LESSON PLAN

Name of Teacher –Suraj Pal **Subject: - Computer Science**

Paper –Internet and Web Technologies

Class –Math Hons I **Session:- 2024-2025(Even Sem.)**

Month & Week	Contents
Week 1	Visual Basic: Introduction, Analyzing, Data types, Variables, Constants, Controls and Properties.
Week 2	Control Structures: Conditional Statements, Loop Statements, Exit statement, Stop statement Arrays
Week 3	Text Boxes, Command Buttons, Labels, Additional Controls – List Box, Combo Box,
Week 4	Difference between List Box and Combo Box, Option Buttons, Check Boxes, Frames,
Week 5	Scroll Bars, Timer Control, Control , Arrays, Procedures and Functions, SDI and MDI Applications
Week 6	Menus: Menu Editor, Menu controls, Submenus, Popup Menus, Common Dialog Controls: Color Dialog Box
Week 7	Font Dialog Box, Open and Save as Dialog Box,
Week 8	Holi Holidays
Week 9	PrintDialog Box, Help Dialog Box.
Week 10	Database Programming:Data Access Object
Week 11	Data Binding, Data Control and Data Bound Controls,
Week 12	Database Object, Record set Object, Field Object
Week 13	Crystal Reports: Introduction to Reports, Crystal Reports
Week 14	Creating and Using a Report in VB
Week 15	Library Functions: Conversion functions, String functions.
Week 16	Numeric functions, Date and Time Functions
Week 17	Revision and Class test

Lesson Plan

Name of Teacher : Mrs. Neeru Jain
Class B.sc(math H) 4th sem subject: Computer Science

B.Sc Maths (Hons) 4th Sem– Data Structures using C Code: BHM 246

Week1: Data structure and its essence, Data structure types.
Week 2: Linear and list structures: Arrays, stacks, queues and lists; Sequential and linked structures.
Week 3: Simple lists, circular lists, doubly linked lists.
Week4: Inverted lists, threaded lists, Operations on all these structures and applications.
Week 5: Arrays, Multidimensional arrays, sequential allocation.
Week 6: address calculations, sparse arrays **.**
Week 7: Tree structures: Trees, binary trees and binary search trees. Implementing binary trees.
week 8: Holi Holidays
Week 9: Tree traversal algorithms, threaded trees, trees in search algorithms, AVL Trees.
Week 10: Graph data structure and their applications, Graph traversals, shortest paths.
week 11: spanning trees and related algorithms.
week 12 : Family of B-Trees: B-tree, B*-Trees, B+ Trees.
week 13: Test+ Sorting: Internal and External sorting. Various sorting algorithms
Week 14:Time and Space complexity of algorithms.
Week 15: Searching techniques and Merging algorithms.
Week 16:.Applications of sorting in computer science.
Week 17: Applications of searching technique in computer science.

LESSON PLAN

Name of Teacher – SurajPal **Subject: - computer science**

Paper – Object Oriented Programming Using C++

Class – B.sc. 2nd sem. **Session:- 2024-2025 (Even Sem.)**

Month & Week	Contents
Week 1	Procedural Language and Object Oriented approach, Characteristics of OOP, user defined types, polymorphism and encapsulation.
Week 2	Getting started with C++: syntax, data types,
Week 23	variables, string, function, namespace and exception, operators.
Week 4	Flow control, recursion .
Week 5	Array and pointer, structure .
Week 6	Abstracting Mechanism: classes, private and public
Week 7	Constructor and Destructor , member function, static members, references .
Week 8	Holi Holidays
Week 9	Memory Management: new, delete, object copying, copy constructer, assignment operator, this input/output
Week 10	Inheritance and Polymorphism: Derived Class and Base Class, Different types of Inheritance
Week 11	Overriding member function, Abstract Class, Public and Private Inheritance
Week 12	Ambiguity in Multiple inheritance , Virtual function, Friend function, Static function.
Week 13	Exception Handling: Exception and derived class, function exception declaration, unexpected exception
Week 14	Template and Standard Template Library: Template classes, declaration, template functions.
Week 15	Namespace, string, iterators, hashes.
Week 16	Iostreams and other types
Week 17	Revision and Class test

Lesson Plan

JAN 2024 to April 2024

Name of Assistant/Associate Professor: CHANCHAL (Computer Science) Class and Section: B.Sc. Computer Science 4th sem 'D'

