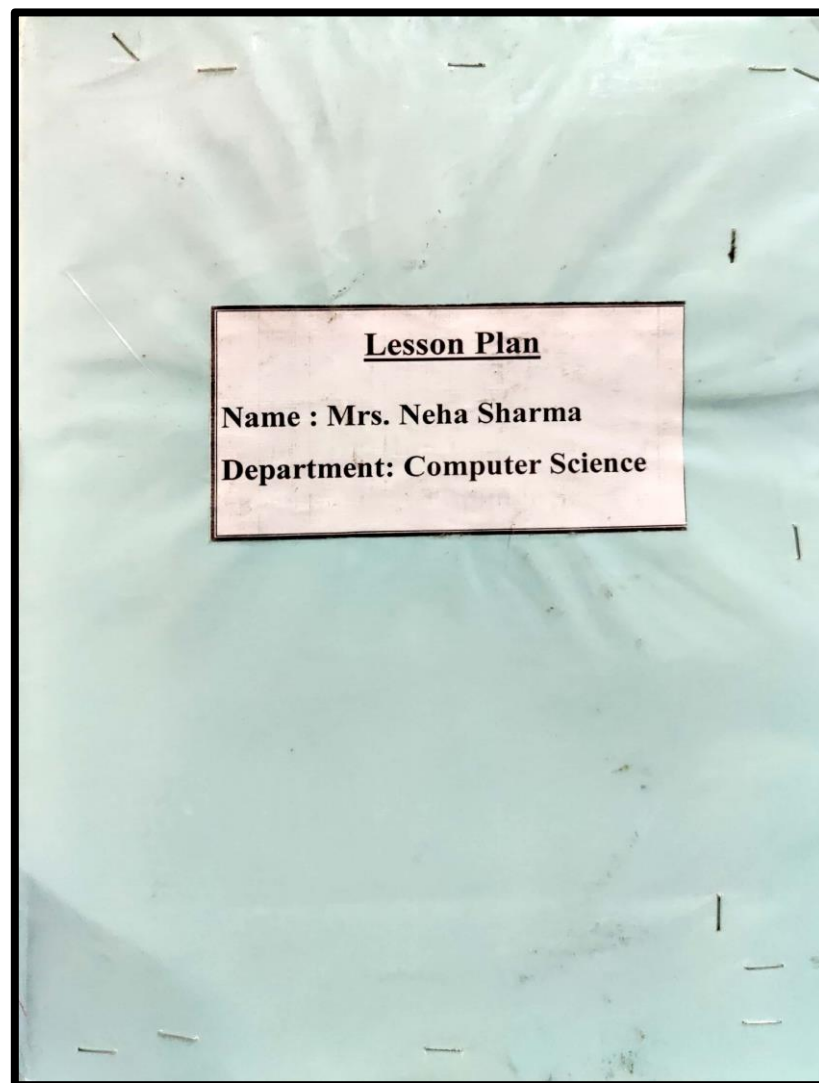




## **SOPHIA GIRLS' COLLEGE(AUTONOMOUS), AJMER**





**SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)**  
**BCA-II 2020-21**  
**SEMESTER III (BCA-II)**  
**BCA-303 Computer Communications and Networks**

MAX MARKS: 100(70EXT: 30 INT)

MIN. MARKS: 40(28 EXT:12 INT)

**COURSE PLAN**

SEM III Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
SEM III JULY	<b>UNIT I</b> Networking Basics: Introduction to digital communications, Types of network: LAN, WAN, MAN, Types of network terminal: Client (Thin, Fat, Hybrid), Server (File, Mail, Application, Communication, Database, Print), Client Server Model,	Concept of communication with network terminal	PPT, Lecture , Diagrams, group discussions, E content	Study the basic taxonomy and terminology of the computer networking and enumerate the layers of OSI model and TCP/IP model.	<u>Knowledge Based</u>  Define Protocol  What is OSI Model?	Knowledge--25
	Topology: Bus, Ring, Star, Tree/Snowflake, Mesh, Combined/ Hybrid	Understand Topologies			<u>Understanding Based</u>  What is the need of encoding? Explain analog to analog conversion.	Understanding-45
	Terminology: Amplitude, Frequency, Phase, Bit rate, Baud rate, Bandwidth. Signal types: Analog signals, Digital signals, Periodic, Aperiodic	Signal conversion			<u>Higher Order Thinking Skills Based</u>  Explain HDLC protocol?	Higher Order-30

