SY BBA(CA) – Semester – III		
Course Code: B4-21/301	**Subject:** Data Structure using 'C'	**Marks: 100** **Credits: 3**

Course Objectives:

1. To understand the concepts of Data structures.
2. To understand sorting, searching techniques.
3. To learn linear data structures – Link lists
4. To understand Stack linear data structure.
5. To explore the Queue data structure.
6. To learn basic concepts of Tree and Graph structures

Course Outcome:

CO1: Ability to visualize the representation of Abstract data type and types of data structure.

CO2: Demonstration of different sorting and searching technique using Arrays.

CO3: Implementation of different operation on Link list.

CO4: Demonstration of stack operations and its applications.

CO5: Implementation of different operation of Queue data structure .

CO6: Understand the basic concept of Tree and Graph data structure.

Unit	Unit Title	Contents	No. of Lectures
I	**Basic Concept and Introduction to Data Structure**	1.1 Pointers and dynamic memory allocation 1.2 Algorithm Analysis -Space Complexity -Time Complexity - Asymptotic Notation Introduction to Data structure 1.3 Introduction and Types of Data structure 1.4 Abstract Data Types (ADT)	4
II	**Linear data structures**	2.1 Introduction to Arrays - array representation 2.2 Sorting algorithms with efficiency - Bubble sort, Insertion sort, Selection Sort, Merge sort. 2.3 Searching techniques –Linear Search, Binary search	10
III	**Linked List**	3.1 Introduction to Linked List 3.2 Implementation of Linked List – Static & Dynamic representation, 3.3 Types of Linked List - Singly Linked list(All type of operation) - Doubly Linked list (Create , Display) - Circularly Singly Linked list (Create, Display) - Circularly Doubly Linked list (Create, Display)	14
IV	**Stacks**	4.1 Introduction 4.2 Representation- Static & Dynamic 4.3 Primitive Operations on stack 4.4 Application of Stack 4.5 Conversion of Infix, prefix, postfix , Evaluation of postfix and prefix	10
V	**Queues**	5.1 Introduction 5.2 Representation - Static & Dynamic 5.3 Primitive Operations on Queue 5.4 Circular queue, priority queue 5.5 Concept of doubly ended queue	10
VI	**Trees & Graph**	6.1 Concept & Terminologies 6.2 Binary tree, binary search tree 6.4 (Concept) Operations on BST – Create, Insert, Delete, 6.5 Tree Traversals (preorder, inorder , postorder) 6.6 Graph Concept & terminologies 6.7 Traversals – BFS and DFS	12
Total No of Lectures			**60**

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Unit	Unit Title	Suggestive teaching methodology	Practical	Outcome expected		Weightage of Marks (%)
				Conceptual understanding	**Knowledge/Skills/Attributes etc.**	
I	**Basic Concept and Introduction to Data Structure**	Lecture - Demonstration and Practical Implementation in Laboratory	Practical	To understand concepts of algorithm analysis and basic concepts of Data Structures.	critical thinking and problem solving skills	10%
II	**Linear data structures**	Lecture - Demonstration and Practical Implementation in Laboratory	Practical	To understand different sorting and searching Technique.	Information Literacy,critical thinking,problem solving ,analytical reasoning	15%
III	**Linked List**	Lecture - Demonstration and Practical Implementation in Laboratory	Practical	To understand basic concept of link list, its applications and types of link list.	Critical thinking,problem solving ,analytical reasoning,Life long Learning,Application Skills	20%
IV	**Stacks**	Lecture - Demonstration and Practical Implementation in Laboratory	Practical	To understand basic concept of Stack, its applications and polish notation.	Critical thinking,problem solving ,analytical reasoning,Life long Learning,Experimental Learning	20%
V	**Queues**	Lecture - Demonstration and Practical Implementation in Laboratory	Practical	To understand basic concept of Queue, its applications and its types.	Critical thinking,Problem solving ,Analytical reasoning,Life long Learning,Experimental Learning	20%
VI	**Introduction to Trees & Graph**	Lecture - Demonstration	Problem Solving	To understand concept of tree and graph. its traversal techniques.	Critical thinking,problem solving ,analytical reasoning,Life long Learning,Experimental Learning	15%

Evaluation Method:

Unit No.	Total Marks (100)			Project/Practical (If any)
	Formative Assessment		Summative Assessment	
	CCE I (20)	CCE II (20)	Semester End Examination (60)	
I,II,III,IV,V, VI	Departmentally organized assignment	Centrally(College Level) organized Tests	Preferably descriptive exam	Yes

Suggested Books:

Sr. No.	Name of Book	Author	Publication	Place
1	Fundamentals of Data Structures	Horowitz Sohni	Universities Press	Hyderabad
2	Data Structures using C	Bandopadhyay& Dey	Pearson	New Delhi
3	Data Structures using C	Srivastava	BPB Publication	New Delhi

Suggested Web/E-Learning Resources

Sr. No.	Topic of the course	Lectures (Available on Youtube/ Swayam/ MOOCS etc.)	Link	Journals/Articles/Case studies

1	Data Structures	Swayam	https://swayam.gov.in/explorer?searchText=data+structures	online course
2	Introduction to Data Structures	MOOC	https://www.edx.org/course/c-introduction-to-data-structures	online course
3	C Programming: Getting Started	edX	https://www.edx.org/course/c-programming-getting-started	online course

SYBBA - CA -Semester-III		
Course Code: **23BA3-A021**	**Subject: Computer Networking**	**Marks: 50** **Credits: 2**

Course Objectives:

- To explore the fundamental concepts of computer networks, various network topologies and communication modes.
- To learn about network models such as the OSI Reference Model and the TCP/IP Reference Model along with addressing schemes and IP addressing.
- To understand different types of transmission media and various network devices.

Course Outcome:

CO1: Understand various computer network concepts, network topologies and modes of communication.
CO2: Compare and analyze network models such as the OSI Reference Model and the TCP/IP Reference Model, and apply addressing schemes effectively.
CO3: Evaluate different transmission media and different network devices.

Unit	Unit Title	No.of Lectures	Contents	No. of Lectures
1	Introduction to Computer Network	10	**Introduction to Computer Network** **1.1 Basics of Computer Network** 1.1.1 Definition 1.1.2 Goals 1.1.3 Applications, 1.1.4 Network Hardware –Broadcast, Point to Point 1.1.5 Components of Data Communication 1.1.6 NIC **1.2 Network Topologies** 1.2.1 Mesh 1.2.2 Star 1.2.3 Bus 1.2.4 Ring **1.3 Types of Networks** 1.3.1 LAN,MAN,WAN, 1.3.2 Internetwork, 1.3.3 Wireless Network **1.4 Modes of Communication** 1.4.1 Simplex 1.4.2 Half Duplex 1.4.3 Full Duplex	**10**