Subject: Data Structures with C/C++, Operating System

Paper: 4.1, 4.2

Week 1: ***Data-Structure operations, Algorithm, Complexity, Datastructure and its essence, Introduction to Arrays, Introductory Concepts: Operating system functions and characteristics.***

Week 2: Array operations, Multi- dimensional arrays, sequentialallocation, address calculations, historical evolution of operating Systems.
Week 3: Sparse arrays, Stacks-Introduction to Stacks, primitiveoperations on stacks.
Week 4: ***Representation of stacks as an array and stack-applications. Types of Operating System: Real time, Multiprogramming, Multiprocessing, Batch processing,***

Week 5: ***Queues:-Introduction to queues, operations on queue, Methodologies for implementation of O/S service system calls, system programs.***

Week 6: Circular queue, priority queue, Applications of queue. Process management: Process concepts, operations on processes, Process states and Process Control Block.
Week 7: Linked List-introduction and basic operations, Header nodes, doubly linked list, circular linked list. CPU Scheduling: Scheduling criteria, Levels of Scheduling.
Week 8: Holi Holidays.
Week 9: Representation of linked list as an array, stacks and queues.

Tree structures: Basic terminology. Scheduling algorithms, multiple processor scheduling.
Week 10: binary trees and binary search trees, implementing binary trees,Deadlocks: Deadlock characterization, Deadlock prevention and avoidance.
Week 11: ***Tree traversal algorithms, threaded trees, Concurrent Processes: Critical section problem, Semaphores, Classical process co-ordination problems andtheir solutions.***

Week 12: Trees in search algorithms, AVL Trees, Inter-process Communications. Storage Management: memory management of single-user and multi-useroperating system.
Week 13: ***Polish notation and expression trees, applications of binary trees. Graph data structure and their applications. Graph traversals, shortest paths, partitioning, swapping, paging and segmentation, Thrashing.***

Week 14: Spanning trees and related algorithm, Sorting- Internal andexternal sorting. File management: File Systems: Functions of the system, File access methods,
Week 16: Various sorting algorithms, Time and Space Complexity, allocation methods: Contiguous, allocation, linked, indexed allocation, Directory Systems: Structured Organizations, Directory.
Week 17: Time and Space complexity of algorithms, Searchingtechniques, Applications of Sorting and Searching in computer science, file protection mechanisms

Lesson Plan

Name of Teacher : Neeru Jain

Class B.sc 6th sem **subject: Computer Science**

B.Sc 6 th Sem – Paper-6.1: Visual Basic Programming & Paper-6.2: Software Engineering

First Week: Introduction to VB: Visual & Non-visual programming, Procedural, Object-oriented and
event- driven programming languages.
Second Week: Software and software engineering: Software characteristics, Software Processes,
software crisis, Software life cycle models.
Third Week:. The VB environment: Menu bar, Toolbar, Project explorer, Toolbox, Properties window,
Form designer, Form layout, Immediate window. Event driven programming.
Fourth week: Waterfall, Prototype, Evolutionary and Spiral Models, software engineering paradigms,
goals and principles of software engineering.
Fifth week: Basics of Programming: Variables: Declaration, Types of variables, Converting variables
types, User defined data types, Scope & lifetime of variables.
Sixth week: Software requirement analysis – Structured analysis, object-oriented analysis and data
modeling, software requirement specification, validation.
Seventh week: Constants: Named & intrinsic. Operators: Arithmetic, Relational & Logical operators. I/O
in VB: Various controls for I/O in VB, Message box, Input Box, Print statement.
Eighth week: Holi Holidays
Ninth week:Software requirements Analysis and Specifications: Requirement engineering, requirements analysis using DFD, Data Dictionaries and E-R Diagram, requirement documentation,
nature of SRS, characteristics and organization of SRS.
: Programming with VB: Decisions and conditions: If statement, If-then-else, Select-case. Looping statements: Do-loops, For-next.
Tenth week: Software project management: Planning a software project, Software cost estimation,
project scheduling, personnel planning, team structure.
Eleventh week: While-wend, Exit statement. Nested control structures. Arrays: Declaring and using
Twelfth week : arrays, one-dimensional and multi-dimensional arrays, Static & dynamic arrays, Arrays of array.

Thirteenth week: Software configuration management, software quality and quality assurance, project
monitoring, risk management.

Fourteenth week: Programming with VB: Procedures: General & event procedures,

Subroutines,
Functions, Calling procedures, Arguments- passing mechanisms, Optional arguments, Named arguments, Functions returning custom data types.

