for all Four Semesters.


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KUVEMPU UNIVERSITY
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Kuvempu University NEP Proposed Curricular and Credits Structure under Choice Based Credit System [CBCS] of English Major & One Minor Discipline Scheme for the Four Years B.A. Undergraduate Honors Program with effect from 2021-22

FIRST YEAR; SEMESTER-1										
Objective: Understanding, Exploration & Ability to solve well defined problems										
Category	Course code	Title of the Paper	Marks			Teaching hours/week			Credit	Duration of exams (Hrs)
			IA	SEE	Total	L	T	P		
AECC1	21BA1A1LK1	Kannada	30	70	100	3	1	-	3	3
	21BA1A1LK1a	Sarala Kannada	30	70	100	3	1	-	3	3
AECC2	21BA1A2LE1	Basic English	30	70	100	3	1	-	3	3
DSC1	21BA1C1EN1	Introduction to English Literature	30	70	100	3	-	-	3	3
DSC2	21BA1C2EN2	Indian Literature in English up to 1947	30	70	100	3	-	-	3	3
SEC1	21BA1S1EN1	English for Effective Communication	15	35	50	1	2	-	2	2
VBC1	21BA1V1PE1	Physical Education for fitness	15	35	50	-	-	2	1	2
VBC2	21BA1V2HW1	Health & Wellness	15	35	50	-	-	2	1	2
OEC1	21BA1O1EN1	Gender Studies	30	70	100	3	-	-	3	3
Semester Credits										


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FIRST YEAR; SEMESTER-2

Objective: Understanding, Exploration & Ability to solve well defined problems

Category	Course code	Title of the Paper	Marks			Teaching hours/week			Credit	Duration of exams (Hrs)
			IA	SEE	Total	L	T	P		
AECC3	21BA2A3LK2	Kannada	30	70	100	3	1	-	3	3
AECC4	21BA2A4LE2	Basic English	30	70	100	3	1	-	3	3
DSC3	21BA2C2EN3	Introduction to Phonetics and Linguistics	30	70	100	3	-	-	3	3
DSC4	21BA2C2EN3	Post Independent Indian Literature in English	30	70	100	3	-	-	3	3
AECC5	21BA2A5ES1	Environment Studies	15	35	50	2	-	-	2	2
VBC3	21BA2V3PE2	Physical Education-Yoga	15	35	50	-	-	2	1	2
VBC4	21BA2V4NR1	NCC/NSS/R&R (S&G)/Cultural	15	35	50	-	-	2	1	2
OEC2	21BA2O2EN2	Functional English	30	70	100	3	-	-	3	3
Semester Credits										

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SECOND YEAR; SEMESTER-3

Objective: Focus, Immersion and Ability to solve broadly defined problems

Category	Course code	Title of the Paper	Marks			Teaching hours/week			Credit	Duration of exams (Hrs)
			IA	SEE	Total	L	T	P		
AECC6	21BA3A6LK3	Kannada	30	70	100	3	1	-	3	3
AECC7	21BA3A7LE3	Basic English	30	70	100	3	1	-	3	3
DSC5	21BA3C5EN5	British Literature – up to 1800	30	70	100	3	-	-	3	3
DSC6	21BA3C6EN6	Indian Writing in English Translation	30	70	100	3	-	-	3	3
SEC2	21BA3S2EN2	Academic Writing	15	35	50	1	-	2	2	2
VBC5	21BA3V5PE3	Physical Education for sports	15	35	50	-	-	2	1	2
VBC6	21BA3V6NR2	NCC/NSS/R&R(S&G)/Cultural	15	35	50	-	-	2	1	2
OEC3	21BA3O3EN1	Film Studies	30	70	100	3	-	-	3	3
Semester Credits										


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SECOND YEAR; SEMESTER-4

Objective: Focus, Immersion and Ability to solve broadly defined problems

Category	Course code	Title of the Paper	Marks			Teaching hours/week			Credit	Duration of exams (Hrs)
			IA	SEE	Total	L	T	P		
AECC8	21BA4A8LK4	Kannada	30	70	100	3	1	-	3	3
AECC9	21BA4A9LE4	Basic English	30	70	100	3	1	-	3	3
DSC7	21BA4C7EN7	British Literature 1800 and after	30	70	100	3	-	-	3	3
DSC8	21BA4C8EN8	Gender Studies	30	70	100	3	-	-	3	3
AECC10	21BA4A10PS1	Constitution of India	15	35	50	2	-	-	2	2
VBC7	21BA4V7PE4	Physical Education-Game	15	35	50	-	-	2	1	2
VBC8	21BA4V8NR3	NCC/NSS/R&R(S&G)/Cultural	15	35	50	-	-	2	1	2
OEC4	21BA4O4EN1	English for Competitive Exams	30	70	100	3			3	3
Semester Credits										


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THIRDYEAR; SEMESTER-5

Objective: Real time Learning&Ability to solve complex problems that are ill-structured

Category	Course code	Title of the Paper	Marks			Teaching hours/week			Credit	Duration of exams (Hrs)
			IA	SEE	Total	L	T	P		
DSC9 As Minor	21BA5C9ENMN1	Subaltern Studies	30	70	100	4	-	-	4	3
DSC9	21BA5C9ENMJ1	Literary Criticism	30	70	100	4	-	-	4	3
DSC10	21BA5C10ENMJ2	Translation Studies	30	70	100	4	-	-	4	3
DSEC1	21BA5E1EN1	Comparative Literature	30	70	100	4	-	-	4	3
	21BA5E1EN1	American Literature	30	70	100	4	-	-	4	3
VC1	21BA5V1EN1	English and Soft Skills	30	70	100	3	-	-	3	3
SEC3	21BA5S3EN1	Spoken English	15	35	50	1	-	2	2	2
Semester Total										


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THIRD YEAR; SEMESTER-6

Objective: Real time Learning & Ability to solve complex problems that are ill-structured

Category	Course code	Title of the Paper	Marks			Teaching hours/week			Credit	Duration of exams (Hrs)
			IA	SEE	Total	L	T	P		
DSC10 as minor	21BA6C10ENMN1	World Literature in English and in Translation	30	70	100	4	-	-	4	3
DSC11 as major	21BA6C11ENMJ1	Postcolonial Literature	30	70	100	4	-	-	4	3
DSC12	21BA6C12ENMJ2	History of English Language	30	70	100	4	-	-	4	3
DSE 2	21BA6E2EN1	Caribbean Literature	30	70	100	3	-	-	3	3
	21BA6E2EN2	Rhetorical Studies	30	70	100	3	-	-	3	3
VC2	21BA6V2EN1	Technical Writing	30	70	100	3	-	-	3	3
SEC4	21BA6S4EN4	Creative Writing	15	35	50	1	-	2	2	2
IPC1	21BA6IP1EN1		15	35	50	-	-	4	2	4
Semester Credits										


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Concept Note, Abbreviation Explanation and Coding:

Concept Note:

1. CBCS is a mode of learning in higher education which facilitates a student to have some freedom in selecting his/her own choices, across various disciplines for completing a UG/PG program.
2. A credit is a unit of study of a fixed duration. For the purpose of computation of workload as per UGC norms the following is mechanism be adopted in the university:
One credit (01) = One Theory Lecture (L) period of one (1) hour;
One credit (01) = One Tutorial (T) period of one (1) hour;
One credit (01) = One practical (P) period of two (2) hours.
3. Course: paper/subject associated with AECC, DSC, DSEC, SEC, VBC, OEC, VC, IC and MIL
4. In case of B.A. **Once a candidate chooses two courses/subjects of a particular two department in the beginning, he/she shall continue the same till the end of the degree, then there is no provision to change the course(s) and department(s).**
5. A candidate shall chose **one of the department's course as major and other department course as minor in fifth and sixth semester and major course get continued in higher semester.**
6. Wherever there is a practical there will be no tutorial and vice-versa
7. A major subject is the subject that's the main focus of Core degree/concerned.
8. A minor is a secondary choice of subject that complements core major/ concerned.
9. Vocational course is an course that enables individual to acquire skills set that are required for a particular job.
10. Internship isa designated activity that carries some credits involving more than 25 days of working in an organization (either in same organization or outside) under the guidance of an identified mentor. Internship shall be an integral part of the curriculum.
11. *OEC: For non- English students. English students have to opt for OEC from departments other than major and minor disciplines


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Abbreviation Explanations:

1. AECC: Ability Enhancement Compulsory Course;
2. DSC: Discipline Specific Core Course;
3. DSEC: Discipline Specific Elective Course;
4. SEC: Skill Enhancement Course;
5. VBC: Value Based Course;
6. OEC: Open/Generic Elective Course
7. VC: Vocational Course;
8. IC: Internship Course
9. L1: Language One
10. L2: MIL
11. L= Lecture; T= Tutorial; P=Practical;
12. MIL= Modern Indian Language; English or Hindi or Telugu or Sanskrit or Urdu

Program Coding:

1. Code 21: Year of Implementation
2. Code BA: BA Program under the faculty of Social Science/Arts of the university
3. Code 1: First Semester of the Program, (2 to 6 represent higher semesters)
4. Code A: AECC, (C for DSC, S for SEC, V for VBC and O for OEC)
5. Code 1: First "AECC" Course in semester, similarly in remaining semester for such other courses
6. Code LK: Language Kannada, similarly Language English, Language Hindi, Language Telugu, Language Sanskrit, & Language Urdu
7. Code 1: Course in that semester.
8. EN:English


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Ability Enhancement Compulsory Course

AECC2

Course Objectives:

- Hone the LSRW (Listening, Speaking, Reading, Writing) skills
- Appreciate literary art
- Get equipped with knowledge of literary devices and genres
- Be endowed with creativity to express one's experiences
- Sensitize oneself with social concerns
- Develop their ability as critical readers and writers.
- Increase their reading speed, presentations skills and their analytical skills.

Course Outcomes:

CO1. Learn to appreciate and obtain the knowledge of literary devices and genres.

CO2. Acquire the skills of creativity and critical thinking to express one's experiences.

CO3. Be aware of their social responsibilities.

CO4. Acquire and develop their ability on logical reasoning, comprehension and translation.

CO5. Students will increase their reading speed, will be able to use correct and appropriate English.


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First Semester

B.A. / BSW English: 2021-22

AECC2: Basic English

Course Title - Ability Enhancement Course - Semester I - English Language (Text - Imaginations and Course Book)	
Total Contact Hours : 56/60	Course Credits : 03
Formative Assessment Marks: 40	Internal Assessment
Summative Assessment Marks: 60	Duration of ESA/Exam : 03 Hours

UNIT I – POETRY

20 Marks

1. Still I Rise by Maya Angelou
2. Kitchen Rags by VijilaChirapadu
3. Let me not to the marriage of true minds – Sonnet 116
4. Night of the Scorpion by Nissim Ezekiel

UNIT II – PROSE

20 Marks

1. The Child by Prem Chand
2. *The Birth of Khadi* by M K Gandhi
3. *After Twenty Years* by O Henry
4. *My Childhood* by A P J Abdul Kalam

UNIT V - LANGUAGE SKILLS

20 Marks

Reading Skills:

1. Comprehension Passage
2. Vocabulary
Prefix, Suffix, Synonym, Antonym, Word Forms
3. Understanding Grammar:
Be, Do and Have forms
Subject-Verb Agreement
Tenses : Present and Past

Suggestive Guidelines for Continuous Internal Assessment:

Test	Duration	Marks
Test - 1	At the end of 2 nd month of every semester (One Hour)	10
Test -2	At the end of 4 th month of the every semester (One Hour)	10
	Two Assignments each for 5 marks	10
	Seminar for 5 marks	05
	Overall Assessment	05
	Total Marks	40


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Second Semester B.A. / BSW
AECC2: Basic English: 2021-22

Course Title – Ability Enhancement Course – Semester II – English Language (Text – Imaginations and Course Book)	
Total Contact Hours : 56/60	Course Credits : 03
Formative Assessment Marks : 40	Internal Assessment
Summative Assessment Marks: 60	Duration of ESA/Exam : 03 Hours

UNIT I – POETRY

16 Marks

1. The Road not Taken by Robert Frost
2. Small Scale Reflections on a Great House by A K Ramanujan
3. Introduction by Kamala Das
4. Work of Artifice by Marge Piercy

UNIT II – PROSE

20 Marks

1. Letter to a Teacher by The School of Barbiana
2. Too Dear by Leo Tolstoy
3. India’s Gift to the World by Louis Fischer
4. The Thief’s Story by Ruskin Bond

UNIT V - LANGUAGE SKILLS

24 Marks

Articles, Prepositions,

Transformation of Sentences - Active Voice and Passive Voice; Affirmative, Negative and Interrogative


Vocabulary Exercises:

Homonyms, Homophones, One-word Substitution

Dialogue Writing

Suggestive Guidelines for Continuous Internal Assessment:

Test	Duration	Marks
Test - 1	At the end of 2 nd month of every semester (One Hour)	10
Test - 2	At the end of 4 th month of the every semester (One Hour)	10
	Two Assignments each for 5 marks	10
	Seminar for 5 marks	05
	Overall Assessment	05
	Total Marks	40


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First Semester B.COM./BBA/TTM
AECC2: Basic English-2021-22

Course Title – Ability Enhancement Course – Semester I – English Language (Text – Ambitions and Course Book)	
Total Contact Hours : 56/60	Course Credits : 03
Formative Assessment Marks: 40	Internal Assessment
Summative Assessment Marks: 60	Duration of ESA/Exam : 03 Hours

UNIT I – POETRY

16 Marks

1. *The Road Not Taken* by Robert Frost
2. *The Chimney Sweeper* by William Blake
3. *The Seven Ages of Man* by William Shakespeare
4. *Burning of the Books* by Bertolt Brecht

UNIT II – PROSE

20Marks

1. *Not Just Oranges* by Isai Tobolsky
2. *Luncheon by Somerset Maugham*
3. *If War is to End* by Vaikom Mohammed Basheer
4. *My Greatest Olympic Prize* by Jesse Owens

UNIT III – LANGUAGE SKILLS

24Marks

READING Skills:

1. Comprehension Passages
2. Vocabulary
Prefix, Suffix, Synonym, Antonym, Word Forms.
3. Understanding Grammar:
Be, Do and Have forms
Subject-Verb Agreement
Tenses : Present and Past

Suggestive Guidelines for Continuous Internal Assessment:

Test	Duration	Marks
Test - 1	At the end of 2 nd month of every semester (One Hour)	10
Test - 2	At the end of 4 th month of the every semester (One Hour)	10
	Two Assignments each for 5 marks	10
	Seminar for 5 marks	05
	Overall Assessment	05
	Total Marks	40


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Second Semester B.COM./BBA/TTM
AECC2: Basic English 2021-22

Course Title – Ability Enhancement Course – Semester I – English Language (Text – Ambitions and Course Book)	
Total Contact Hours : 56/60	Course Credits : 03
Formative Assessment Marks : 40	Internal Assessment
Summative Assessment Marks: 60	Duration of ESA/Exam : 03 Hours