			1.5 Protocols and Standards **1.6. Network Software** 1.6.1 Protocol Hierarchies,Layers, Peers,Interfaces 1.6.2 Design Issues of the Layers 1.6.3 Connection Oriented and Connectionless Service	
2	Network Models	10	**Network Models** **2.1 OSI Reference Model : Functions of each Layer** **2.2 TCP/IP Reference Model, Comparison of OSI and TCP/IP Reference** **Model** **2.3 TCP/IP Protocol Suite** **2.4 Addressing** 2.4.1Physical Addresses 2.4.2 Logical Addresses 2.4.3 Port Addresses, 2.4.4 Specific Addresses **2.5 IP Addressing** 2.5.1 Classful Addressing 2.5.2 Classless Addressing	10
3	Transmission Media and Network Devices	10	Transmission Media **3.1 Introduction, Types of Transmission Media** **3.2 Guided Media:** 3.2.1Twisted Pair Cable 3.2.2 Coaxial Cable 3.2.3 Fiber Optic Cable **3.3 Unguided Media:** 3.3.1 Electromagnetic Spectrum for Wireless Communication 3.3.2 Propagation Modes Ground, Sky, Line-of-Sight 3.3.3Wireless Transmission: Radio Waves, Microwaves, Infrared **3.4 Network Devices** 3.4.1 Network Connectivity Devices 3.4.2 Active and Passive Hubs 3.4.3 Repeaters 3.4.4 Bridges- Types of Bridges 3.4.5 Switches 3.4.6 Router 3.4.7 Gateways	10

Total Number of Lectures	**30**

Unit	Unit Title	Teaching methodology	Project (If any)	Outcome expected		Weight age of Marks (%)
					Conceptual Understanding Knowledge/Skills/Attributes etc.	
1	Introduction to Computer Network	Lectures			Students understand different kinds of topologies, types of networks and modes of communication	30%
2	Network Models	Lectures			Students can compare and analyze network models and apply addressing schemes effectively.	30%
3	Transmission Media and Network Devices	Lectures			Students are acquainted with different types of cables and connectors	40%

	Total Marks 50			Project/Practical(If any)
	Formative Assessment		Summative Assessment	
Unit	CCE I 10 Marks	CCE II 10 Marks	SEMESTER 30 Marks	
I, II, III	Department all y organized Assigned	Centrally (College Level) organized Tests	Preferably descriptive exam based on analytical questions.	—

Suggested Readings:

Sr No	Name of the Book	Author	Publication	Edition
1	Computer Networks	Andrew Tanenbaum,	Pearson Education	4th
2	Data Communication and Networking	BehrouzForouzan,	TATA McGraw Hill.	4th

SY BBA(CA) – Semester – III		
Course Code: **23BA3-C031**	**Subject: Software Engineering**	**Marks: 50** **Credits: 2**

Course Objectives:

1. To explore the basic concepts of system and software engineering.
2. To acquire fundamental knowledge of different Software Engineering models
3. To master the utilization of various software engineering analysis tools and techniques.

Course Outcome:

CO1: Understanding of system and software engineering concepts including its definition, needs, and its types.

CO2: Implement Software Engineering model principles in real-world software application development.

CO3: Implement Software Engineering tools and techniques in software development projects using different case studies.

Unit	Unit Title	Contents	No. of lectures
I	**Introduction to System and software engineering**	1.1 Definition of System 1.2 Basic Components 1.3 Elements of the System 1.4 Types of System 1.5 Characteristics of System and Software Engineering 1.6 Definition of Software Engineering 1.7 Need for Software Engineering 1.8 The Software Process 1.9 Feasibility study	**8**

		1.10 Fact-Finding Techniques	
II	**Software Development Models**	2.1 Introduction 2.2 Activities of SDLC 2.3 A Generic Process Model 2.4 SDLC and RAD Model 2.5 Waterfall Model 2.6 Incremental Process Models 2.7 Prototyping Model 2.8 Spiral Model 2.9 Agile model	**8**
III	**System Design Tools**	3.1 Decision Tree and Decision Table 3.2 Data Flow Diagrams (DFD) (Up to 2nd level) ERD 3.3 Data Dictionary 3.4 Input and Output Design	**14**
	Total		**30**

Unit	Unit Title	Teaching methodology	Project (If any)	Outcome expected		Weightage of Marks (%)
				Conceptual understanding Knowledge/Skills/Attributes etc.		
1	**Introduction to System and software engineering**	Lecture - Demonstration and Online teaching		**Course Outcome (CO)** To explore the basic concepts of system and software engineering.	**Learning Outcome (LO)** Understanding of system and software engineering concepts including its	30%

					definition, needs, and its types.	
2	**Software Development Models**	Lecture - Demonstration and Online Teaching		To acquire fundamental knowledge of different Software Engineering models	Implement Software Engineering model principles in real-world software application development.	30%
3	**System Design Tools**			To master the utilization of various software engineering analysis tools and techniques.	Implement Software Engineering tools and techniques in software development projects using different case studies	40%

Suggested Books:

Sr. No.	Name of Book	Author	Publication
1	Software Engineering: A Practitioner's Approach	Roger S. Pressman,	McGraw hill International Editions 2010(Seventh Edition)
2	System Analysis, Design and Introduction to Software Engineering (SADSE)	S. Parthsarthy, B.W. Khalkar	

3	Analysis and Design of Information Systems(Second Edition)	James A. Senn	McGraw Hill
4	System Analysis and Design	Elias Awad,	Galgotia Publication, Second Edition

Unit	Marks (50)			Project/Practical
	Formative Assessment		Summative Assessment	(If any)
	CCE I (10)	CCE II (10)	SEMESTER (30)	
I , II, III	**Departmentally organised assignment**	**Centrally (College level) organised tests**	**Preferably descriptive exam based on analytical questions**	NA

Suggested Web/E-Learning Resources

Sr. No.	Topic of the Lecture	Lectures (Available on YouTube /Swayam/MOOCS etc.)	Films	Journals/Articles/ Case studies
1	Software Engineering By Prof. Rajib Mall	IIT Kharagpur	https://onlinecourses.nptel.ac.in/noc19_cs69/preview		
2	Software Engineering By Dr. B. LAVANYA, Assistant Professor	https://onlinecourses.swayam2.ac.in/cec20_cs07/preview		

SY BBA(CA) – Semester – III

Course Code: 23BA3-F051	Subject: Web Technology(HTML, CSS, JS)	Marks: 100 Credits: 4

Course Objectives:

- To acquire the foundational concepts of internet programming including client-server architecture and communication protocols.
- To analyze and deconstruct web pages to identify and understand their elements, attributes, and structure effectively.
- To develop proficiency in creating web-based applications using HTML, focusing on design.
- To acquire knowledge and skills in utilizing CSS to structure and style web content optimally.
- To develop the techniques for creating dynamic web pages using JavaScript, integrating data manipulation and real-time updates seamlessly.

Course Outcome:

CO1: Understand the internet programming principles and their application in real-world scenarios.
CO2: Analyze and dissect web pages proficiently, identifying and comprehending various elements, attributes, and their functionalities.
CO3: Design and implement web-based applications with HTML, incorporating essential design features.
CO4: Apply CSS effectively to structure and style web content, adhering to best practices and principles of web design.
CO5: Develop dynamic web pages using JavaScript, demonstrating the ability to manipulate DOM elements dynamically and handle events effectively.