Fifteen week: Design and implementation of software- Software design fundamentals, software design
principles, Cohesion and Coupling.
Sixteenth week:. Working with forms: Adding multiple forms in VB, Hiding & showing forms, Load &
unload statements, Activate & deactivate events, Form-load event, menu designing in VB, Database
Programming using DAO & ADO, Simple Active X controls.
Seventeenth week: Classification of Cohesion and Coupling, Function oriented design, object oriented
Design, design verification, monitoring and control..

LESSON PLAN(session 2024-2025)

NAME: *SUJATA*
CLASS: *BBA 4th SEM*
SUBJECT: *DATABASE MANAGEMENT SYSTEM*

WEEK1:
Introuction, Databasemanagement System concepts. Definitions: Entity, attribute,Record , etc.

WEEK2:
DBMS Architecture, External schema, Conceptual Schema, Internal Schema.

Week 3:
Data types in DBMS, Types of Keys: Primary key , secondary key

Week4:
Alternate key, foreign key, schemas, types of schemas, instance of a schema.

Week 5:
DBMS characteristics, difference between traditional database management system andmodern database management system.

Week 6:
Database administrator, Role of DBA in maintaining and controlling in Database.

Week7:
Database security and threats: various threats to database. Security measures in database,.

Week 8:
Threats in a database in detail: Availability loss, Integrity loss, confidentiality loss

Week 9:
Access control, flow control, data encryption, data decryption, cryptography

Week 10:
Database Models: ER model, Entities and relationship and various symbols used in ER model

Week 11:
Relational Model: How to transform a relational model into ER model and vice versa

Week 12:
Information : characteristics of information. Difference between file oriented system anddatabase system.

Week 13:

Types of DBMS: distributed database management system and centralized managementsystem

Week 14:

Data dictionary: types of data dictionary

Week 15:
Data warehousing, data mining, firewalls and database recovery.

Week 16:
Internet, Database, Digital libraries

Week 17:
Multimedia Database
Mobile database, Spatial database

Lesson Plan

Name of Assistant/Associate Professor: Dr. Anil Kumar

Class :- BBA 6th Sem

Subject:- SYSTEM ANALYSIS AND DESIGN
PAPER CODE: -BBAN-602

Week 1: Introduction to analysis and design: - System and it characteristics.
week 2: components, environment and classification
Week 3:SDLC, Case tools for analyst, role of system analyst, ER data models.
Week 4: feasibility study – economic, technical, operational.
Week 5: Design of Application: - DFDs, form design, screen design, report design.
Week 6: structure chart, data base definition.
Week 7: equipment specification and selection
Week 8:Holi Holidays
Week 9: personnel estimates, I-O design.
Week 10: Implementation:- data dictionary, decision tables.
Week 11: decision trees, logical design to physical implementation.
Week12: Introduction to distributed data processing and real time system.
Week 13: evaluating distributing system.
Week 14:designing distributed data base.
Week 15:event based real time analysis tools.
Week 16: state transition diagrams.
Week 17: Revision .

LESSON PLAN

Name of Teacher – Babita Rani

Subject: - computer sciencePaper – E-commerce (BBAN-605)

Class – BBA 6th sem Session:- 2024-2025 (Even Sem.)

Month & Week	Contents
Week 1	Introduction – meaning, nature, concepts, advantages and reasons for transacting online.
Week 2	categories of e-commerce; planning online business, nature and dynamics of the internet, pure online vs. brick and click business
Week 3	Assessing requirement for an online business, designing, developing and deploying the system
Week 4	one to one enterprise. Technology for online business – internet
Week 5	IT infrastructure; middleware contents, text and integrating e-business applications; mechanism of making payment through internet.
Week 6	online payment mechanism, electronic payment systems, payment gateways,
Week 7	visitors to website, tools for promoting website
Week 8	Holi Holidays
Week 9	plastic money: debit card, credit card; laws relating to online transactions.
Week 10	Applications in e-commerce – e-commerce applications in manufacturing, wholesale, retail and service sector.
Week 11	Virtual existence – concepts, working, advantages and pitfalls of virtual organizations, workface, work zone
Week 12	workspace and staff less organization; designing on E-commerce model for a middle level organization
Week 13	the conceptual design, giving description of its transaction handling
Week 14	infrastructure and resources required and system flow chart
Week 15	security in e-commerce: digital signatures, network security, data encryption secret keys.
Week 16	data encryption. Problems taken.
Week 17	Revision and Class test

Lesson Plan

Jan 2025 to April 2025

Name of Assistant/Associate Professor: Anil Saini

Class and Section: BCA 4th Sem. Sec A,B.
Subject: Data Structure II
Paper: BCA 207

Week 1: Tree: Header nodes, Threads, Binary search Tree, Insertionand deletion in Binary search tree.