Enhancing Language I

UNIT I – POETRY

16 Marks

1. *She Dwelt Among the Untrodden Ways* by William Wordsworth
2. *Ozymandias* by P B Shelly
3. *Patriot* by Nissim Ezekiel
4. *I Know Why the Caged Bird Sings* by Maya Angelou

UNIT II – PROSE

20Marks

1. *The Kabuliwallah* by Rabindranath Tagore
2. *Dangers of Drug Abuse* by Hardin B James
3. *Bells of Buddha* by Mahantesh Navalkal
4. *Draught* by Shartchandra Chatterjee

UNIT III – LANGUAGE SKILLS

24Marks

Articles, Prepositions,

Transformation of Sentences - Active Voice and Passive Voice; Affirmative, Negative and Interrogative

Vocabulary Exercises:

Homonyms, Homophones, One-word Substitution

Dialogue Writing

Suggestive Guidelines for Continuous Internal Assessment:

Test	Duration	Marks
Test - 1	At the end of 2 nd month of every semester (One Hour)	10
Test - 2	At the end of 4 th month of the every semester (One Hour)	10
	Two Assignments each for 5 marks	10
	Seminar for 5 marks	05
	Overall Assessment	05
	Total Marks	40


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**First Semester B.Sc. / B.C.A./B.Sc Home Science
AECC2: Basic English 2021-22**

Course Title – Ability Enhancement Course – Semester I – English Language (Text – Aspirations and Course Book)	
Total Contact Hours : 56/60	Course Credits : 03
Formative Assessment Marks : 40	Internal Assessment
Summative Assessment Marks: 60	Duration of ESA/Exam : 03 Hours

UNIT I – POETRY

16 Marks

1. *The Boy, I and Time* by Prathibha Nandakumar
2. *On Television* by Roald Dahl
3. *A Piece of Advice* by William Shakespeare
4. *Once Upon a Time* by Gabriel Okara

UNIT II – PROSE

20 Marks

1. *The World as I See It* by Albert Einstein
2. *An Ode to Make Up* by Chimamanda Adichie
3. *The Kid* by Charlie Chaplin
4. *The Rightful Inheritors of the Earth* by Vaikom Mohammed Basheer

UNIT III – LANGUAGE SKILLS

24 Marks

Reading Skills:

1. Comprehension Passages
2. Vocabulary
Prefix, Suffix, Synonym, Antonym, Word Forms.
3. Understanding Grammar:
Be, Do and Have forms
Subject-Verb Agreement
Tenses : Present and Past

Suggestive Guidelines for Continuous Internal Assessment:

Test	Duration	Marks
Test - 1	At the end of 2 nd month of every semester (One Hour)	10
Test - 2	At the end of 4 th month of the every semester (One Hour)	10
	Two Assignments each for 5 marks	10
	Seminar for 5 marks	05
	Overall Assessment	05
	Total Marks	40


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Second Semester B.Sc. / B.C.A./B.Sc Home Science AECC2: Basic English 2021-22

Course Title - Ability Enhancement Course - Semester I - English Language (Text - Aspirations and Course Book)	
Total Contact Hours : 56/60	Course Credits : 03
Formative Assessment Marks : 40	Internal Assessment
Summative Assessment Marks: 60	Duration of ESA/Exam : 03 Hours

UNIT I – POETRY

16 Marks

1. *Telephone Conversation* by Wole Soyinka
2. *Stone* by W.W. Gibson
3. *Yashodhara* by HiraBansode
4. *Father Returning Home* by DilipChitre

UNIT II – ONE ACT PLAYS

20 Marks

1. *The Proposal* by Anton Chekhov
2. *Refund* by Fritz Karinthy
3. *Never Never Nest* by Cedric Mount

UNIT III – LANGUAGE SKILLS

24 Marks

Articles, Prepositions,

Transformation of Sentences - Active Voice and Passive Voice; Affirmative, Negative and Interrogative

Vocabulary Exercises:

Homonyms, Homophones, One-word Substitution

Dialogue Writing

Suggestive Guidelines for Continuous Internal Assessment:

Test	Duration	Marks
Test - 1	At the end of 2 nd month of every semester (One Hour)	10
Test - 2	At the end of 4 th month of the every semester (One Hour)	10
	Two Assignments each for 5 marks	10
	Seminar for 5 marks	05
	Overall Assessment	05
	Total Marks	40

Kuvempu University
Undergraduate Courses – English Language (as per NEP 2021)
Question Paper Pattern for B.A./B.S.W.
I Semester – English Language – Course I
Paper 1: Imaginations and Course Book

Time: 3 Hours

Max. Marks: 60

Instruction: Answer all the questions.

SECTION – A (PROSE)

1. Write short notes on any TWO of the following in about a page each. (Two out of Three) $2 \times 5 = 10$
2. Answer any ONE of the following in about two pages. (One out of Two) $1 \times 10 = 10$

SECTION – B (POETRY)

3. Annotate any TWO of the following. $2 \times 4 = 08$
4. Answer any ONE of the following in about one and a half page. (One out of Two) $1 \times 8 = 08$

SECTION – C (LANGUAGE SKILLS)

5. Read the following passage and answer the questions based on it.
 - a) Answer the following questions in a word or a phrase or a sentence as required. $1 \times 6 = 06$
 - b) Answer the following questions in two or three sentences. $2 \times 2 = 04$
6. Rewrite as directed. (Vocabulary – synonyms, antonyms, suffixes, prefixes) $4 \times 1 = 04$
7. a) Fill in the blanks with the suitable forms of verbs given in brackets. (be/do/have) $3 \times 1 = 03$
b) Fill in the blanks with the suitable forms of verbs given in brackets. (Subject verb agreement) $3 \times 1 = 03$
8. Rewrite as directed. (Tenses – Present and Past Tenses) $4 \times 1 = 04$


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Kuvempu University

Undergraduate Courses – English Language (as per NEP 2021)

Question Paper Pattern for B.Sc./B.C.A.

I Semester – English Language – Course I

Paper 1: Aspirations and Course Book

Time: 3 Hours

Max. Marks: 60

Instruction: Answer all the questions.

SECTION – A (PROSE)

1. Write short notes on any TWO of the following in about a page each. (Two out of Three) $2 \times 5 = 10$
2. Answer any ONE of the following in about two pages. (One out of Two) $1 \times 10 = 10$

SECTION – B (POETRY)

3. Annotate any TWO of the following. $2 \times 4 = 08$
4. Answer any ONE of the following in about one and a half page. (One out of Two) $1 \times 8 = 08$

SECTION – C (LANGUAGE SKILLS)

5. Read the following passage and answer the questions based on it.
 - a) Answer the following questions in a word or a phrase or a sentence as required. $1 \times 6 = 06$
 - b) Answer the following questions in two or three sentences. $2 \times 2 = 04$
6. Rewrite as directed. (Vocabulary – synonyms, antonyms, suffixes, prefixes) $4 \times 1 = 04$
7. a) Fill in the blanks with the suitable forms of verbs given in brackets. (be/do/have) $3 \times 1 = 03$
b) Fill in the blanks with the suitable forms of verbs given in brackets. (Subject verb agreement) $3 \times 1 = 03$
8. Rewrite as directed. (Tenses – Present and Past Tenses) $4 \times 1 = 04$


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Undergraduate Courses – English Language (as per NEP 2021)

Question Paper Pattern for B.Com/B.B.A./T.T.M.