Unit	Unit Title	Contents	No. of Lectures
I	**Introduction**	1.1 Clients- Servers and Communication 1.2 Internet-Basic, Internet Protocols (HTTP, FTP, IP) 1.3 World Wide Web(WWW) 1.4 HTTP request message, HTTP response message	6
II	**Web Design**	2.1 concept of effective web design 2.2 Web design issues including Browser Bandwidth and Cache 2.3 Display resolution 2.4 Look and Feel of the Website 2.5 Page Layout and linking 2.6 User centric design 2.7 Sitemap 2.8 Planning and publishing website 2.9 Designing effective navigation	10
III	**HTML**	3.1 Introduction to HTML 3.2 Basic HTML Structure 3.3 Common HTML Tags 3.4 Physical and Logical HTML. 3,5 Types of Images, client side and server-side Image mapping 3.6 List, Table, Frames 3.7 Embedding Audio, Video 3.8 Html form and form elements. 3.9 Introduction to HTML font page.	16
IV	**Style sheets**	4.1 Need for CSS 4.2 Introduction to CSS 4.3 Basic syntax and structure **4.4 Using CSS-** 4.4.1 background images, colors and properties, 4.4.2 manipulating texts, using fonts, borders and boxes, margins, padding lists, positioning using CSS 4.5 Overview and features of CSS2 and CSS3	12
V	**JavaScript**	5.1 Introduction to Java Script 5.2 Identifier & operator, control structure, functions 5.3 Document object model(DOM) 5.4 DOM Objects (window, navigator, history, location) 5.5 Predefined functions, math & string functions 5.6 Array in Java scripts 5.7 Event handling in Java script	16
Total No of Lectures			**60**

Uni t	Unit Title	Suggestive teaching methodology	Practi cal	Outcome expected		Weighta ge of Marks (%)
				Conceptual understanding Knowledge/Skills/Attributes etc.		
I	**Introductio n**	Lecture - Demonstration and Practical Implementation in Laboratory	practical	To understand Clients- Servers and Communication, HTTP, FTP, IP, WWW.		15%
II	**Web Design**	Lecture - Demonstration and Practical Implementation in Laboratory	practical	To understand concept of effective web design, Web design issues including Browser Bandwidth and Cache.	Lifelong Learning, Experimental Learning, Application Skills	20%
III	**HTML**	Lecture - Demonstration and Practical Implementation in Laboratory	practical	To understand Basic HTML Structure, Common HTML Tags, List, Table, Frames, Embedding Audio and Video.	Lifelong Learning, Experimental Learning, Application Skills	15%
IV	**Style sheets**	Lecture - Demonstration and Practical Implementation in Laboratory	practical	To understand Overview and features of CSS2 and CSS3.	Lifelong Learning, Experimental Learning, Application Skills	25%
V	**JavaScript**	Lecture - Demonstration and Practical Implementation in Laboratory	practical	To understand Document object model (DOM), Array in Java scripts, Event handling in Java script.	Lifelong Learning, Experimental Learning, Application Skills	25%

Unit No.	Total Marks (100)			Project/Practical (If any)
	Formative Assessment		Summative Assessment	
	CCE I (20)	CCE II (20)	Semester End Examination (60)	
I,II,III,IV,V	Departmentally organized assignment	Centrally(College Level) organized Tests	Preferably descriptive exam	Yes

Suggested Books:

Sr. No.	Name of Book	Author	Publication	Edition
1	HTML & CSS: The Complete Reference	Thomas Powell	Mc Graw Hill	Fifth
2	HTML and JavaScript	Ivan Bayross	bpb	Fourth

Suggested Web/E-Learning Resources

Sr. No.	Topic of the course	Lectures (Available on Youtube /Swayam/MOOCS etc.)	Link	Journals/Articles/Case studies
1	CIT-003: Web Based Technologies and Multimedia Applications	Swayam	https://onlinecourses.swayam2.ac.in/nou20_cs05/preview	online course
2	Programming for the Web with JavaScript	edX	https://www.edx.org/course/programming-for-the-web-with-javascript	online course

Practical Slips

Credit-4   [Marks: - 100]

Q1. Write a JavaScript program to calculate the volume of a sphere.
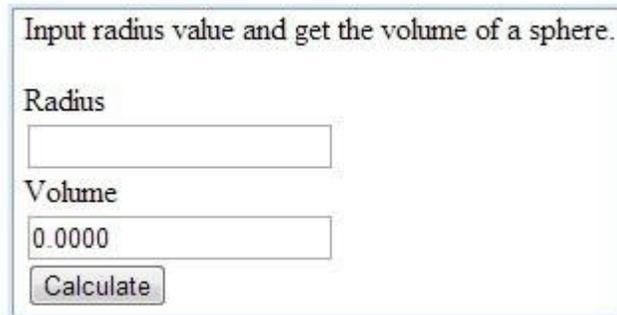
Input radius value and get the volume of a sphere.

Radius

Volume

0.0000

Calculate

                                                                                                     [15]

Q2. Create HTML page to Divide the frames in to different sections as shown below and add
Appropriate HTML files to each frame.   **[25]**

First Frame : Your Name and address		
Second Frame: Bulleted list of favourite colours	**Third Frame:** Numbered List of Cities	
Fourth Frame: Scrolling Message	**Fifth Frame:** Blinking Reminders	**Sixth Frame:** Name of Countries

Q.3   Data Structure
    A) Write a 'C' program to accept a string from user and reverse it using Static implementation
       of Stack.
                                                                                                     [20]
    B) Write a 'C' program to create Circularly Doubly Linked list and display it.
                                                                                                     [20]
.

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

Credit-4   [Marks: - 100]

Q1. Write a java script program to accept a number form user and display its multiplication table
[15]

Q-2 Write the HTML code to create the following table. Use internal CSS to format the table
[25]

Book_No	Book_Name	Price	
		RS	**Paise**
101	DBMS	200	50
102	C-Prog	150	75
103	JAVA	300	00
104	PHP	250	50
105	ASP	100	00

Q-3 Data Structure
   A) Write a program to create two singly linked list of elements of type integer and find the union of the linked lists. (Accept elements in the sorted order)   [20]
   B) Write a 'C' program to create Doubly Linked list and display it.   [20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Write a java script program to accept a number form user and calculate and display its sum of digits   **[15]**

Q2. Write HTML code to design a web as per given specification. Divide the browser screen into two frames. The first frame will display the heading. Divide the second frame into two
Columns. The frame on the left should be name of cities consisting of hyperlinks. Clicking
On any one of these hyperlinks will display related information in right hand side frame as
Shown below.

IT Industries in INDIA	
City 1. Pune 2. Mumbai	**Pune** • Infosys • Persistent

Data Structure

A) Write a 'C' program to accept and sort n elements in ascending order by using bubble sort.
                                                                                    [20]
B) Write a 'C' program to create linked list with given number in which data part of each node contains individual digit of the number.
  (Ex. Suppose the number is 368 then the nodes of linked list should contain 3, 6, 8) **[20]**

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Write a java script program to accept a number from user and check whether it is
Armstrong number or not   **[15]**

Q2. Create HTML web page with following specifications   **[25]**

i) Title should be about your College.
ii) Put image in the background
iii) Place your college name at the top of page in large text followed by address in
Smaller size.
iv) Add names of courses offered, each in different color, style and font
v) Add scrolling text about college.
vi) Add any image at the bottom.

