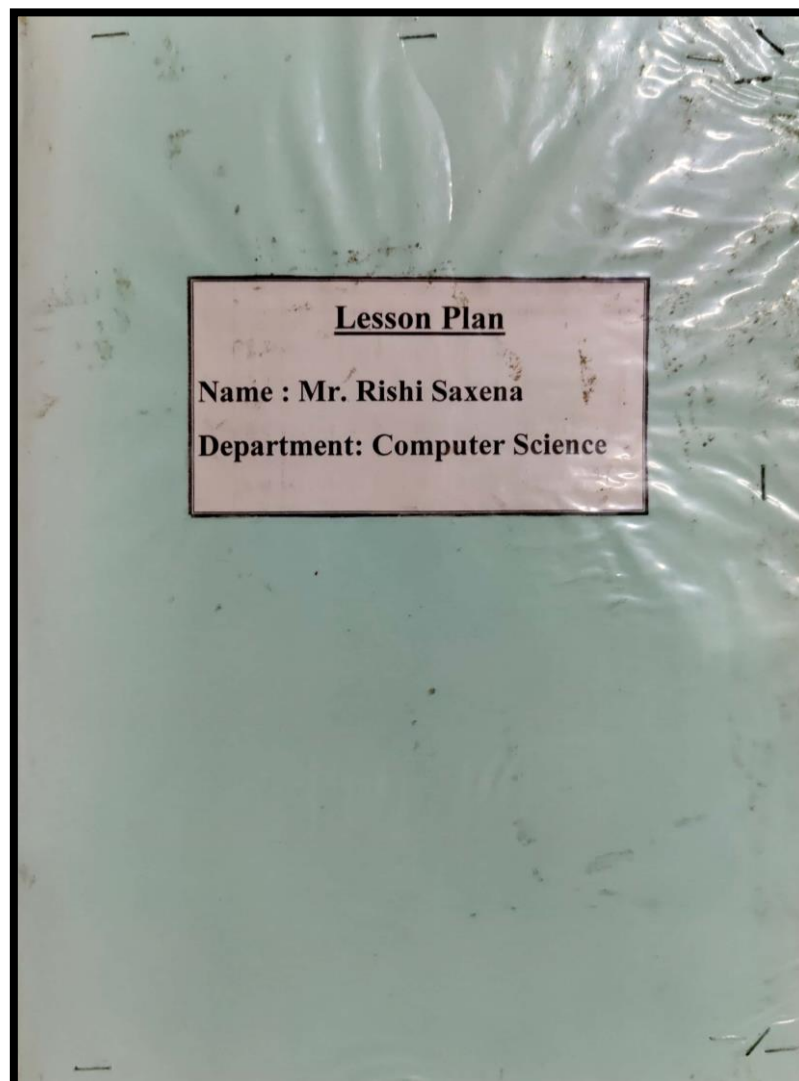




SOPHIA GIRLS' COLLEGE(AUTONOMOUS), AJMER





SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)
BCA Semester I (2020-21)
Computer Fundamentals I (BCA 101)

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

Min. Marks: 30(20 Ext;10 Int) Credit: 03

SEM I Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
SEM I AUGUST	Unit I Introduction to Computer: Definition, Characteristics, Classifications of computer on the basis of size and speed, Generation of computers, Applications of Computer	Introduction to Computer	PPT,practice exercise, assignments,bl ended learning	Describe the computer system and identify its types.	<u>Knowledge Based</u> -Define Computer System. -Illustrate the different types of Computer.	Knowledge--60 Understanding-30 Higher Order-10
	Input Devices: keyboard, mouse, track ball, touch pad, joystick, touch sensitive screens, pen based systems, digitizer, data scanning devices, bar code readers, optical mark readers, flatbed scanner	Input Devices	PPT, Charts,assignm ents,group discussions		<u>Understanding Based</u> -Compare the Analog and digital computing technology. -Classify the computers on the basis of applications.	
SEPTEMBER	Unit II Output Devices: Hard copy devices: Printer (impact printers) dot matrix printer,	Hard Copy Devices	PPT, Device Presentation,gr oup discussions	Illustrate the use of different I/O devices.	<u>Higher Order Thinking Skills Based</u> -Justify the	

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	(non-impact printers) inkjet, laser printer, Computer Display: Introduction to CRT Monitor, Plasma display, Projection display.				keyboard as primary input device.	
	Introduction to memory: memory hierarchy volatile memory, non-volatile memory, random-access memory, read-only memory, secondary memory, the cache memory, registers, flash memory. Storage device: magnetic tape, magnetic disk, hard disks, CD, DVD	Computer Storage	PPT, Videos, problem solving activities		-Critically Evaluate the touch screen technology	
OCTOBER-NOVEMBER	Unit III Computer Viruses: Introduction, types of computer viruses Introduction to Internet: Network, Client and Server, Introduction of World Wide Web (www), Hypertext transfer protocol (http), Uniform Resource Locator (URL), Domain Name System (DNS), Internet Service Provider (ISP), web Browsers and email.	Output devices	PPT, Device Demonstration, group discussions	Categorize different computer viruses on the basis on operation and establishes basic understanding of the internet.		
	E-learning: Online learning, Massively Open Online Courses (MOOCs), Asynchronous learning,	Introduction to E learning	PPT, Practical Implementation, presentation by students			