I Semester – English Language – Course I

Paper 1: Ambitions and Course Book

Time: 3 Hours

Max. Marks: 60

Instruction: Answer all the questions.

SECTION – A (PROSE)

1. Write short notes on any TWO of the following in about a page each. (Two out of Three) $2 \times 5 = 10$
2. Answer any ONE of the following in about two pages. (One out of Two) $1 \times 10 = 10$

SECTION – B (POETRY)

3. Annotate any TWO of the following. $2 \times 4 = 08$
4. Answer any ONE of the following in about one and a half page. (One out of Two) $1 \times 8 = 08$

SECTION – C (LANGUAGE SKILLS)

5. Read the following passage and answer the questions based on it.
 - a) Answer the following questions in a word or a phrase or a sentence as required. $1 \times 6 = 06$
 - b) Answer the following questions in two or three sentences. $2 \times 2 = 04$
6. Rewrite as directed. (Vocabulary – synonyms, antonyms, suffixes, prefixes) $4 \times 1 = 04$
7. a) Fill in the blanks with the suitable forms of verbs given in brackets. (be/do/have) $3 \times 1 = 03$
b) Fill in the blanks with the suitable forms of verbs given in brackets. (Subject verb agreement) $3 \times 1 = 03$
8. Rewrite as directed. (Tenses – Present and Past Tenses) $4 \times 1 = 04$

Kuvempu University
Undergraduate Courses – English Language (as per NEP 2021)
Question Paper Pattern for B.A/B.S.W.
II Semester – English Language – Course II
Paper 2: Imaginations and Course Book

Time: 3 Hours

Max. Marks: 60

Instruction: Answer all the questions.

SECTION – A (PROSE)

1. Write short notes on any TWO of the following in about a page each. (Two out of Three) $2 \times 5 = 10$
2. Answer any ONE of the following in about two pages. (One out of Two) $1 \times 10 = 10$

SECTION – B (POETRY)

3. Annotate any TWO of the following. $2 \times 4 = 08$
4. Answer any ONE of the following in about one and a half page. (One out of Two) $1 \times 8 = 08$

SECTION – C (LANGUAGE SKILLS)

5. Rewrite as directed. (Homonyms, homophones, one word substitute) $4 \times 1 = 04$
6. a) Fill in the blanks with suitable articles. $2 \times 1 = 02$
b) Fill in the blanks with suitable prepositions. $2 \times 1 = 02$
7. a) Change the following into negativesentences. $2 \times 1 = 02$
b) Change the following into Yes-No questions. $2 \times 1 = 02$
c) Frame Wh-questions to get the underlined words as answer. $2 \times 1 = 02$
d) Add suitable question tags. $2 \times 1 = 02$
8. a) Change the following sentences into Passive Voice. $2 \times 1 = 02$
b) Change the following sentences into Active Voice. $2 \times 1 = 02$
9. Write a dialogue.... 04

Kuvempu University
Undergraduate Courses – English Language (as per NEP 2021)
Question Paper Pattern for B.Sc./B.C.A.
II Semester – English Language – Course II
Paper 2: Aspirations and Course Book

Time: 3 Hours

Max. Marks: 60

Instruction: Answer all the questions.

SECTION – A (PROSE)

1. Write short notes on any TWO of the following in about a page each. (Two out of Three) $2 \times 5 = 10$
2. Answer any ONE of the following in about two pages. (One out of Two) $1 \times 10 = 10$

SECTION – B (POETRY)

3. Annotate any TWO of the following. $2 \times 4 = 08$
4. Answer any ONE of the following in about one and a half page. (One out of Two) $1 \times 8 = 08$

SECTION – C (LANGUAGE SKILLS)

5. Rewrite as directed. (Homonyms, homophones, one word substitute) $4 \times 1 = 04$
6. a) Fill in the blanks with suitable articles. $2 \times 1 = 02$
b) Fill in the blanks with suitable prepositions. $2 \times 1 = 02$
7. a) Change the following into negative sentences. $2 \times 1 = 02$
b) Change the following into Yes-No questions. $2 \times 1 = 02$
c) Frame Wh-questions to get the underlined words as answer. $2 \times 1 = 02$
d) Add suitable question tags. $2 \times 1 = 02$
8. a) Change the following sentences into Passive Voice. $2 \times 1 = 02$
b) Change the following sentences into Active Voice. $2 \times 1 = 02$


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Undergraduate Courses – English Language (as per NEP 2021)
Question Paper Pattern for B.Com/B.B.A./T.T.M.
II Semester – English Language – Course II
Paper 2: Ambitions and Course Book

Time: 3 Hours

Max. Marks: 60

Instruction: Answer all the questions.**SECTION – A (PROSE)**

1. Write short notes on any TWO of the following in about a page each. (Two out of Three) $2 \times 5 = 10$
2. Answer any ONE of the following in about two pages. (One out of Two) $1 \times 10 = 10$

SECTION – B (POETRY)

3. Annotate any TWO of the following. $2 \times 4 = 08$
4. Answer any ONE of the following in about one and a half page. (One out of Two) $1 \times 8 = 08$

SECTION – C (LANGUAGE SKILLS)

5. Rewrite as directed. (Homonyms, homophones, one word substitute) $4 \times 1 = 04$
6. a) Fill in the blanks with suitable articles. $2 \times 1 = 02$
b) Fill in the blanks with suitable prepositions. $2 \times 1 = 02$
7. a) Change the following into negative sentences. $2 \times 1 = 02$
b) Change the following into Yes-No questions. $2 \times 1 = 02$
c) Frame Wh-questions to get the underlined words as answer. $2 \times 1 = 02$
d) Add suitable question tags. $2 \times 1 = 02$
8. a) Change the following sentences into Passive Voice. $2 \times 1 = 02$
b) Change the following sentences into Active Voice. $2 \times 1 = 02$

9. Write a dialogue....

First Semester :Optional English
Course 01 – DSC – Paper A1
Title of the Paper - Introduction to English Literature

Course Title – Introduction to Literature	
Total Contact Hours : 39/42	Course Credits : 03
Formative Assessment : 40	Internal Assessment
Summative Assessment Marks: 60	Duration of ESA/Exam : 03 Hours

Course Objectives:

- To introduce the learners to the meaning, forms, terms and concepts of literature
- To provide an overview of the main genres of literature
- To enable the learners to appreciate literature

Course Outcome:

- CO1: The learners will be able to define and understand different literary terms and concepts
CO2: Will enable the learners to analyse and appreciate different genres
CO3: Will introduce the learners to different cultures and social issues which in turn develop the social and human values.

Unit I. Introduction to Literature

Teaching hours: 08

Defining Literature –

1. What is Literature? Why study literature? Literature and Society,
2. Terry Eagleton’s “What is Literature?” from “Literary Theory”

Unit II. Poetry:

Teaching hours: 08

1. **Forms** : Sonnet, Ballad, Epic, Lyric
2. **Figurative Language:** Simile, Metaphor, Personification, Hyperbole, Irony

Unit III. Drama:

Teaching hours: 06

1. **Types and Concepts:** Comedy, Tragedy, Soliloquy, Chorus

Unit IV. Prose:

Teaching hours: 06

1. **Types:** Novel, Short story, Essay, Autobiography.