*Neha Sharma*



AUGUST	UNIT II Transmission Media: Guided (Twisted pair cable, Coaxial cable, Fiber Optic Cable), Unguided (Radio waves, Microwaves, Infrared), Transmission Mode: Parallel, Serial Networking Devices: Repeater, Router, Hub, Switch, Bridge, Gateway	Concept of transmission media and network devices,	Practice Exercise, assignments and Practical Implementation, PPT	Acquire knowledge of Transmission Media and Error checking and correction method
	Switching: Introduction, Types (circuit, packet, message) Multiplexing: Frequency division, Wavelength division, Time Division, Demultiplexing	Utility of switching	Practice Exercise, PPT, and Practical Implementation	
SEPTEMBER	Unit III Protocol: Standards, Architecture, OSI Model, TCP/IP Model, HDLC Asynchronous transfer mode: Introduction, Protocol architecture, ATM cells, ATM layers,	Importance of OSI, ATM	Assignments, practice Exercise and Practical Implementation, PPT	Gain core knowledge of Asynchronous transmission Mode
	Point to Point Protocol: point-to-point layers, link control protocol, network control protocol. Error classification: Types of errors (Single Bit Error, Burst Error).	Concept of various protocol	Practical Implementation, PPT, assignments	
OCTOBER				

*Sr. Pearl*  
PRINCIPAL  
SOPHIA GIRLS' COLLEGE

*Neel*

*Grand*  
Head  
Department of Computer Science  
Sophia Girls' College  
(Autonomous), Ajmer



**SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)**  
**BCA-II Computer Science 2020-21**  
**SEMESTER III(BCA-II)**  
**BCA-304 Computer Graphics**

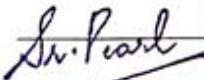

MAX MARKS: 100(70EXT; 30 INT)

MIN. MARKS: 40(28 EXT;12 INT)

**COURSE PLAN**

SEMIII Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
SEM III  JULY	Unit I  Introduction: Elements of graphics workstation. Video Display Devices. Color model, Raster Scan Systems. Random Scan systems. Input devices. Graphics Software Coordinate Representations, Fundamental Problems in Geometry	Concept of Computer graphics and its terminologies	PPT, Lecture method , Live Examples,practice exercise	Understand the structure of modern computer graphics systems and Input output Device and implement various algorithms to scan, convert the basic geometrical primitives	<u>Knowledge Based</u>  Define Interactive graphic  What is Emmissive display?	Knowledge— 25  Understanding- 45  Higher Order- 30
	Algorithms: Line drawing algorithms- DDA Algorithm. Bresenham's Line Algorithm. Frame buffers. Circle and Eclipse generating algorithms.	Learning of scan line, circle and ellipse generating algorithm			<u>Understanding Based</u>  How DDA algorithm is faster than Bresenham's Line algorithm? Justify your answer by using the line attributes.  Give the application areas of CG.	
	Shape fill Algorithm.			Represent		



AUGUST	Character generation. Attributes of lines, curves, filling, characters.	Concept of curves & algorithms	Exercise, assignments	knowledge in various ways	
	<b>Unit II</b> Graphics Primitives: Primitive Operations. The display file interpreter-Normalized Device Coordinates. Display- File structure. Display - file algorithm. Display control and Polygons. polygon representation. Text attributes	Concept of file structure & polygons	PPT, practice Exercise, assignments, group discussions	To define the polygons representation	<u>Higher Order Thinking Skills Based</u>  Briefly give comparison between different type of transformation.
SEPTEMBER OCTOBER	Geometric Transformations: Matrices. Scaling Transformations. Sin and Cos Rotation. Homogeneous Coordinates and Translation. Co-ordinate Translations. Rotation about an arbitrary point. Inverse	Concept of transformation and advance concept of transformation	PPT, group discussion, assignments, Econtent		Explain projection with the help of suitable cube diagram.
	Transformations, Transformations Routines. 2-D Viewing- The viewing pipeline. Viewing co-ordinate, Reference Frame. Windows to view ports. Co-ordinate transformation	Importance of 2D projection	PPT, practice Exercise, E content, group discussion	Understand clipping	
<div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;">   <b>PRINCIPAL</b>  <b>SOPHIA GIRLS' COLLEGE</b>  <b>(AUTONOMOUS)</b> </div> <div style="text-align: center;">   <b>Head</b> </div> <div style="text-align: right;"> <b>Department of Computer Science</b>  <b>Sophia Girls' College</b>  <b>(Autonomous), Ajmer</b> </div> </div>					



SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)

B.C.A III (SEMESTER V) 2020-21

BCA – 506 Internet tools and Website Development-I

Max. Marks :75 (50Ext; 25 Int)

Min. Marks: 30(20 Ext;10 Int)

### COURSE PLAN

SEM V Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JULY	<b>UNIT I</b> Internet and www: Introduction to internet and its application, email, Telnet, File transfer protocol (FTP), Internet Service Provider (ISP), Domain Name Server (DNS), Internet address, www and its evolution.	Optimization in day to day life and how it is applied to various operations concept of Internet and www	PPT, Practice problems, group discussions	To get familiar with basics of the Internet	<u>Knowledge Based</u> What is WWW? Define FTP. Compare apache and IIS	Knowledge--40 Understanding-40 Higher Order-20
AUGUST	Uniform Resource Locator (URL) and its types, Browsers: Internet Explorer, Chrome, Mozilla Firefox, Opera, Search Engine, Web Server, Apache, IIS, Proxy, HTTP Protocol  <b>UNIT II</b> Java Script : Introduction, Keywords, variables, Data type(Numbers, Booleans, Strings, Objects, Null, Undefined), <b>Operators</b> : Arithmetic Operators, Relational Operators, Logical Operators, Assignment Operators, Increment/ Decrement Operator, Bitwise Operator, Conditional operator, Comma	Importance of executing operations in parallel  How dynamic web pages are implemented using script code	PPT, Quiz, projects, problem solving activities	To acquire knowledge and skills for creation of web site considering client side programming using Javascript	<u>Understanding Based</u> Explain Logical and relational operator Give a brief JS datatypes  <u>Higher Order Thinking Skills</u>	

2020-21

*Neha Sharma*



	operator, delete, new, this, Expression, Comment, Input-output				<u>Based</u>  Compare between import and export.  Write code for mouse event and keyboard event?	
SEPTEMBER-	<b>Control Structure:</b> if-else, switch, Loop: while, do-while, for, for-in, break, continue, return, import, export.	Importance of PL/SQL and data types available in PL/SQL in respect to SQL	PPT, Practical Implementation, team building exercises	Code of control structure using JS syntax		
OCTOBER	<b>UNIT III</b>  <b>Array:</b> create, access, methods (length, sort) <b>Function: Built-in-Function:</b> (eval(), infinite(), isNaN(), parseFloat(), parseInt()), <b>User-defined-Function :</b> (create, calling, return ) <b>Boolean :</b> toString, valueof() <b>Date:</b> getYear(), setYear(), getMonth(), setMonth(), getDate(), setDate(), getDay(), getTime(), setTime(), getHours(), setHours(), getMinutes(), setMinutes(), getSeconds(), setSeconds() <b>Math:</b> abs(), min(), max(), pow(), round(), sqrt()	Different ways of handling error types of built functions and user defined functions	PPT, Practical Implementation, Presentation by students	Handle the events occurring		

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**SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)**  
**M.SC Computer Science (Previous) 2020-21**  
**SEMESTER III (M.Sc. C. Final)**  
**MCS – 301 SOFTWARE ENGINEERING**

Max. Marks :75 (50Ext; 25 Int)

Min. Marks: 30(20 Ext;10 Int)

**COURSE PLAN**

SEM III Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JULY	<b>Unit – I</b> Concepts of Software Engineering, Software Characteristics, components, applications, Umbrella Activity, System Development Life Cycle (SDLC) , Software Process Model: Water fall model (classical and Iterative), Prototype. Spiral model	Engineering tools , need to follow protocols while designing software	Blended learning,ppt,assignments	To understand importance of architecture in building effective, efficient, competitive software product.	<u>Knowledge Based</u> Define Error in testing. What is software audit? <u>Understanding Based</u> Discuss the differences	<b>Knowledge—25</b> <b>Understanding-45</b> <b>Higher Order-30</b>