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Synchronous learning, Learning management systems, Online credentials.					
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Date: / /



SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)

VCA SEM1(2020-21)

Computer Fundamental-I

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

Min. Marks: 30(20 Ext;10 Int) Credit: 03

SEM I Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
SEM I AUGUST	Unit I Introduction to Computer: Definition, Diagram, Characteristics, Classification of Computers: Analog -- Computers, Digital	Introduction to computer	PPT,assignme nts	Describe the computer system and identify its types.	<u>Knowledge Based</u> What is computer	Knowledge--40 Understanding-35 Higher Order-25
	Computers, Hybrid Computers, Classifications of computer on the basis of size and speed, different type of computers, Generation of computers.	Classification of computers	Programming Assignments,a ssignments,gro up discussion		<u>Understanding Based</u> Classification of computers?	
SEPTEMBER	Unit II Applications of Computer: Desktop publishing, design and manufacturing, military, robotics, planning and management, marketing, communications, education.	Applications of computers	Programming Assignments,a ssignments,gro up discussions,qui zzes	: Illustrate the use of different input devices.	<u>Higher Order Thinking Skills Based</u> Explain input & output devices in detail?	
	Input Devices: keyboard,	Input devices	Programming			



Teacher's Signature.....

	mouse, track ball		Assignments, quiz, blended learning			
OCTOBER-NOVEMBER	Unit III touch pad, joystick, touch sensitive screens, pen based systems, digitizer, data scanning devices, optical recognition systems, bar code readers, optical mark readers, Optical character reader, optical scanners: drum scanners, hand scanner, flatbed scanner, web camera, game pad, digital camera.	Various input devices	Programming Assignments, E content	Categorize different output devices on the basis of operation.		
	Output Devices: Hard copy devices: Printer (impact printers) daisy wheel, dot matrix printer, line printer, chain printers, comb printers, (non-impact printers) DeskJet, inkjet, laser printer, thermal transfer printer, barcode printers	Output devices	Programming Assignments, blended learning			

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SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)
BCA Semester V (2020-21)
Mobile Computing I

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

Min. Marks: 30(20 Ext;10 Int) Credit: 03

SEM V Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
SEM I JULY	Unit I Networking Basics: Introduction to digital communications, Types of network: LAN, WAN, MAN, Types of network terminal: Server, Client, Topology: Bus, Ring, Star, Tree/Snowflake, Mesh, Combined,	Basics of Networking	PPT,Practice exercise	Define different types of network, represent them with different designs and summarize the signals and modulation.	<u>Knowledge Based</u> -Define Digital communication - Identify the networking implementation <u>Understanding Based</u> -Apply Frequency modulation in digital transmission -Prioritize the transmission media <u>Higher Order Thinking Skills Based</u> -Check wave propagation in optical fiber transmission -Construct an	Knowledge--40 Understanding-35 Higher Order-25
	Terminology: Amplitude, Frequency, Phase, Bit rate, Baud rate, Bandwidth. Signal types: Analog signals, Digital signals, Modulation: Amplitude, Frequency, Phase, Demodulation,	Terms and Signal Basics	PPT, Charts, Numericals			
AUGUST	Unit II	Medium of Signal	PPT, Charts,			



	Transmission Media: Guided (Twisted pair cable, Coaxial cable, Fibre Optic Cable), Unguided (Radio waves, Microwaves, Infrared), Transmission Mode: Parallel, Serial,	Transmission	Diagrams	Simulate the process of signal transfer over different media.	umbrella network for handoffs	
	Mobile Computing: Mobile Computing Vs wireless Networking, Mobile Computing Applications, Characteristics of Mobile computing, Structure of Mobile Computing Application, Mobile Communication: requirements	Introduction to Mobile Computing	Assignments			
SEPTEMBER-OCTOBER	Unit III Handoff Techniques, Types of Handoff, Current trends: 3G, 4G and 5G,	Mobility Management	PPT	Outline the mobile communication.		
	Global Positioning System (GPS) Mobile IPv6, FTP, VLAN, HTTPS	Networking Protocols	Practical Assignments			

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SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)
MSC(SEMESTER I) 2020-21
Java Programming

Max. Marks :100 (70Ext; 30 Int)