Unit V. Text:

Teaching hours: 14

Texts:

Poetry:

1. *The Solitary Reaper* :William Wordsworth
2. *The Flea* :John Donne
3. *Ozymandias* :P B Shelly
4. *Lord Ullin's Daughter* :Thomas Campbell

Prose:

1. A Classical Student :Anton Chekhov
2. Roti :P Lankesh

Essay:

I Have a Dream : Martin Luther King

Autobiography:

Extract "Accept Me" from "I am Vidya: A Transgender's Journey" :Vidya

Reference Books:

1. Abrams, M H. *Glossary of Literary Terms*
2. Baldick, Chris. *The Oxford Dictionary of Literary Terms*, OUP 2001
3. Bennett, Andrew. *An Introduction to Literature, Criticism and Theory*, Routledge
4. Bertens, Hans. *Literary Theory: The Basics*, Taylor and Francis, 2013
5. Eagleton, Terry. *How to Read Literature*. Yale University Press
6. Poplawski, Paul. *English Literature in Context*, CUP


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**First Semester :Optional English
Course 02 – DSC – Paper A2**

Title of the Paper - Indian Writing in English : Pre-Independent Period

Course Title – Indian Writing in English : Pre-Independent Period	
Total Contact Hours : 39/42	Course Credits : 03
Formative Assessment : 40	Internal Assessment
Summative Assessment Marks: 60	Duration of ESA/Exam : 03 Hours

Course Objectives:

- To introduce the learners to the pre-independent Indian writers in English
- To provide knowledge of literature in Indian historical context
- To enable the learners to appreciate Indian writings before independence

Course Outcome:

- CO1: The learners will get knowledge about many prominent Indian writers
- CO2: Will help the learners to understand the texts in the historical context
- CO3: Will enable the learners to acquire knowledge about the society during pre-independent India

Unit I :History of Indian English Literature:

10 Hours

1. History of Indian English Literature : Introducing authors and texts from the pre-independent era : Aurabindo, Swamy Vivekananda, M K Gandhi, Dr. B R Ambedkar, Ram Manohar Lohia , Jyothiba Phule
2. The Nature and Scope of Indian English Literature: Debates/charges against Indian English Literature (Reference: M K Naik, A History of Indian English Literature, New Delhi, Sahitra Akademi 1980)

Unit II :Poetry:

04 Hours

1. *Sita* :Toru Dutt
2. *Coromandel Fishers* :Sarojini Naidu
3. *Where the Mind is Without Fear* :Ravindranath Tagore :

Unit III : Essay

12 Hours

Essay:

1. Waiting for a Visa : Dr. B. R. Ambedkar


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Short Story:

1. *The Parrot in the Cage* : Mulk Raj Anand: *The Parrot in the Cage*
2. *Forty Five on a Month* R K Narayan :
3. The Assignment: Sadat Hassan Monto :
4. M K Gandhi : Extract from Hind Swaraj (Chapter 19 - Machinery)

Unit IV NOVEL:

10 Hours

1. *Untouchable* :Mulk Raj Anand


Unit V : DRAMA:

06 Hours

1. *Sacrifice* :Rabindranath Tagore

Reference Books:

1. Iyenger K R S. *Indian Writing in English*. Sterling Publisher, 1984
2. Naik, M.K. *A History of Indian English Literature*, Sahitya Akademi, 1992
3. Naik, M.K. (ed) *The Indian English Short Story: A Representative Anthology*. Arnold Heinemann, 1984
4. Mukherji, Meenakshi. *The Twice Born Fiction*. Heinemann, 1971
5. Narasimhaiah C D. (Ed) *Makers of Indian English Literature*. Pencraft International, 2000
6. Gokak, Vinayak Krishna. *The Golden Treasury of Indo-Anglian Poetry*. South Asia Books, 1


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Second Semester :Optional English
Course 03 – DSC – Paper A3
Title of the Paper - Introduction to Phonetics and Linguistics

Course Title – Introduction to Phonetics and Linguistics	
Total Contact Hours : 39/42	Course Credits : 03
Formative Assessment : 40	Internal Assessment
Summative Assessment Marks: 60	Duration of ESA/Exam : 03 Hours

Course Objectives:

- To learn the basic concepts of language, linguistics and phonetics
- To introduce the learners to various structures, parts and functions of language
- To enable the learners to make linguistic analysis and descriptions

Course Outcome:

- CO1: The learners will be able to identify and understand the basic concepts of language, linguistics and phonetics
- CO2: Will enable the learners to comprehend and use various structures
- CO3: Will make the learners use the language effectively and efficiently

Unit I :Introduction to Phonetics and Linguistics 13/14

1. Language – its nature, definitions, characteristic features
2. Linguistics – Definitions, Scope
3. Braches of Linguistics

Unit II : Phonetics and Phonology 13/14

1. Speech Mechanism, Organs of Speech
2. Production of Speech Sounds, Classification of Speech Sounds – Vowels and Consonants
3. Transcription of words, Word stress, Phonemics-phone, allophone-phoneme

Unit III : Morphology, Syntax, Semantics and Lexicon 13/14

1. Morphology – Morph-word classes: lexical categories, functional categories, the morphological properties of English verbs and building words, Allomorph-morpheme
2. Syntax – Types of Sentences – basic terminology; categories and functions, functions of clauses
3. Semantics and Lexicon – word meaning: entailment and hyponymy, meaning opposites, semantic features, dictionaries and prototypes

Reference Books:

1. Sethi, J. Dhamija. P.V., A Course in Phonetics and Spoken English, Prentice – Hall of India Pvt. Ltd. New Delhi, 2005
2. Balasubramanian T. A Text Book of English Phonetics for Indian Students, Macmillan Publishers India Ltd, 2010.
3. Yule, George. The Study of Language, Cambridge UP, 2010.
4. Aitchinson, Jean. Linguistics, Hodder& Stoughton Ltd, London, 2003.
5. Cruse, Alan. Meaning in Language. Oxford UP, 2000.
6. Fromkin, V. Rodman, R, Nina Hyams. An Introduction to Language, Wadsworth, Cengage Learning, 2007.
7. Rocca, I., and W. Johnson. A Course in Phonology. Blackwell, 1999.


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Second Semester :Optional English
Course 04 – DSC – Paper A4
Title of the Paper - Indian Writing in English Post-Independence

Course Title – Indian Writing in English Post-Independence	
Total Contact Hours : 39/42	Course Credits : 03
Formative Assessment : 40	Internal Assessment
Summative Assessment Marks: 60	Duration of ESA/Exam : 03 Hours

Course Objectives:

- To introduce the learners to the evolution of Indian Writing in English
- To familiarize the learners to Indian writers of post-independent period

Course Outcome:

CO1: The learners will be able to identify the evolution of IWE

CO2: Will enable the students to understand the writings of the Indian writers about the society of the post independent period

Unit I : Introducing writers –

08 Hours

Kamala Das, ShashiDeshpande, Chitra Banerjee, GirishKarnad, Salman Rushdie, Anita Desai, Ruskin Bond, ArunKolatkcar

Unit II : Indian English Poetry

06 Hours

1. A K Ramanujan – *Obituary*
2. Nissim Ezekiel – *Enterprise*
3. Kamala Das – *Punishment in Kindergarten*
4. ArunKolatkcar – Selection from *Jejury* (The Bus and an

Unit III : *Train to Pakistan* (Novel)

:Kushwanth Singh's

12 Hours

Unit IV : Drama – Vijay Tendulkar's *Kanyadaan*

10 Hours

Unit V : 1. Journalistic writing – *I Write as I feel* by K A Abbas

06 Hours

2. Short Stories: JhumpaLahiri's -----
3. ShashiDeshpande's -----


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Reference Books:

1. Sethi, J. Dhamija. P.V., A Course in Phonetics and Spoken English, Prentice – Hall of India Pvt. Ltd. New Delhi, 2005
2. Balasubramanian T. A Text Book of English Phonetics for Indian Students, Macmillan Publishers India Ltd, 2010.
3. Yule, George. The Study of Language, Cambridge UP, 2010.
4. Aitchinson, Jean. Linguistics, Hodder& Stoughton Ltd, London, 2003.
5. Cruse, Alan. Meaning in Language. Oxford UP, 2000.
6. Fromkin, V. Rodman, R, Nina Hyams. An Introduction to Language, Wadsworth, Cengage Learning, 2007.
7. Rocca, I., and W. Johnson. A Course in Phonology. Blackwell, 1999.