(Use External CSS to format the webpage)

Q3 Data Structure
A) Write a menu driven program using 'C' for singly linked list-
    - To create linked list.
    - To display linked list
                                                                                            [20]
B) Write a 'C' program to create a singly linked list and count total number of nodes in it and
display the list and total number of Nodes.
                                                                                            [20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q.1 Write a java script program to accept a number from user and check whether it is perfect number or not..   **[15]**

Q2. Write HTML code to design a website for Online Shopping. Design home page which Consist of list of items each with hyperlink, clicking on which should display related Information on separate web page. (Use external CSS to format each web page)

1. Display all Items having price > 800
2. Display Item record with Ino=2   **[25]**

Q3 Data Structure
A) Write a 'C' program which accept an Expression and check whether the expression is Parenthesized or not using stack. (Use Static/Dynamic implementation of Stack)
[20]
B) Write a 'C' program to accept and sort n elements in ascending order by using insertion sort.
[20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

Credit-4   [Marks: - 100]

Q1. Write java script program to accept a number from user and check whether it is prime

number or not.   **[15]**

Q2. Write a HTML code to display calendar of current month in tabular format. Use proper
color for week days and holidays. Display month name, year and images as
Advertisement   at the beginning of the calendar.   **[25]**

Q3 Data Structure

A) Write a program to accept a postfix expression and evaluate the expression using the stack.

Example: Input: ab+cd-*
Values: a=4, b=2, c=5, d=3
Answer: 12

[20]

B) Write a 'C' program to create a singly linked list, reverse it and display both the list.

[10]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Write a java script program to accept a string from user and display the count of vowel

characters from that string.   **[15]**

Q2. Write a HTML code to display Theory Time Table of FYBBA(CA). Use internal CSS to
    format the table.   **[25]**

Q3 Data Structure
    A) Write a C program to accept an infix expression and convert it into postfix form.(Use Static
       Implementation of Stack)
    Example: - A * B + C as AB*C+

                                                                                           [20]
    B) Write a 'C' program to sort randomly generated array elements using Insertion sort method.
                                                                                           [10]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Write a java script program to accept a string and character from user and check the
   Count of occurrences of that character in string.   **[15]**

Q2 Create HTML page with following specifications **[25]**
   i) Title should be about yourself.
   ii) color the background should be pink.
   iii) Place your name at the top of page in large text and centered.
   iv) Add names of your family members each in different size, color, style and font.
   v) Add scrolling text about your family.
   vi) Add any image at the bottom. (Use internal CSS to format the web page)   **[25]**

Q3 Data Structure
   A) Write a menu driven program using 'C' for singly linked list-
                  -   To create linked list.
                  -   To display linked list
                  -   To search node in linked list.
                  -   Insert at last position

                                                                                    [20]

   B) Write a menu driven program using 'C' for Dynamic implementation of Queue for integers.
        The menu includes
                  -   Insert
                  -   Delete
                  -   Display
                  -   Exit

                                                                                    [20]

Q4. Viva /   **[10]**
Oral

Q5. Lab Book   **[10]**

Credit-4   [Marks: - 100]

Q1. Write a java script program to accept a string and check whether the input string is

palindrome string or not   [15]

Q2. Write the HTML code which generates the following output.(use internal CSS to format
the table   **[25]**

Country	Population (in Crores)	
	1998	85
	1999	90
	2000	100
	1998	30
	1999	35
	2000	40
	1998	25
	1999	30
	2000	35

Q3 Data Structure
    A) Write a menu driven program using 'C' for singly linked list-
        - To create linked list.
        - To display linked list
        - To search node in linked list.
        - Insert at last position

                                                                                                  [20]
    B) Write a 'C' program to accept and sort n elements in ascending order using Selection sort
        method.
                                                                                                  [20]
Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

Credit-4   [Marks: - 100]

Q1. Write a JavaScript Program to read a number from user, store its factors into the array
and display that array. (Handle onClick Event)   **[15]**

Q2. Write HTML code which generates the following output and display each element of list
in different size, color & font. Use inline CSS to format the list.   **[25]**

1. DYP
- Courses
  - BCS
  - BCA

2. Garware
- Courses
  - BCA
  - MCA

3. AGC
- Courses
  - BCS
  - BCA

Q3 Data Structure

A) Write a C program to accept an infix expression and convert it into postfix form.(Use Static
Implementation of Stack)
Example: - A * B + C as AB*C+

[20]

B) Write a 'C' program to create doubly link list and display nodes having odd value

[20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Write a JavaScript program to accept a string and a position (number) from user and
    display the character at specified position.   [15]

Q2. Write HTML code which generates the following output and display each element of list
    in different size, color & font. Use external CSS to format the list   [25]

- Non flowering plants
    - Fern
    - Spore

- Flowering plants
    - Lilly
    - Rose
        1. Red Rose
        2. Pink Rose

Q3 Data Structure

   A) Write a 'C' program to accept a string from user and reverse it using Dynamic implementation
      of Stack.

                                                                                      [20]

   B) Write a 'C' program to accept names from the user and sort in alphabetical order using
      bubble sort
      - Accept n name
      - Bubble sort Function
      - Display   [20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Design a student registration form with fields Name, Address, city and Pin-Code.
   Write a java script program to perform following validation
   i. Check name should not be empty and contain alphabets only
   ii. Pin-code must be 6 digits only   **[15]**

Q2. Create HTML page with following specifications   **[25]**
   i) Title should be about your College.
   ii) Put image in the background
   iii) Place your college name at the top of page in large text followed by address in smaller size.
   iv) Add names of courses offered, each in different color, style and font.
   v) Add scrolling text about college.
   vi) Add any image at the bottom.
(Use Internal CSS to format the web page)   **[25]**

Q3 Data Structure

   A) Write a 'C' program to accept an infix expression, convert it into its equivalent postfix expression and display the result.(Use Dynamic Implementation of Stack)

                                                                                         [20]
   B) Write menu driven program using 'C' for Dynamic implementation of Stack. The menu includes following operations:
       - Push
       - Pop
       - Display
       - Exit   [20]

Q4. Viva /   **[10]**
Oral

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
**Computer Lab Based on
Data structures and Web Technology**

Credit-4   [Marks: - 100]

Q1 Design a login form with fields User Name, Password and Login button. Write a java
script code to accept username and password, validate login details and display a
message accordingly.   **[15]**

Q2. Write a HTML code which will divide web page in three frames. First frame should
consists of name of college as heading. Second frame should consists of name of third
courses with hyperlink. Once click on any course it should display subject of that course
in frame.   **[25]**

Q3 Data Structure

Data Structure
 A) Write a 'C' program which accept the string and reverse each word of the string using Static
    implementation of stack.
 Example: Input - This is an input string
            Output - sihTsinatupnignirts

                                                                                                [20]
 B) Write a 'C' program to create to a Singly linked list. Accept the number from user, search
    the number in the list.If the number is present display the Position of node .If number not
    present print the message "Number not Found".   [20]

 .