Min. Marks: 40 (Ext;12 Int) Credits : 4


SEM I Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JAN-FEB	UNIT-1 JAVA: Introduction to Object Orientated Programming, Abstraction, Object Oriented Programming Principles, Features of JAVA, Introduction to JAVA byte code, Program elements; Primitive data types, variables, Input Output in Java, operators: arithmetic, assignment, logical, bit wise, relational , Boolean logical operators, operator precedence.	OOPs Basics	PPT,problem solving activities	Describe the features of Java	<u>Knowledge Based</u> -Define OOP -Describe Data Types in Java <u>Understanding Based</u> -Apply branching constructs. - Organise operators on the basis of precedence. <u>Higher Order Thinking Skills Based</u> - Check passing objects as parameters - Plan an	Knowledge--50 Understanding-35 Higher Order-15

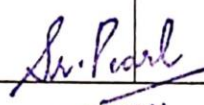


	Control statements: Java's Selection Statements, if statement, switch statement, Iteration statements, while, do-while, for-each, Nested loop, Jump Statement, using continue, return. Arrays, One & Two Dimensional Array break,	Programming Fundamentals	Programming Assignments, problem solving activities		inheritance hierarchy	
MARCH-APRIL	UNIT-II Object and classes: Objects, constructors, returning and passing objects as parameter. Inheritance: Definition & its Types, Extended class, usage of Super, Overloading and overriding methods, Abstract classes, using final with inheritance. STRING HANDLING: String constructors, special string operation, character extraction, searching and comparing string, string Buffer class. PACKAGE AND INTERFACES: Defining	Branching & Looping	Programming Assignments, group discussion, E content	Develop programs with basic programming constructs.		
		Collections	Programming Assignments, E content			



	package, access modifiers, importing package, Defining and implementing interfaces					
APRIL- MAY	UNIT-III Object and classes: Objects, constructors, returning and passing objects as parameter. Inheritance: Definition & its Types, Extended class, usage of Super, Overloading and overriding methods, Abstract classes, using final with inheritance.	OOPs Concepts	Programming Assignments, group discussion	Experiment with branching & Looping and Arrange data in Arrays.		
	STRING HANDLING: String constructors, special string operation, character extraction, searching and comparing string, string Buffer class. PACKAGE AND INTERFACES: Defining package, access modifiers, importing package, Defining and implementing interfaces	Extensibility	Programming Assignments, E content			


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SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)

MSc CS Semester III (2020-21)

Cloud Computing

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

Min. Marks: 30(20 Ext;10 Int) Credit: 03

SEM III Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
SEM I JULY	Unit I Introduction, Layers and Types of Clouds, Desired Features of a Cloud, Cloud Infrastructure Management	Introduction to Cloud computing	PPT	Define cloud computing and--	<u>Knowledge Based</u> -What is Cloud in Cloud Computing? -Describe Service Models	Knowledge--40 Understanding-35 Higher Order-25
	Infrastructure as a Service(IaaS), Platform as a Service Providers(PaaS), Software as a Service (SaaS), Challenges and Risks.	Service Models	PPT, Charts,	identifying various service models.	<u>Understanding Based</u> -Apply VM Systems in actual cloud implementation.	
AUGUST	Unit II Virtual Machines, Distributed Management of Virtual Infrastructures, Scheduling Techniques for Advance Reservation of Capacity	IaaS	PPT, Charts, Diagrams	Demonstrate various technologies related to IAAS.	- Outline Cluster as a service	
	Mobile Computing: Mobile Cluster as a Service, Cloud Storage, Technologies for Data Security in Cloud Computing.	CAAS	Assignments	Manage virtual infrastructure in distributed environment.	<u>Higher Order Thinking Skills Based</u> -Validate Hybrid cloud implementation	

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SEPTEMBER-OCTOBER	Unit III Technologies and Tools for Cloud Computing, Aneka Cloud Platform, Hybrid Cloud Implementation, Comet Cloud, Autonomic Behavior of Comet Cloud.	PaaS	PPT	Employ PAAS platforms like Aneka and Comet Cloud.	-Plan a security model for cloud computing.	
	An Introduction to the Data Security, Cloud Computing and Data Security Risk, The Cloud, Digital Identity, and Data Security, Legal Issues in Cloud Computing.	Security issues	Practical Assignments			

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SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)

VCA SEM II(2020-21)