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Undergraduate Courses – English Language (as per NEP 2021)

Question Paper Pattern for B.A

I Semester – English Language – Course I

DSC - Paper A1: Introduction to Literature

Time: 3 Hours

Max. Marks: 60

Instruction: Answer all the questions.

SECTION – A – Introduction to Literature

1. Write a short note on any ONE of the following in about a page each. (One out of Two) 1 x 5 = 05
2. Answer any ONE of the following in about two pages. (One out of Two) 1 x 10 = 10

SECTION – B – Literary Terms and Concepts

3. Write short notes on any FIVE of the following. (Five out of Eight) 5 x 4 = 20

SECTION – C – Texts

4. Write short notes on any THREE of the following. (Three out of Five) 3 x 5 = 15
5. Answer any ONE in about two pages each. (One out of Two) 1 x 10 = 10


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Undergraduate Courses – English Language (as per NEP 2021)

Question Paper Pattern for B.A

I Semester – English Language – Course II

DSC - Paper A2: Indian Writing in English (Pre-independent period)

Time: 3 Hours

Max. Marks: 60

Instruction: Answer all the questions.

SECTION – A – History of Indian English Literature

1. Answer any ONE of the following in about two pages. (One out of Two) 1 x 10 =
10

SECTION – B – Poetry

2. Answer any ONE of the following in about two pages. (One out of Two) 1 x 10 =
10

SECTION – C – Essay and Short Stories

3. Write short notes on any TWO of the following. (Two out of Three) 2 x 5 = 10
4. Answer any ONE of the following in about two pages each. (One out of Two) 1 x 10 = 10

SECTION – D – Novel

5. Answer any ONE of the following in about two pages. (One out of Two) 1 x 10 = 10

SECTION – E – Drama

6. Answer any ONE of the following in about two pages. (One out of Two) 1 x 10 = 10

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Undergraduate Courses – English Language (as per NEP 2021)

Question Paper Pattern for B.A

II Semester – English Language – Course III

DSC - Paper A3:

Time: 3 Hours

Max. Marks: 60

Instruction: Answer all the questions.

SECTION – A –

1. Write a short note on any ONE of the following in about a page each. (One out of Two) 1 x 5 = 05
2. Answer any ONE of the following in about two pages. (One out of Two) 1 x 10 = 10

SECTION – B –

3. Write short notes on any FIVE of the following. (Five out of Eight) 5 x 4 = 20

SECTION – C –

4. Write short notes on any THREE of the following. (Three out of Five) 3 x 5 = 15
5. Answer any ONE in about two pages each. (One out of Two) 1 x 10 = 10


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Undergraduate Courses – English Language (as per NEP 2021)

Question Paper Pattern for B.A

II Semester – English Language – Course IV

DSC - Paper A4: Indian Writing in English (Post-independent period)

Time: 3 Hours

Max. Marks: 60

Instruction: Answer all the questions.

SECTION – A – Introducing Authors

1. Write short notes on any TWO of the following. (Two out of four) 2 x 5 = 10

SECTION – B – Poetry

2. Answer any ONE of the following in about two pages. (One out of Three) 1 x 10 = 10

SECTION – C – Fiction

3. Write a short note on any ONE of the following. (One out of Three) 1 x 5 = 05
4. Answer any ONE of the following in about two pages each. (One out of Three) 1 x 10 = 10

SECTION – D – Drama

5. Write a short note on any ONE of the following. (One out of Three) 1 x 5 = 05
6. Answer any ONE of the following in about two pages. (One out of Three) 1 x 10 = 10

SECTION – E – Journalistic Writings and Short Stories

7. Write short notes on any TWO of the following. (Two out of Four) 1 x 5 = 05


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Open Elective – OEC I – Functional English

Section I: Functional English Grammar

1. Grammar of Spoken and Written English
2. Basic Sentence Patterns in English – Analysis of Sentence Patterns (SVO, SV, SVOC, SVOA, SVOA/C)
3. Functions of Various Types of Phrases: Noun Phrases, Verb Phrases, Adjective Phrases, Adverbial Phrases, Prepositional Phrases
4. Functions of Clauses: Noun Clause, Adjective Clause and Adverbial Clause and Prepositional Clauses
5. Verbs – Tense and Aspects, Modal Verbs, Functions and Uses

Section II – Writing Skills

1. Writing as a Skill – Its Importance, Mechanism of Writing, Words and Sentences, Paragraph as a Unit of Structuring the Whole Text, Analysis of Paragraph
2. Functional Uses of Writing: Personal, Academic and Business
3. Writing Process: Planning a Text, Finding Materials, Drafting, Revising, Editing, Finalising Draft
4. Models of Writing: Expansion of Ideas, Dialogue Writing, Drafting an Email

Section III : Reading Skills

1. Meaning and Process of Reading
2. Strategies and Methods to Improve Reading Skill
3. Sub-skills of Reading: Skimming, Scanning, Extensive Reading, Intensive Reading

Suggested Reading:

1. Geoffrey Leech and Svartik. Communicative Grammar of English, Pearson
2. Geoffrey Leech, English Grammar for Today, Palgrave
3. Prasad P. The Functional Aspects of Communicative Skills
4. Vandana Singh. The Written Word, OUP


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Open Elective – 02

SPOKEN ENGLISH FOR CORPORATE JOBS

Course and Skill Outcome:

1. This paper teaches students the skills in the front desk management
2. It introduces them to business English

Section I: English for Front Desk Management:

1. Greeting, Welcoming.
2. Dealing with Complaints, Giving Instructions or Directions.
3. Giving Information: About Various Facilities, Distance, Area, Local Specialties.
4. Consultation and Solution of Problems.
5. Accepting Praises and Criticism, Apologising

Section II: Fluency and Etiquette:

1. Polite sentences and Words.
2. Use of Persuading words.
3. Intonation and Voice Modulation.
4. Developing Vocabulary.

Section III: Business Speeches:


1. Principles of Effective Speech and Presentations.
2. Speeches: Introduction, Vote of Thanks, Occasional Speech, Theme Speech.
3. Use of Audio-Visual Aids in Presentations.

Section IV: Cross-Cultural Communication:

1. Dealing with Language Differences.
2. Probing Questions to get Information.
3. Etiquette in Cross-Cultural Communication.