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Write a HTML code to display the name of your family members each in different color,
size and style. Also display the following polynomial expression

$a0+a1x^1+a2x^2+a3x^3+a4x^4$ **[15]**

Q2. Write a JavaScript Program to accept user name and password from user, if User name
and Password is same then display his score card on the next page as show below.

Q3 Data Structure
A) Write a 'C' program to read a postfix expression, evaluate it and display the result.
(Use Static Implementation of Stack).

[20]

B) Write a 'C' program to accept the names of cities and store them in array. Accept the city
name from user and use linear search algorithm to check whether the city is present in array
or not.   [10]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

Credit-4   [Marks: - 100]

Q1. Write a JavaScript program to Display current Day, Date, Month, Year and Time on the
   web page and greet the user accordingly.   **[15]**

Q2. Create HTML page with following specifications   **[25]**
      i) Title should be about your City.
      ii) Color the background by Pink color.
      iii) Place your city name at the top of page in large text and in blue color.
      iv) Add names of the landmarks in your city, each in different color, style and font
      v) Add scrolling text about your City.
      vi) Add any image at the bottom.

(Use inline CSS to format the web page)

Q3 Data Structure
      A) Write a 'C' program which accept the string and reverse each word of the string using
         Dynamic implementation of stack.
       Example: Input - This is an input string
                   Output - sihTsinatupnignirts

                                                                                            [20]
      B) Write a 'C' program to accept and sort n elements in ascending order using Bubble sort
         method.   [20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

Credit-4   [Marks: - 100]

Q.1 Write a java script code to accept a sentence from the user and alters it as follows: Every space is replaced by * and digits are replaced by?   **[15]**

Q2. Write HTML code which generates the following output and display each element of list in different size, color & font. Use inline CSS to format the list.   **[25]**

- Honda
  - Petrol
    1) Honda City
    2) Brio
  - Diesel
    1) Amaze
    2) Brio

- Maruti-Suzuki
  - Petrol
    1) Swift
    2) Ritz
  - Diesel
    1) Swift-Desire

Q3 Data Structure

A) Write a 'C' program to accept an infix expression, convert it into its equivalent postfix expression and display the result.(Use Dynamic Implementation of Stack)
                                                                                    [20]
B) Write menu driven program using 'C' for Dynamic implementation of Stack. The menu includes following operations:
  - Push
  - Pop
  - Display
  - Exit   [20]

Q4. Viva /   **[10]**
    Oral

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Write a java script code to accept a string from user and display the occurrences of
every vowel character from string   **[15]**

Q2. Design an HTML form for customer registration visiting a departmental store. Form
should consists of fields such as name, contact no, gender, preferred days of
purchasing, favourite item(to be selected from a list of items),suggestions etc.. You
should provide button to submit as well as reset the form contents.   **[25]**

Q3. Data Structure
A) Write a 'C' program which accept the string and check whether the string is Palindrome or
not using stack. (Use Static/Dynamic implementation of Stack)
[20]
B) Write a 'C' program to swap mth and nth element of singly linked list.
[20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Write a java script program to accept the value of n and display all odd numbers up to

n.   **[15]**

Q2. Write the HTML code which generates the following output. (Use external CSS to format the given table)   **[25]**

Book_No	Book_Name	Price	
		RS	Paise
101	DBMS	200	50
102	C-Prog	150	75
103	JAVA	300	00
104	PHP	250	50
105	ASP	100	00

Q3. Data Structure
   A) Write a 'C' program which accept an Expression and check whether the expression is Parenthesized or not using stack. (Use Static/Dynamic implementation of Stack)
                                                                                                              [20]
   B) Write a 'C' program to count all non-zero elements, odd numbers and even numbers in the singly linked list.
                                                                                                              [20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

Credit-4   [Marks: - 100]

Q1. Write a java script code to accept a number form user and display its factorial.   **[15]**

Q2. Design an HTML form to take the information of a customer for booking a travel plan
consisting of fields such as name, address, contact no., gender, preferred season
(Checkboxes), location type(to be selected from a list) etc. You should provide button
to submit as well as reset the form contents. (All the fields should be properly
aligned).   **[25]**

Q3 Data Structure
A) Write a menu driven program using 'C' for singly linked list-
   - To create linked list.
   - To display linked list
   - To insert node at last position of linked list.
   - To delete node from specific position of linked list.

                                                                                           [20]
B) Write a 'C' program to create a random array of n integers. Accept a value x from user and
use Binary search algorithm to check whether the number is present in array or not.
(Students can accept sorted array or can use any sorting method to sort the array)

                                                                                           [20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Write a java script code to accept a number n from user and display first n terms of

   Fibonacci series   **[15]**

Q2. Create HTML page with following specifications
         i) Title should be about your Car.
         ii) Color the background by Pink color.
         iii) Place your car name at the top of page in large text and in green color.
         iv) Add names of features in your car, each in different color, style and font
         v) Add scrolling text about your Car.
         vi) Add any image at the bottom.
   (Use external CSS to format the web page)

                                                                                                          [25]

Q3 Data Structure
      A) Write a 'C' program to read a postfix expression, evaluate it and display the result.
         (Use Dynamic Implementation of Stack)
                                                                                                          [20]
      B) Write a 'C' program to remove last node of the singly linked list and insert it at the
         beginning of list.   [20]

   Q4. Viva / Oral   **[10]**

   Q5. Lab Book   **[10]**

Credit-4   [Marks: - 100]

Q1. Write a java script code to accept the values of x and y and then display x^y **[15]**

Q2. Write HTML code which generates the following output and display each element of list in different size, color & font. Use internal CSS to format the list.

  o Coffee

  o Tea

- Black Tea
- Green Tea
                    1) Africa

                    2) China

[25]

Q3 A) Write a 'C' program to accept an infix expression, convert it into its equivalent prefix expression and display the result. (Use Static Implementation of Stack).
[20]

  B) Write a menu driven program using 'C' for singly linked list-
- To create linked list.
- To display linked list
[20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

Credit-4   [Marks: - 100]

Q1. Write a java script code to accept a string and write a function to calculate length of string

[15]

Q2. Create HTML page to Divide the frames in to different sections as shown below and
add Appropriate HTML files to each frame.   **[25]**

First Frame : Your Name and address		
Second Frame: Bulleted list of favourite colours		Third Frame: Numbered List of Cities
Fourth Frame: Scrolling Message	Fifth Frame: Blinking Reminders	Sixth Frame: Name of Countries

Q3 Data Structure
   A) Implement Static implementation of circular queue of integers with following operation:
        - Initialize(),insert(), delete(), isempty(), isfull(), display()

[20]
   B) Write a 'C' program to create Doubly Link list and display it.