Computer Fundamental-II

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

Min. Marks: 30(20 Ext;10 Int) Credit: 03

SEM II Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
SEM I JAN	Unit I Introduction to memory, classifications, random-access memory, volatile memory, non-volatile memory, flash memory, read-only memory, secondary memory, the cache memory,	Understand various types of memory	PPT,assignments	Identify computer memory according to its accessibility and hardware	<u>Knowledge Based</u> What is memory? Define flash memory? <u>Understanding Based</u> Explain logic gates?	Knowledge--40 Understanding-35 Higher Order-25
	auxiliary storage memory, memory hierarchy, storage device, magnetic tape, magnetic disk, floppy disk, hard disks, CD, DVD, magneto-optical		Programming Assignments, assignments, group discussion			
FEB	Unit II Number system: binary, octal, hexadecimal, addition, subtraction, multiplications. Computer code: BCD, ASCII, EBCDIC code, Excess-3 code, gray code, logic gates and Boolean algebra representation and	Concept of number system,,logic gate	Programming Assignments, assignments, group discussions, quizzes	. Convert values in different number systems	<u>Higher Order Thinking Skills Based</u> Give the classification of virus?	



	simplifications by k Map.					
	Introduction to Data warehouse, components of a data warehouse, different methods of storing data in a data warehouse, advantages of using data warehouse.	Methods to store data in data warehouse	Programming Assignments, quiz, blended learning			

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SOPHIA GIRL'S COLLEGE, AJMER (AUTONOMOUS)

M.SC Computer Science (FINAL) 2020-21

SEMESTER IV (M.Sc. C. Sc. Final)

MCS – 403 WEB TECHNOLOGY

MAX MARKS: 100(70EXT; 30)

MIN. MARKS: 40(28 EXT;12 INT) Credit: 03

COURSE PLAN

SEMIV Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
JANURARY	Unit – I HTML : Introduction, HTML Documents, Basic structure of an HTML document, Creating an HTML document , Information type elements, Character Formatting Elements, Block Formatting Elements.	Basic Formatting of WebPages Properties of Images and Table	PPT, Practical Implementation and hands on exercise	Get familiar with basics of the Internet Contrast between static and dynamic WebPages	<u>Knowledge Based</u> Define static website.	Knowledge— 25



	Working with Lists, Hyperlinks, Images. HTML Tables : Introduction to HTML tables and their Basic Structure Part, The table tags, Attributes of Table Tag, attributes of <TR>Tag, Attributes of <TD >Tag, Attributes of <TH> Tag.	Understanding different sections of Webpage and how CSS can save time and effort in website development			Define cell padding. <u>Understanding Based</u> Write an HTML code to show the concept of nested list.	Understanding-45 Higher Order-30
FEBURARY	Unit – II Forms : Introduction, The FORM Elements, Form Controls, Named Input fields, The <INPUT> tag, Hidden, Text box, Text Area, Password, Button, Submit, Reset, Radio, Checkbox, Select, pull down .	Utility of different form controls and data usefulness	Practical Implementation and hands on exercise	Acquire knowledge and skills for creation of web site considering HTML and client side programming using JavaScript	<u>Higher Order Thinking Skills Based</u> Write a	

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	<p>Java Script: Introduction, Keywords, variables, Data type Numbers, Booleans, Strings, Objects, Null, Undefined.</p> <p>Operators : Arithmetic Operators, Relational Operators, Logical Operators, Assignment Operators, Increment/ Decrement Operator, Bitwise Operator, Conditional operator, Comma operator, delete, new, this, Expression, Comment, Input-output.</p>	<p>Comparison of HTML and java Script, type caste languages, How JavaScript can be incorporated in HTML document, How to take and process input from then user</p>			Javascript code to handle onClick event.	
MARCH	<p>Unit – III</p> <p>Control Structure: if-else, switch, Loop: while, do-while, for, for-in, break, continue, return, import, export.</p>	<p>Compare for and for-in loop, use of import and export</p>	Practical Implementation and hands on exercise	Design website using both the scripting languages		
	<p>Objects and its types: Array: create, access, methods (length, reverse, sort) Boolean : toString, valueof() Date: getYear(), setYear(), getMonth(), setMonth(), getDate(), setDate(), getDay(), getTime(), setTime(), getHours(), setHours(), getMinutes(),</p>	<p>Use of functions and various objects variable in JavaScript</p> <p>Comparison of code without array and with arrays.</p>				



	setMinutes(), getSeconds(), setSeconds()			
APRIL	Math: abs(), min(), max(), pow(), round(), sqrt() String: Bold, Italic, Length, indexOf, lastIndexOf(), search(), slice(), substring(), replace(), toUpperCase(),--- toLowerCase(), concat(), String.trim() , charAt, charCodeAt,Function: Built- in-Function: (eval(),infinite(), isNaN(), parseFloat(), parseInt()), User-defined- Function : (create, calling, return)	Use of various methods variable in JavaScript	Practical Implementation and hands on exercise, Project work	Implement the functions of Date, Math and String objects
	Events and Event Handlers : General Information about Events, Defining Event Handlers, events: onClick, onDbClick, onMouseOver, onMove	<i>Sr. Pearl</i> Event occurrence PRINCIPAL event SOPHIA GIRLS' COLLEGE (AUTONOMOUS) AJMER	<i>Rishi</i>	Be able to trace and handle events

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