	Software Metrics and Models; Role of Metrics and Measurement, Process and Product Metrics, Size metric, Function Point Analysis, Halsted Theory, Cost Estimation-COCOMO Mode ( Basic and Intermediate).	How to choose design method			between system and unit testing.  <u>Higher Order Thinking Skills Based</u>  Contrast between functional and non functional requirements of software.	
<b>AUGUST</b>	<b>Unit – II</b> Planning and Software Project: Project Scheduling and its goal, Work breakdown structure, Project Scheduling and its techniques: Gantt Chart, PERT and CPM. Introduction to Software Quality assurance. Design: Introduction , Definition, Objective ,Modularity(Cohesion & Coupling) Coding: Introduction, Code Review (Code Walkthrough, Inspection, Clean room Approach)	Features of metrics, how to design reusable components and their inter relationships	PPT, Practical Implementation,problem solving activities	To Explain methods of capturing, specifying, visualizing and analyzing software requirements.	Give Importance of software testing and compare verification and validation.	
<b>SEPTEMBER</b>	<b>Unit – III</b> <b>Testing :</b> Testing Fundamentals and Introduction , Definitions of Testing, Testing Objective, Testing Principles. <b>Software Testing Strategies:</b> Unit Testing, Integration Testing, Validation Testing (Alpha and	Effective testing leads to easily acceptance for the software	PPT, QUIZ,team building exercise,E content,projects	To explore the different Testing methods		



Beta Testing), System Testing (Recovery, Security, Stress, Performance),  
**Black Box Testing and its Methods:** 1.Graph Based Testing Methods, 2.Equivalence Partitioning, 3.Boundary value Analysis,4. Comparison Testing,  
**White Box Testing and its Methods:** Static Testing ( Code walk through, code inspections, Reviews ). **Dynamic testing** (1. Unit Code /Functional Testing, 2. Unit Code Coverage Testing (Statement, Path, Condition, Function Coverage) 3. Code Complexity 4. Basis Path Testing (Flow Graph Notation, McCabe's Cyclometric ), 5. Graph matrix. ) .

*Sr. Paril*

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**SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)**  
**BCA III ( SEMESTER VI) 2020-21**  
**BCA – 605 Internet Tools & Website Development - II**


Max. Marks :75 (50Ext; 25 Int)

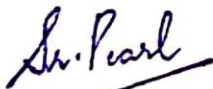
Min. Marks: 30(20 Ext;10 Int)


**COURSE PLAN**

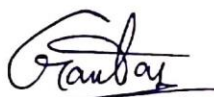
SEM VI Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JANUARY	<b>UNIT I</b> PHP – Introduction, Common Uses of PHP, Characteristics of PHP, PHP – Environment Setup Installation on Windows, PHP – Syntax, Running PHP Script from Command Prompt PHP – Variable, Local Variables, Global Variables, Static Variables, Constants, Operator Types, Precedence of Operators	Server side Programming and dynamic WebPages	PPT, Programs, E content, blended learning	To impart knowledge server side programming using PHP	<u>Knowledge Based</u>  What is dynamic webpage?  What is precedence of operator?	Knowledge— Understanding Higher Order-
FEBRUARY	<b>Unit – II</b> PHP: Decision Making: If...Else Statement, Elseif Statement, Switch Statement, Loop Types:, while , do...while, for, for each, break, continue ,	Understanding different sections of Webpage and website development	PPT, Programs, Group discussions	To Develop the decision making statement logic under different concepts using XAMP server	<u>Understanding Based</u>  What is nested list? Explain by an example.  Write an HTML code	

Nisha

 <b>MARCH</b>	<b>Unit III</b> Arrays : Numeric Array, Associative Arrays, Multidimensional Arrays, Strings function, Web Concepts, GET and POST, File Inclusion, File & I/O	How JavaScript can be incorporated in HTML document. How to take and process input form then user	PPT, Practical Implementation, Problem solving activities	Design website using both the scripting languages	to divide the webpage into four vertical sections.  <u>Higher Order Thinking Skills Based</u>	
<b>APRIL</b>	PHP : Functions, Cookies, Sessions, Sending, File Uploading, Error and Exception Handling, PHP PHP and MySQL: Connecting to MySQL Database, Create MySQL Database Using PHP, Insert MySQL Database Using PHP, Delete Data to MySQL Database, Retrieving Data from MySQL Database	Use of functions and various objects variable in JavaScript Comparison of code without array and with arrays.	PPT, Practical Implementation, assignments	Implement the functions of Date, Math and String objects	Write a code to create a function to take input from user and find its factorial.  Write a code to show use of different math methods.	

  
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