[20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

Credit-4 [Marks: - 100]

Q1. Write a java script code to accept a number and write a function to calculate sum of digits of that number **[15]**

Q2 Write HTML code to create following table. (use External CSS to format the table) **[25]**

Course	Fee Structure			Year
	FY	SY	TY	
B.Sc.(CS)	20000	25000	30000	2017
BCA(Sci)	15000	20000	25000	2018
BBA(CA)	25000	30000	35000	2019

Q3 Data Structure
   A) A)Implement Static implementation of circular queue of integers with following operation:
        - Initialize(),insert(), delete(), isempty(), isfull(), display()

[20]
   B) Write a 'C' program to read n integers and create two lists such that all positive numbers are in one list and negative numbers are in another list. Display both the lists.
[20]

Q4. Viva / Oral **[10]**

Q5. Lab Book **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Write a java script code to accept a number from user and write a function to calculate

sum of all odd digits of that number.   **[15]**

Q2. Write html code to display following list. (use internal CSS to format the list)   **[25]**

       i. Arts
- BA
- MA

      ii. Commerce
- Bcom
- Mcom

      iii. Science
- B.Sc.
- M.Sc.

Q3 Data Structure

    A) Write a 'C' program to accept an infix expression, convert it into its equivalent prefix expression and display the result. (Use Static Implementation of Stack).

                                              [20]

    B) Write a 'C' program to create two singly linked lists and concatenate one list at the end of another list.

                                              [20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Write a JavaScript function that reverse a input number   **[15]**

Q2. Create HTML page to Divide the frames in to different sections as shown below and
add appropriate HTML files to each frame.   **[25]**

First Frame : Your Name and address		
Second Frame: Bulleted list of favourite colours	Third Frame: Numbered List of Cities	
Fourth Frame: Scrolling Message	Fifth Frame: Blinking Reminders	Sixth Frame: Name of Countries

Data Structure
  A) Write a 'C' program which accept the string and check whether the string is Palindrome or
    not using stack. (Use Static/Dynamic implementation of Stack)
                                                                         [20]
  B) Write a 'C' program to swap mth and nth element of singly linked list.
                                                                         [20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

Credit-4   [Marks: - 100]

Q1. Write a JavaScript function that checks whether a input string is palindrome or not. [15]

Q2. Write HTML and CSS code to design a web page. Divide the browser screen into two frames. The first frame will display the heading. The second frame contains a menu consisting of hyperlinks. Clicking on any one of these hyperlinks will display related information in a new page.   **[25]**

Q-3 Data Structure
   A) Write a program to create two singly linked list of elements of type integer and find the union of the linked lists. (Accept elements in the sorted order)   [20]
   B) Write a 'C' program to create Doubly Linked list and display it.   [20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Write a JavaScript function to compute the sum of factors of a input number   [15]

Q2. Write a HTML code to display calendar of current month in tabular format. Use proper color for week days and holidays. Display month name, year and images as

advertisement   at the beginning of the calendar.   **[25]**

Q3 Data Structure

Data Structure
   A) Write a 'C' program which accept the string and reverse each word of the string using Static implementation of stack.
   Example: Input - This is an input string
            Output - sihTsinatupnignirts

                                                                                 [20]
   B) Write a 'C' program to create to a Singly linked list. Accept the number from user, search the number in the list.If the number is present display the Position of node .If number not present print the message "Number not Found".   [20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

Credit-4   [Marks: - 100]

Q1. Write a JavaScript program to construct the following pattern up to n lines, using a
   nested for loop.   **[15]**

                   *
                   *   *
                   *   *   *

Q2. Design a HTML form for Bus Ticket Reservation consisting of fields for Name,
   Address, contact no, source station(Dropdown list), Destination station, Date of
   booking, date of journey, no of passenger, name of passenger, gender of passenger
   etc. You should provide button to submit as well as reset the form contents. (Use
   proper alignment)   [25]

Q3 . Data Structure
   A) Write a 'C' program which accept an Expression and check whether the expression is
      Parenthesized or not using stack. (Use Static/Dynamic implementation of Stack)
                                                                                            [20]
   B) Write a 'C' program to count all non-zero elements, odd numbers and even numbers in the
      singly linked list.
                                                                                            [20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1 Write a JavaScript function that accept three numbers and display the larger number
[15]

Q2. Create HTML page with following specifications   **[25]**
        i) Title should be about your City.
        ii) Color the background by Pink color.
        iii) Place your city name at the top of page in large text and in blue color.
        iv) Add names of the landmarks in your city, each in different color, style and font
        v) Add scrolling text about your City.
        vi) Add any image at the bottom.
(Use Internal CSS to format the web page)

Q3   Data Structure
    A) Write a 'C' program to accept a string from user and reverse it using Static implementation
      of Stack.
[20]
    B) Write a 'C' program to create Circularly Doubly Linked list and display it.
[20]
.
Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

S.Y.B.B.A. (C.A) Semester - III
Lab Course: (23BA3-E041)
Computer Lab Based on
Data structures and Web Technology

Credit-4   [Marks: - 100]

Q1. Write a JavaScript program to construct the following pattern up to n lines, using a
nested for loop.   **[15]**

            A

            B   C

            D   E   F

Q2. Write a HTML code to create the following table. Use External CSS to format the table.
                                                                                              [25]

	Arts		Commerce	
	UG	PG	UG	PG
GCC	BA	MA	B.Com	M.Com
AGC	BA	MA	BBA(CA)	MCA(Commerce)
WADIA	BA	MA	B.Com	M.Com(Ecommerce)

Q3 A) Write a 'C' program to accept an infix expression, convert it into its equivalent prefix
expression and display the result. (Use Static Implementation of Stack).
                                                                                              [20]
B) Write a menu driven program using 'C' for singly linked list-
   - To create linked list.
   - To display linked list
                                                                                              [20]

Q4. Viva / Oral   **[10]**

Q5. Lab Book   **[10]**

M.E.S. Garware College of Commerce (Autonomous)

National Service Scheme
S.Y.B.Com/BBA/BBA-
IB/BBA-CA/ BBA -DI
Semester III
Total Credits- 2

Course Objectives:
1. To help learners know about NSS in the context of youth, community and voluntary service.
2. To propagate yoga as a way of healthy living.

Course Outcomes:
1. Learners will have the knowledge about NSS and its role in the fields of health, hygiene and sanitation so as to build a strong country.
2. They will be able to use Yoga for healthy living.

Unit	Topics	Lectures
1	**Life Competencies & Youth Leadership** Definition and importance of life competencies; communication and soft skills; Youth leadership	6
2	**Youth Health** Healthy lifestyles; drugs and substance abuse	8
3	**Youth and Yoga** History and philosophy of yoga; Yoga for healthy living	16
	Total	**30**

S.Y.B.Com Semester IV
Total Credits- 2

Course Objectives:
1. To help learners know about environmental issues and disaster management.
2. To learn documentation and reporting.

Course Outcomes:
1. Learners will learn to appreciate the concerns regarding the environment.
2. They will also be able to prepare a socio-economic development plan.

