Lesson Plan

Name : Mrs. Neha Sharma

Department: Computer Science

BCA Part-I

Subject: Data Structure and Algorithms - I

Month	No. of Lecturers	Topics Covered
July	12	Fundamental Notations: Data Structures and its Types: Primitive and Composite Data Types . Arrays:- Concept of Arrays. Single dimensional array. Two dimensional array storage
August	11	Strategy of multidimensional arrays. Index Formula for single and multidimensional Array. Operations on Arrays with Algorithms (Insertion. deletion). Advantages and disadvantages. Sorting and Searching :-Introduction. Search algorithm (Linear and Binary).
September	08	Concept of sorting. Sorting algorithms (Bubble Sort. Insertion Sort, Quick Sort. Selection Sort. Merge Sort. Heap Sort. Radix Sort).
October	09	Linked Lists:- Introduction to linked list and double linked list. Representation of linked lists in Memory. Traversing a linked list. Searching linked list. Insertion and deletion into linked list.
November	03	Doubly linked lists. Traversing a doubly linked lists. Insertion and deletion into doubly linked lists

Sr Pearl

PRINCIPAL
SOPHIA GIRLS' COLLEGE
(AUTONOMOUS)
AJMER

Neha

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

Teacher's Signature.....

BCA Part-II
Subject: Computer Graphic-I

Month	No. of Lecturers	Topics Covered
July	12	Graphics hardware Input devices: Keyboard, touch panel, light pens, graphic tablets, joysticks, track ball, data glove, digitizer, image scanner, mouse, voice system.
August	11	Hard copy devices: Input and non-impact printers such as line printer, dot matrix, laser, inkjet, electrostatic, flat bed and drum plotters. Video Display Devices: Refresh cathode ray tube, raster scan displays, random scan displays, colour CRT monitors
September	08	direct view storage tube, flat panel displays, 3-D view devices, virtual reality, raster scan systems, random scan systems, graphics monitors and work stations.
October	09	Scan conversion algorithms for line : function, increment decrement, equation, algorithm (Digital Differential, Bresenham's) Circle: function, equation (Polynomial & Trigonometry).
November	03	algorithm (Bresenham's & Mid-Point) Ellipse: function, equation (Polynomial & Trigonometry) Bresenham's algorithm, Area filling techniques: Scan Line Boundary Fill, Flood Fill Algorithm, Character generation.

Sr Pearl
PRINCIPAL
SOPHIA GIRLS' COLLEGE
(AUTONOMOUS)
AJMER

Neha

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

BCA Part-III

Subject: Internet tools and Website Development-I

Month	No. of Lecturers	Topics Covered
July	12	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
August	11	Uniform Resource Locator (URL) and its types, Browsers: Internet Explorer, Chrome, Mozila firrefox, Opera, Search Engine, Web Server, Apache, IIS, Proxy, HTTP Protocol Java Script : Introduction, Keywords, variables, Data type(Numbers, Booleans, Strings, Objects, Null, Undefined), **Operators** : Arithmetic Operators, Relational Operators, Logical Operators, Assignment Operators, Increment/ Decrement Operator, Bitwise Operator, Conditional operator
September	08	Comma operator, delete, new, this, Expression, Comment, Input-output **Control Structure**: if-else, switch, Loop: while, do-while, for, for-in, break, continue, return, import, export
October	09	**Array**: create, access, methods (length, sort) **Function**: **Built-in-Function:** (eval(),infinite(), isNaN(), parseFloat(), parseInt()), **User-defined-Function :** (create, calling, return) **Boolean** : toString, valueof() **Date:** getYear(), setYear(), getMonth(), setMonth(), getDate(), setDate(), getDay(), getTime(), setTime(), getHours(), setHours(),getMinutes(), setMinutes(), getSeconds(), setSeconds()
November	03	**Math:** abs(), min(), max(), pow(), round(), sqrt() **String**: Length, indexOf, lastIndexOf(), search(), slice(), substring(), replace(), toUpperCase(), toLowerCase(), concat(), String.trim(), charAt, charCodeAt **Events and Event Handlers** : General Information about Events, Defining Event Handlers, events: onClick, onDblClick, onKeyPress, onMouseDown, onMouseMove, onMouseOut, onMouseOver, onMouseUp, onMove