Suggested Readings:

1. More Effective Communication – J V Vilanilam, Sage Publication Pvt. Ltd.
2. Effective Documentation & Presentation – Rai& Raj Himalaya Publishing House, Mumbai
3. Commercial Correspondence & Office Management – R S N Pillai&Bhagawati, S Chand & Co.
4. Communication Today – Ray Rubeen, Himalaya Publishing House, Mumbai
5. Business Communication – Lesikar and Pettit – AITBS Publishers, Delhi
6. Business Communication Today – SushilBahl – Response Books, Sage Publication, N.Delhi
7. The Essence of Effective Communication – Ludlow & Panton PHI, N.Delhi.
8. Business Communication – PradhanBhende&Thankur, Himalaya Publishing House, Mumbai
9. Mastering Communication Skills and Soft Skills – N Krishnaswamy, LalithaKrishnaswamy and others – Bloomsbury, New Delhi, 2015
10. Developing Communication Skills – Krishna Mohan and Banaji


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English Open Elective – 3

SPEAKING AND LISTENING SKILLS

1. Section I: Introduction to Phonetics:

Speech Organs – Speech Mechanism – Classification of English Sounds, Description of English Vowels and Consonants, Consonant Clusters, IPA symbols and Transcription (words, sentence and short paragraphs); The Syllable Structure, Stress and Intonation – Their Patterns of Stress and Intonation in English Sentences and Words (Transcription of Short Dialogues); Rules for Pronunciation

2. Section II: Speaking Skills

Formal and Informal Speeches: Language Functions: Greetings, Making Requests, Persuading, Complaining, Apologising, Asking for and Giving Permission, Instruction and Directions, Agreeing and Disagreeing, Seeking for/Giving Advice and Inviting.

3. Section III: Listening Skills

- a. Definition of Listening: Listening versus and Hearing, Process of Listening, Problems the Students face in Listening; Sub-skills of Listening
- b. What is good listening?
- c. Barriers to listening
- d. Strategies of listening
- e. Listening activities: listening to news broadcast, telecast and news bulletins

4. Section IV: Presentation Skills

- a. Definition, Meaning and Goals of Presentation
- b. Some useful expressions while making presentations – opening remarks, stating purposes, giving an outline, giving preliminary information and starting with a context, emphasizing important points, drawing attention to visuals, making recommendation, keeping audience involved, summarizing and concluding, inviting questions.
- c. Presentation in practice – Making Welcome speech, Introducing guests to audience, Making farewell speech, Proposing vote of Thanks

Suggested Reading:

1. Kenneth and Anderson and Tony Lynch, Study Speaking, OUP
2. Sethy J. Et.Al., Practice Course in English Pronunciation, Princeton Hall
3. Prasad P. Communication Skills
4. Balasubrahmanya. A Course in Phonetics for Indian Students, MacMillan
5. JayashreeMohanraj, Speak Well, Black Swan



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Open Elective – 04

TRANSLATION THEORY AND PRACTICE

Syllabus:

1. Translation – Meaning, methods, problems and challenges of translation, source language and target language, translating poetry and prose, technical translation
2. Translation in practice (Practice five passages from Kannada to English and Five passages from English to Kannada)


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Undergraduate Courses – English Language (as per NEP 2021)

Open Elective 1

OEC -1: Functional English

Time: 3 Hours

Max. Marks: 60

Instruction: Answer all the questions.

- | | |
|---|-------------|
| 1. Very short answer questions on all sections. | 10 x 2 = 20 |
| 2. Four short notes on all sections. | 4 x 5 = 20 |
| 3. Short questions on dialogue and expansion of an idea | 2 x 5 = 10 |
| 4. One essay type question | 1 x 10 = 10 |


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Undergraduate Courses – English Language (as per NEP 2021)

Open Elective 2
OEC - 2: Spoken English for Corporate jobs

Time: 3 Hours

Max. Marks: 60

Instruction: Answer all the questions.

- | | | |
|----|------------------------------|-------------|
| 1. | Very short answer questions. | 10 x 2 = 20 |
| 2. | Short notes on all sections. | 4 x 5 = 20 |
| 3. | Essay type questions | 2 x 10 = 20 |



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Kuvempu University
Undergraduate Courses – English Language (as per NEP 2021)
Open Elective 3
OEC - 3: Speaking and Listening Skills

Time: 3 Hours

Max. Marks: 60

- | | | |
|----|--|-------------|
| 1. | Very short answer questions on all sections. | 10 x 2 = 20 |
| 2. | Four short notes on all sections. | 4 x 5 = 20 |
| 3. | One question on presentation of speeches | 1 x 10 = 10 |
| 4. | One essay type question | 1 x 10 = 10 |


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Kuvempu University
Undergraduate Courses – English Language (as per NEP 2021)
Open Elective 4

OEC - 4: Translation theory and practice

Time: 3 Hours

Max. Marks: 60

Instruction: Answer all the questions.

- | | | |
|----|--|-------------|
| 1. | Essay type questions on translation - meaning, definitions, methods, problems and challenges | 1 x 10 = 10 |
| 2. | Problems of translation | 1 x 10 = 10 |
| 3. | Short type questions on translation theory | 2 x 5 = 10 |
| 4. | Translation of short passages | 2 x 5 = 10 |
| 5. | Translation passage from English to Kannada (one out of two) | 1 x 10 = 10 |
| 6. | Translation passage from Kannada to English (one out of two) | 1 x 10 = 10 |


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Undergraduate Courses – English Language (as per NEP 2021)

Skill Based Enhancement Course

English and Soft Skills

28-30 hours

1. Attitude
2. Goal Setting
3. Time Management
4. Leadership
5. Employability Skills
6. Team Work
7. Work place etiquette
8. Group discussion


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ENVIRONMENTAL STUDIES

ABILITY ENHANCEMENT COMPULSORY COURSE (AECC)

This module consists of 3 units, covering 40 lecture hours which are classroom based and 5 hours of field work intended to create awareness, enhance knowledge, develop skills and attitudes necessary to understand the Environment in its totality and enables students to participate proactively for the cause of the environment.

1. Environmental Studies (AECC) is made compulsory core module syllabus framed by UGC for all the Indian Universities/Colleges as per the directions given by the Honorable Supreme Court, which believed that, conservation of environment should be a national way of life and to be included into the education process. As suggested by NEP-2020 State Level Environmental Science Subject Expert Committee, Chairpersons of Board of Studies, Board of Examiners and subject experts it is proposed to implement the details listed in the tabular column below, **mandatorily**.

Environmental Studies (AECC) - Ability Enhancement Compulsory Course		Semester in which the course is to be taught
Streams	B.Sc/BA/BCA/BSW/BFA and other streams of Humanities and Science	I
	B.Com, /B.B.A/BBA (T&T)/BFT and other streams of Commerce and Management	II

2. This pattern helps in distributing the workload of teachers of Environmental Studies to both **I and II semesters** enabling the distribution of the **teaching workload of an institution for full academic year**; ensures distribution of examinations into two semesters; also provide scope for a full-time teacher of the subject.
3. **Qualifications to teach Environmental Studies (AECC):** A candidate with minimum qualifications of M.Sc. in Environmental Science subject

only is eligible to teach Environmental Studies (AECC) at the under graduate level in all types of Universities, Deemed Universities, Autonomous Institutions, Government, Aided and Private Colleges in the State of Karnataka. Preference may be given to candidates with UGC-NET/K-SET/Ph.D. in Environmental Science.

However, when such candidate is not available, teachers of the subjects listed below are to be preferred to teach **ONLY ENVIRONMENTAL STUDIES – AECC** paper in the following order:

i. **Biological Sciences:**

Botany/Zoology/Microbiology/Biotechnology/Life Sciences

ii. **Chemical Sciences and Earth Sciences:**

Chemistry/Geology/Earth Sciences

The teachers **NOT ELIGIBLE** to teach Environmental Studies (AECC) paper are - Humanities (Economics, Geography, History, Sociology, Political Science, Rural Development, Philosophy and others) Commerce, Management, English & others languages, Communication, Performing Arts, Fine Arts, Social work, Women Studies, Psychology, Home Science, Fashion Technology, Travel & Tourism and other similar subjects.