Unit	Topics	Lectures
1	**Disaster Management** Introduction; Classification of disasters; Role of NSS in disaster management with more emphasis on disasters specific to NE India; Civil Defense	16
2	**Documentation and Reporting** Collection and analysis of data; Documenting, reporting and their dissemination	14
	Total	**30**

Suggested Readings:

1. NSS Manual
2. National Youth Policy Document
3. National Service Scheme - A Youth Volunteers Programme For Under Graduate Students As Per UGC Guidelines by J D S Panwar, A K Jain & B K Rathi (Astral)
4. Communication Skills by N Rao & R P Das (HPH)
5. Light on Yoga by B K Iyenger (Thorsons)
6. Guide to Report Writing by Michael Netzley and Craig Snow (Pearson)

Maharashtra Education Society's
Garware College of Commerce (Autonomous)
Programme – B.Com/ BBA/ BBA-CA/ BBA-D&I/ BBA-IB
Board of Studies: - Co-Curricular

SY (Semester III)		
Course Code:	**Course: National Cadet Corps**	**Marks: 50** **Credits: 02**

Course Objectives:
1. Understand the fundamental concepts and principles related to disaster management.
2. Comprehend the various types of disasters, their causes, and the importance of preparedness.
3. Recall key events, figures, and developments in military history.
4. Comprehend the historical context and circumstances surrounding Indian Army personnel who received the Param Vir Chakra.

Course Outcome:
After completing the course, the student shall be able to
1. demonstrate a solid understanding of disaster management terminology and concepts.
2. analyze and assess potential risks and vulnerabilities in different disaster scenarios.
3. demonstrate a comprehensive understanding of key events and figures in military history.
4. analyzing the broader impact of their actions on military strategies and public perception.

Unit	Unit Title	Contents	No of lectures
I	**Disaster Management**	-Civil Defence Organisation and its duties/NDMA -Types of emergencies / Natural Disasters -Fire Services & Fire fighting -Traffic control during Disaster under Police Supervision -Essential services and their maintenance -Assistance during Natural/Other Calamities: Flood/Cyclone/Earth Quake/Accident etc. - Setting up of relief camp during Disaster Management -Collection & Distribution of Aid material	15
II	**Military History**	-Biographies of renowned Generals (Carriapa/Sam Manekshaw) -Indian Army War Heroes: PVCs -Study of Battles of Indo Pak war 1965,1971 & Kargil	15
Total No of Lectures			**30**

Unit	Unit Title	Teaching methodology	Project /Hands-on exposure/Practice-based	Outcome expected		Weight age of Marks (%)
				Conceptual understanding of Knowledge /Skills /Attributes etc.		
I	**Disaster Management**	PowerPoint Presentation, Group Discussion, Library Visit, Class Discussion.	Project report shall be prepared on Disaster Management	Create awareness of Disaster Management	To develop the knowledge about Disaster Management	50
II	**Military History**	Quiz Competition, Case Studies, Class Discussion, Internet Resources.	Project report shall be prepared on Military History	To provide basics of Military History.	To know about the Military History.	50

References

Sr. No.	Title of the Book	Author/s	Publication
1	NCC: Handbook	R.K. Gupta	Ramesh Publishing House
2	NCC Army Wing	RPH Editorial Board	Ramesh Publishing House
3	MISSION NCC MCQ Book	Nitin Nikode	Ujwala Prakashan
4	NCC Army, Air Force & Navy Wings Guide	Arihant Experts	Arihant Publications

Web References

Sr. No.	Website Address	Institution
1	https://indiancc.nic.in/	National Cadet Corps

SY B.Com/BBA/IB/CA D&I-Semester-III		
Course Code:	**Subject :Youth Red Cross (CO-Curricular)**	**Credits : 2**

Course Objectives:

1. To create awareness among students regarding the importance of First Aid training & learn CPR (Cardiopulmonary Resuscitation) techniques.
2. To understand the theoretical frameworks of disaster management.

Course Outcome :

After completing the course, the student shall be able to:

CO1: Equip with basic first aid training & learn how to handle medical emergencies.

CO2: Develop basic skills in disaster preparedness, response, mitigation & recovery.

Unit	Unit Title	Contents	No of Lectures
I	**First Aid Training**	2.1 Basic principles of first aid 2.2 Assessment of the scene and patient 2.3 CPR (Cardiopulmonary Resuscitation) techniques 2.4 Treatment of wounds, burns, and fractures 2.5 Management of choking and unconsciousness 2.6 Handling medical emergencies such as heart attacks, strokes, and seizures 2.7 Hands-on practice of first aid techniques	13
II	**Disaster Management**	2.1 Meaning of disaster & importance of disaster 2.2 Understanding different types of disasters (natural, man-made) 2.3 Preparedness measures for disasters 2.4 Search and rescue techniques 2.5 Shelter management 2.6 Psychological first aid for survivors	13

		2.7 Coordination with emergency services and authorities 2.8 Disaster scenarios and response drills 2.9 Risk communication & public awareness	

No of Lectures (Hours)	26
No of Lectures for Evaluation (Hours)	04
Total No of Lectures (Hours)	30

Evaluation Method:

Unit	Internal Evaluation (20 Marks)	External Evaluation (30 Marks)
1		
2		
3		
4		

Course Code:	Subject/Course: YOGA PRACTICES	Marks: 50 Credits :2
B. Com/ BBA/ BBA (IB)/ BBA (CA) / BBA (D&I) (Semester I)		

Course Objectives:

1. To ensure the healthy life of students
2. To improve Physical and mental health of the students
3. To possess emotional and Spiritual stability of the students
4. To inculcate moral values.
5. To attain a higher level of consciousness.

Course Outcome:

After completing the course, the student shall be able to:

CO1: Relate Yoga, Ashtanga Yoga, Pranayama and Meditation

CO2: Understand different Sitting and Standing Asnas

CO3: Illustrate Supine and Prone Asnas

CO4: Apply the Knowledge of Yoga to improve overall health of the students

Unit	Unit Title	Contents	No. of Lectures
I	**Introduction of Yoga**	1. Meaning and importance of Yoga 2. Introduction to Astanga Yoga 3. Active Lifestyle and stress management through Yoga	3
II	**Sitting Position Asanas**	Dandasana Gomukhasana (Cow Face Pose) Parvatasana (Mountain Pose) Padmasana Yog Mudra Vajrasana Yog Mudra	5
III	**Standing Position Asanas**	Itthita Parshvakonasana Tadasana Vrikshasana (Tree Pose) Virasana (Warrior Pose) Trikonasana (Triangle Pose)	5
IV	**Supine Position Asanas**	Naukasana (Boat Pose) Dwipad Uttanasana(Raised Leg Pose) Dwipad Uttanasana Kriya Pawanmuktasana (Wind Relieving Pose) Setubandhasana(Bridge Pose)	5

V	**Prone Position Asanas**	Sarpasana (Snake Pose) Bhujangasana(Cobra Pose) Ardha Salabhasana (Half Locust Pose/ Grasshopper Pose) Salabhasana (Locust Pose/ Grasshopper Pose) Dhanurasana (Bow Pose)	5
VI	Pranayama	Nadisuddhi ; Suryabedana ; Ujjai ; Sitali ; Sitacari ; Bhastrika ; Bramari ;	7