Sr Pearl
PRINCIPAL
SOPHIA GIRLS' COLLEGE
(AUTONOMOUS)
AJMER

Neha

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

M.Sc. Computer Science (Previous)
Subject: Computer Communication and Networks

Month	No. Of Lectures	Areas covered
July	06	Introduction to Data communications and networking, protocols, standards and architecture, topology, transmission mode, OSI model, analog and digital signals, periodic and aperiodic signals, time and frequency domain, Fourier analysis concept
August	20	Encoding digital to digital conversion, analog to digital conversion, digital to analog conversion, analog to analog conversion, transmission of digital data, DTE-DCE interface, EIA-232, , X.21, modem, cable modem, guided and unguided, transmission media
September	14	Multiplexing, TDM, FDM, WDM, DSL, HDLC, error classification, types of errors, error detection, error correction, virtual redundancy check, longitudinal redundancy check, cyclic redundancy check
October	20	Asynchronous transfer mode, protocol architecture, ATM cells, ATM layers, switches, circuit switching network and concepts, routing, packet switching, X.25, virtual circuit approach, point-to-point layers, link control protocol, network control protocol

PRINCIPAL
SOPHIA GIRLS' COLLEGE
(AUTONOMOUS)
AJMER

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

BCA Part-II
Subject: Computer Graphics-II

Month	No. of Lecturers	Topics Covered
December	12	Geometric transformations (translation, scaling rotation, reflection, shearing), 2-dimensional graphics: Cartesian and Homogeneous co-ordinate system.
January	18	Window to Viewport transformation, Composite transformation, Affine Transformation. Clipping Techniques: Clipping in Raster, point clipping, Line clipping, Cohen-Sutherland Line clipping Algorithm, Cyrus-Beck Line clipping Algorithm
February	15	3-D viewing Mathematics of Projections: Types of Projection: Parallel (Oblique, Orthographic) & Perspective (One Point, Two Point, Three Point). Introduction to 3-dimensional Graphics: Geometric Transformations Translation, Scaling, Rotation, Visible line identification.
March	15	Visible Surface Detection (Back-face, Painter's Algorithm), Polygon (surface, table, equation, mashes), Spline Representation, Cubic Spline (Interpolation, Approximation).

Sr Pearl
PRINCIPAL
SOPHIA GIRLS' COLLEGE
(AUTONOMOUS)
AJMER

Neha

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

BCA Part-III

Subject: Internet tools and Website Development-II

Month	No. of Lecturers	Topics Covered
December	12	PHP – Introduction, Common Uses of PHP, Characteristics of PHP, PHP – Environment Setup Installation on Windows, PHP – Syntax, Running PHP Script from Command Prompt PHP
January	18	Variable, Local Variables, Global Variables, Static Variables, Constants, Operator Types, Precedence of Operators PHP: Decision Making: If...Else Statement, ElseIf Statement, Switch Statement, Loop Types:, while , do...while, for, for each, break, continue .
February	15	Arrays : Numeric Array, Associative Arrays, Multidimensional Arrays, Strings function, Web Concepts, GET and POST, File Inclusion, File & I/O PHP : Functions, Cookies, Sessions, Sending, File Uploading, Error and Exception Handling, PHP PHP and MySQL
March	15	Connecting to MySQL Database, Create MySQL Database Using PHP, Insert MySQL Database Using PHP, Delete Data to MySQL Database, Retrieving Data from MySQL Database

Sr Pearl

PRINCIPAL
SOPHIA GIRLS' COLLEGE
(AUTONOMOUS)
AJMER

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

M.Sc. Computer Science (Final)

Subject: XML Technology

Month	No. Of Lectures	Areas covered
December	04	Role Of XML - XML and The Web - XML Language Basics - SOAP - Web Services - Revolutions Of XML - Service Oriented Architecture (SOA). XML TECHNOLOGY - XML - Name Spaces - Structuring With Schemas and DTD - Presentation Techniques - Transformation - XML Infrastructure.
January	16	SOAP, Overview Of SOAP - HTTP - XML-RPC - SOAP: Protocol - Message Structure - Intermediaries - Actors - Design Patterns And Faults - SOAP With Attachments
February	16	WEB SERVICES: Overview - Architecture - Key Technologies - UDDI - WSDL - ebXML - SOAP And Web Services In E-Com - Overview Of .NET And J2EE
March	06	XML SECURITY: Security Overview - Canonicalization - XML Security Framework - XML Encryption - XML Digital Signature - XKMS Structure - Guidelines For Signing XML Documents - XML In Practice

Sr Pearl

PRINCIPAL
SOPHIA GIRLS' COLLEGE
(AUTONOMOUS)
AJMER

Sr Pearl

PRINCIPAL
SOPHIA GIRLS' COLLEGE
(AUTONOMOUS)
AJMER

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