4. **Pattern of Examination:** Total marks – 50 (Internal Assessment - 20 marks and Final Examination - 30 marks).
5. **Final Examination Question Paper Pattern (Short answer and essay type)**
 - a. Section - A (5 questions x 2 marks = 10 marks) – 5 questions out of 7
 - b. Section - B (4 questions x 5 marks = 20 marks) – 4 questions out of 6
6. **Duration of the examination:** 1 hour 30 minutes (1½ hours)
7. **Teaching hours and credits:** 3 hours of teaching per week and 2 credits.


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ENVIRONMENTAL STUDIES

ABILITY ENHANCEMENT COMPULSORY COURSE (AECC)

Number of Theory Credits	Number of lecture hours + field work
2	45

Content of ENVIRONMENTAL STUDIES - AECC		45 Hours
Unit 1	<p>Introduction to Environmental Studies: Multidisciplinary nature of environmental studies. Scope and importance; Concept of sustainability and sustainable development.</p> <p>Ecosystems: What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession. Case studies of the following ecosystems:</p> <ul style="list-style-type: none"> a) Forest ecosystem b) Grassland ecosystem c) Desert ecosystem <p>Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)</p> <p>Natural Resources: Renewable and Non-Renewable Resources</p> <p>Land resources and land-use change; Land degradation, soil erosion and desertification.</p> <p>Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.</p> <p>Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (International & Inter-state).</p> <p>Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, case studies.</p>	15
Unit 2	<p>Biodiversity and Conservation: Levels of biological diversity: Genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and</p>	12

	<p>global biodiversity hotspots.</p> <p>India as a mega-biodiversity nation; Endangered and endemic species of India.</p> <p>Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.</p> <p>Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.</p> <p>Environmental Pollution: Types, causes, effects and controls; Air, water, soil and noise pollution.</p> <p>Nuclear hazards and human health risks.</p> <p>Solid waste management, Control measures of urban and industrial waste.</p> <p>Pollution case studies.</p>	
<p>Unit 3</p>	<p>Environmental Policies and Practices: Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture.</p> <p>Environment Laws: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and Control of Pollution) Act; Wildlife (Protection) Act; Forest Conservation Act. International agreements: Montreal and Kyoto protocols and Convention on Biological Diversity (CBD).</p> <p>Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context.</p> <p>Human Communities and the Environment</p> <p>Human population growth: Impacts on environment, human health and welfare.</p> <p>Resettlement and rehabilitation of project affected persons; case studies.</p> <p>Disaster management: Floods, Earthquake, Cyclones and Landslides.</p> <p>Environmental movements: Chipko, Silent valley, Bishnois of Rajasthan.</p> <p>Environmental ethics: Role of Indian and other religions and</p>	<p>18</p>

	<p>cultures in environmental conservation.</p> <p>Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi).</p> <p>Field work (5 hours)</p>	
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Reference

- Bharucha, E. (2015). *Textbook of Environmental Studies*.
- Carson, R. (2002). *Silent Spring*. Houghton Mifflin Harcourt.
- Climate Change: Science and Politics. (2021). *Centre Science and Environment*, New Delhi.
- Gadgil, M., & Guha, R. (1993). *This Fissured Land: An Ecological History of India*. Univ. of California Press.
- Gleeson, B. and Low, N. (eds.) (1999). *Global Ethics and Environment*, London, Routledge.
- Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll. (2006). *Principles of Conservation Biology*. Sunderland: Sinauer Associates.
- McCully, P. (1996). *Rivers no more: the environmental effects of dams* (pp. 29-64). Zed Books.
- McNeill, John R. (2000). *Something New Under the Sun: An Environmental History of the Twentieth Century*.
- Nandini, N., Sunitha N., & Sucharita Tandon. (2019). *A text book on Environmental Studies (AECC)*. Sapna Book House, Bengaluru.
- Odum, E.P., Odum, H.T. & Andrews, J. (1971). *Fundamentals of Ecology*. Philadelphia: Saunders.
- Pepper, I.L, Gerba, C.P. & Brusseau, M.L. (2011). *Environmental and Pollution Science*. Academic Press.
- Rajit Sengupta and Kiran Pandey. (2021). *State of India's Environment 2021: In Figures*. Centre Science and Environment.
- Raven, P.H., Hassenzahl, D.M. & Berg, L.R. (2012). *Environment*. 8th Edition. John Wiley & Sons.
- Rosencranz, A., Divan, S., & Noble, M. L. (2001). *Environmental law and policy in India*.
- Sengupta, R. (2003). *Ecology and economics: An approach to sustainable development*. OUP.

Table of contents

Contents of Digital Fluency course are taken from Digital 101 course on Future Skills Prime Platform of NASSCOM

SINo.	Contents	Page No
1.	Syllabus of Digital Fluency	2
2.	Regarding Future Skills Prime & Digital 101 Courses	4
3.	Module 1	25
4.	Module 2	91
5.	Module 3	To be Shared Later


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Digital Fluency

Course Title: Digital Fluency	Course Credits: 2
Total Contact Hours: 15 hours of theory and 30 hours of practicals	Duration of ESA:
Formative Assessment Marks: 40 marks	Summative Assessment Marks: 60 marks

Course Content: In concurrence with Digital 101 on Nasscom 101 environment

Sl.no	Content	Details of topic	Duration
1.	Registration	Future Skills Course Registration Process	
2.	Module 1: Emerging Technologies	Overview of Emerging Technologies: i. Artificial Intelligence, Machine Learning, Deep Learning, ii. Database Management for Data Science, Big Data Analytics, iii. Internet of Things (IoT) and Industrial Internet of Things (IIoT) iv. Cloud computing and its service models v. Cyber Security and Types of cyber attack	05 Theory hours and 10 practical hours
3.	Module 2: Applications of Emerging Technologies	Applications of emerging technologies: i. Artificial Intelligence ii. Big Data Analytics iii. Internet of Things iv. Cloud Computing v. Cyber Security	05 Theory hours and 10 practical hours
4.	Module 3: Building Essential Skills Beyond Technology	Importance of the following: i. Effective Communication Skills ii. Creative Problem Solving & Critical Thinking iii. Collaboration and Teamwork Skills iv. Innovation & Design Thinking v. Use of tools in enhancing skills	05 Theory hours and 10 practical hours

References to learning resources:

1. The learning resources made available for the course titled “Digital 101” on Future Skills Prime Platform of NASSCOM


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Pedagogy

Flipped classroom pedagogy is recommended for the delivery of this course.

For every class:

1. Before coming to the class students are expected to go through the content (both video and other resources) on the related topic and give the quiz on Future Skills Prime Platform of NASSCOM.
2. Class room activities are designed around the topic of the session towards developing better understanding, clearing misconceptions and discussions of higher order thinking skills like application, analysis, evaluation and design.
3. Every theory class ends with announcement of exercise for practical activity of the week

Assessment

Formative Assessment	
Assessment Occasion	Weightage in Marks
1. After watching videos of each topic, 05 marks tests are to be given by the students on Future Skills Prime Platform. The total marks earned by students is to be computed.	No weightage
2. Formative Assessment (Internal Assessment): All activities and Practical sessions from Module 1, Module 2 and Module 3 need be completed by students. All the activities are expected to be done in teams with each team comprising of 02 -03 students. Each of Module 1 and Module 2 carry 15 marks weightage and Module 3 carries 10 marks weightage.	40%
Summative Assessment	
University will conduct examination which carries 60 marks weightage.	60%
In addition, after completion of all 3 modules students will be giving final assessment with 30 questions (30 min) on Digital course on Future Skills Prime platform. Students will have maximum of two attempts and those who score at least 50% marks will get certificate from NASSCOM.	


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