Week 2*: AVL trees, Searching, insertion and deletion in AVL searchtree, m-way search tree, Searching Insertion and deletion in an m-way search tree.*

Week 3: B-trees, Searching, Insertion and deletion in a B-tree, B+tree,Huffman's algorithm, General trees.

Week 4: Warshall's algorithm for shortest path, Dijkstra algorithmfor shortest path.

Week 5: Operations on graphs, Traversal of graph with Examples.

Week 6: Topological sorting, Sorting, Internal & external sortingwith examples.

Week 7: Radix sort, Quick sort with algorithms and examples.

Week 8: Holi Holidays

Week 9: Heap sort, Merge sort, Tournament sort with algorithmsand examples.

Week 10: Searching, Linear search, binary search, merging withalgorithms and examples.

Week 11: Files:. Physical storage devices and their characteristics,Attributes of a file viz fields.

Week 12: Records, Fixed and variable length records, Primary andsecondary keys.

Week 13*: Classification of files, File operations, Comparison of varioustypes of files.*

Week 14*: File organization: Serial, Sequential, Indexed-sequential.*

Week 15 Random-access/Direct, Inverted, Multilist file organization.

Week 16: Hashing: Introduction, Hashing functions Collision resolutionmethods.

Week 17: Revisions

LESSON PLAN

Name of Teacher – Vandana **Subject: - Computer Science**

Paper – WEB DESIGNING

Class –BCA 4th sem sec-A,B **Session:- 2024-2025 (Even Sem.)**

Month & Week	Contents
Week 1	Introduction to Internet and World Wide Web; Evolution and History of World Wide Web; Basic features; Web Browsers
Week 2	Web Servers; Hypertext Transfer Protocol, Overview of TCP/IP and its services; URLs;
Week 3	Searching and Web-Casting Techniques; Search Engines and Search Tools;
Week 4	Web Publishing: Hosting your Site; Internet Service Provider; Web terminologies, Phases of Planning and designing your Web Site
Week 5	Steps for developing your Site; Choosing the contents; Home Page; Domain Names.
Week 6	Front page views, Adding pictures, Links, Backgrounds, Relating Front Page to DHTML.
Week 7	Creating a Website and the Markup Languages (HTML, DHTML);
Week 8	Holi Holidays
Week 9	Web Development: Introduction to HTML; Hypertext and HTML; HTML Document Features; HTML command Tags
Week 10	Creating Links; Headers; Text styles; Text Structuring; Text colors and Background; Formatting text; Page layouts;
Week 11	Images; Ordered and Unordered lists; Inserting Graphics; Table Creation and Layouts; Frame Creation and Layouts
Week 12	Working with Forms and Menus; Working with Radio Buttons; Check Boxes; Text Boxes;
Week 13	DHTML: Dynamic HTML, Features of DHTML
Week 14	CSSP(cascading style sheet positioning)
Week 15	JSSS(JavaScript assistedstyle sheet), Layers of netscape
Week 16	The ID attributes, DHTML events.
Week 17	Revision and Class test

LESSON PLAN

Name of Teacher – Mrs. Vandana **Subject: - computer science**

Paper – Object Oriented Programming Using C++

Class – BCA 4th sem sec-A,B **Session:- 2024-2025 (Even Sem.)**

Month & Week	Contents
Week 1	Procedural Language and Object Oriented approach, Characteristics of OOP, user defined types, polymorphism and encapsulation.
Week 2	Getting started with C++: syntax, data types,
Week 23	variables, string, function, namespace and exception, operators.
Week 4	Flow control, recursion .
Week 5	Array and pointer, structure .
Week 6	Abstracting Mechanism: classes, private and public
Week 7	Constructor and Destructor , member function, static members, references .
Week 8	Holi Holidays
Week 9	Memory Management: new, delete, object copying, copy constructer, assignment operator, this input/output
Week 10	Inheritance and Polymorphism: Derived Class and Base Class, Different types of Inheritance
Week 11	Overriding member function, Abstract Class, Public and Private Inheritance
Week 12	Ambiguity in Multiple inheritance , Virtual function, Friend function, Static function.
Week 13	Exception Handling: Exception and derived class, function exception declaration, unexpected exception
Week 14	Template and Standard Template Library: Template classes, declaration, template functions.
Week 15	Namespace, string, iterators, hashes.
Week 16	Iostreams and other types
Week 17	Revision and Class test

Lesson Plan

Jan.2025 to April 2025

Name of Assistant/Associate Professor: Poonam

Class and Section: BCA 4th Sem.