Evaluation Method / Unit	Marks (50)	
	Continuous Comprehensive Evaluations (CCE) (Internals) (Marks)	**Assessment**
I, II, III, IV, V, VI	**Various Internal Examination CCE (20Marks)**	**Semester End Examination (30 Marks)**
	Departmentally organized assignment	College Organized Examination

Suggested Readings:

Sr.	Title of the Book	Author/s	Publication	Place
1.	Light on Yoga	Iyengar, B.K.	Orient Longman Pvt. Ltd.	Mumbai
2.	Light on Astanga Yoga	Iyengar, B.K.	Alchemy Publishers.	New Delhi
3.	Guidelines for Yogic Practices	Gharote, M. L.	The Lonavla Yoga Institute	Pune

Course Code:	Subject/Course: YOGA PRACTICES	Marks: 50 Credits :2

B. Com/ BBA/ BBA (IB)/ BBA (CA) / BBA (D&I) (Semester II)

Course Objectives:

1. To ensure the healthy life of students
2. To improve Physical and mental health of the students
3. To possess emotional and Spiritual stability of the students
4. To inculcate moral values.
5. To attain a higher level of consciousness.

Course Outcome:

After completing the course, the student shall be able to:

CO1: Relate Yoga, Ashtanga Yoga, Pranayama and Meditation

CO2: Understand different Sitting and Standing Asnas

CO3: Illustrate Supine and Prone Asnas

CO4: Apply the Knowledge of Yoga to improve overall health of the students

Unit	Unit Title	Contents	No. of Lectures
I	Suryanamskar	Yogic Suryanamaskara with Mantras	5
II	**Sitting Position Asanas**	Naukasana (Boat Pose) Paschimottanasana (Forward Bend) Akarna Dhanurasana (Bow Pose) Vakrasana Ardha Matsyendrasana	5
III	**Standing Position Asanas**	Ugrasana Garudasana Nataraj Asana Ardha Chakrasana Kati Chakrasana	5
IV	**Supine Position Asanas**	Markatasana(Monkey Pose / Spinal Twist Pose) Markatasana Variation (Monkey Pose / Spinal Twist Pose) Sarvangasana (Shoulder Stand) Chakrasana (Wheel Pose) Halasana	5
V	**Prone Position Asanas**	Dhanurasana (Bow Pose) Bhujangasana (Cobra Pose) Adho Mukha Svanasana(Downward Dog Pose) Plank Pose Naukasana (Boat Pose) Makarasana	5

VI	**Yoga for Health Problems and Remedies**	Shashankasana (Rabbit Pose/ Child Pose) Ushtrasana (Camel Pose) Cat & Camel Pose Baddha Konasana(Cobbler's Pose) Supta Baddha Konasana(Goddess Pose) Supine : Setubandhasan(Bridge Pose) Matsyasana (Fish Pose) Prone : Adhomukhashwanasana (Downward Dog Position) Dhanurasana (Bow Pose) Sitting : Janu Sirasana (Head To Knee Pose) Paschimottanasana (Seated Forward Bend) Upavistha Konasana(Seated Straddle) Butterfly Baddha Konasana(Cobbler's Pose) Malasana (Garland Pose)	5

Evaluation Method / Unit	Marks (50)	
	Continuous Comprehensive Evaluations (CCE) (Internals) (Marks)	**Assessment**
I, II, III, IV, V, VI	**Various Internal Examination CCE (20Marks)**	**Semester End Examination (30 Marks)**
	Departmentally organized assignment	College Organized Examination

Suggested Readings:

Sr.	Title of the Book	Author/s	Publication	Place
1.	Light on Yoga	Iyengar, B.K.	Orient Longman Pvt. Ltd.	Mumbai
2.	Light on Astanga Yoga	Iyengar, B.K.	Alchemy Publishers.	New Delhi
3.	Guidelines for Yogic Practices	Gharote, M. L.	The Lonavla Yoga Institute	Pune

SYBBA-Semester-III		
Course Code: 23BB3-K091	**Subject: Participation in Cultural Activities**	**Credits :2**

Course Objectives:

1. Acquire practical skills in at least one cultural activity through hands-on experience.
2. Critically evaluate the impact of cultural competitions on personal growth and community engagement.

Course Outcome:

After completing the course, the student shall be able to

CO1: Actively engage in cultural activities at various levels with confidence and enthusiasm.

CO2: Reflect on personal cultural experiences and articulate how participation has contributed to personal growth and identity.

Unit	Unit Title	Contents	No of Lectures
I	Cultural Participation	Participation in Cultural activities at National/International and State Level. Participation in Cultural activities at University/District Level. (Cultural Activates includes participation in competitions of Dance, Music, Drama, Paintings, Drawings, or any other art form.)	15 hrs

Credit Allocation

Sr. No	Details
1	Participation in Participation in Cultural activities at National/International and State Level: Participation: 01 Credit Rank Holder (1st, 2nd, and 3rd): 02 Credits
2	Participation in Cultural activities at University/District Level: Rank Holder (1st, 2nd, and 3$^{rd):}$ 01 Credit

Garware College of Commerce (Autonomous)
Programme – B.Com/ BBA/ BBA-CA/ BBA-D&I/ BBA-IB
Board of Studies: - Co-Curricular

SY (Semester III)		
Course Code:	**Course: Performing Arts (Cultural and Dramatics Association)**	**Marks: 50** **Credits: 02**

Course Objectives:

1. To provide students with a comprehensive knowledge of Script Writing.
2. To learn the acting techniques along with Character Development.

Course Outcome:

After completing the course, the student shall be able to

1. Analyse various script structures and formats across different mediums.
2. Demonstrate the effective use of voice, movement, and emotional range in conveying character intent.

Unit	Unit Title	Contents	No of lectures
I	**Introduction Script Writing**	1.1 Overview of script writing as a form of storytelling 1.2 Exploration of different mediums (theatre, film, television, radio) 1.3 Discussion of the role of the scriptwriter in the production process	15
II	**Introduction to Drama and Theatre**	2.1 History of drama and theatre 2.2 Acting techniques and methods 2.3 Script analysis 2.4 Character Development 2.5 Scene study and monologue performances	15
Total No of Lectures			**30**

Unit	Unit Title			Outcome expected	

		Teaching methodology	Project /Hands-on exposure/Practice-based	Conceptual understanding of Knowledge /Skills /Attributes etc.		Weight age of Marks (%)
I	**Introduction Script Writing**	PowerPoint Presentation, Group Discussion.	Practical based on Script Writing	Understand the basics of Script Writing	To grasp the skills required for Script Writing	50
II	**Introduction to Drama and Theatre**	PowerPoint Presentation, Drama Practice	Practical based on Drama Performance	To provide basics of Drama and Theatre	To perform the Drama.	50

References

Sr. No.	Title of the Book	Author/s	Publication
1	Theater: The Lively Art	Edwin Wilson	McGraw Hill
2	The Oxford Handbook of Dance and Theater	Nadine George-Graves	Oxford Handbook
3	The Complete Idiot's Guide to Music Composition	Michael Miller	