Subject: Software Engineering

EngineeringPaper:BCA209

Week1 Software Crisis, Software Processes & Characteristics.
Week2 Software life cycle models, Waterfall , Prototype ,Evolutionary and Spiral Models.
Week3: Requirement engineering, requirement elicitation techniques likeFAST, QFD.
Week4 Requirements analysis using DFD, Data dictionaries &ER Diagrams.
Week5: Requirements documentation, Nature of SRS, Characteristics & organization of SRS.
Week6 The Management spectrum, The People The Problem, The Process, The Project.
Week 7 Size Estimation like lines of Code & Function Count.
Week 8: Estimation Models , COCOMO model with Examples.
Week 9: Risk Management, Cohesion & Coupling, Classification of Cohesiveness &Coupling.
Week10: Function Oriented Design, Object Oriented Design with examples.

Week 11: Software Metrics: Software measurements: What & Why, Token Count
Week12: Halstead Software Science Measures, Design Metrics, Data Structure Metrics.
Week 13: Relationship between design and implementation , Implementation issues and programming support environment, Coding the procedural design, Good coding style.
Week14: Testing Process, Design of Test Cases, Types of Testing, Functional Testing, Structural Testing ,Test Activities, Unit Testing, Integration Testing and System Testing.
Week15: Debugging Activities ,Management of Maintenance ,Maintenance Process.
Week 16: Reverse Engineering, Software Re-engineering, Configuration Management, Documentation.

Lesson Plan

Jan –April 2025

Name of Assistant/Associate Professor: Mrs. Sujata

Class and Section: BCA 6th sem.

Subject: E-Commerce

Paper: BCA- 306

Week 1:.Electronic Commerce: Overview of Electronic Commerce, Scope of Electronic Commerce

Week 2:. Traditional Commerce vs. Electronic Commerce, Impact of E-Commerce

Week 3: Electronic Markets, Internet Commerce, e-commerce in perspective

Week 4: Application of E Commerce in Direct Marketing and Selling.

Week 5: Obstacles in adopting E-Commerce Applications; Future of E-Commerce.

Week 6: Value Chains in electronic Commerce, Supply chain, Porter's value chain Model,

Inter **Week 7**. Organizational value chains, Strategic Business unit chains, Industry value

chains **Week 8:**. Security Threats to E-commerce: Security Overview, Computer Security

Classification

Week 9:. Copyright and Intellectual Property, security Policy and Integrated Security, Intellectual

Week 10:. Property Threats, electronic Commerce Threats, Clients Threats, Communication Channel Threats,server Threats

Week 11:. Implementing security for E-Commerce: Protecting E-Commerce Assets, Protecting

Week 12:. Intellectual Property, Protecting Client Computers, Protecting E-commerce Channels ElectronicPayment System: Electronic Cash, Electronic

Week 13: Wallets, Smart Card, Credit and Change Card**:**. Business to Business E-Commerce: Inter-organizationalTransitions, Credit Transaction

Week 14: Trade Cycle, a variety of transactions. Electronic Data Interchange (EDI):
Week 15: Introduction to EDI Benefitsof EDI, EDI Technology, EDI standards, EDI Communication

Week 16: EDI Implementation, EDI agreement, EDI security, Queries

Week 17: Revision.

NAME OF ASSISTANT PROFESSOR: Maninder

CLASS AND SECTION:…BCA-6th SEM……

SUBJECT: Object technologies and programming using JAVA

LESSON PLAN:(FROM JAN 2025 TO April 2025)

Week1:

Object Oriented Methodology-1: Paradigms of Programming Languages, Evolution of OO Methodology.

week 2:

Basic Concepts of OO Approach, Comparison of Object Oriented and Procedure Oriented Approaches, Benefits of OOPs,

Week 3:Introduction to Common OO Language, Applications of OOPs . **Week 4**: Object Oriented Methodology-2: Classes and Objects, Abstraction and Encapsulation.

Week5: Inheritance, Method Overriding and Polymorphism.

Week 6: Java Language Basics: Introduction To Java, Basic Features, Java Virtual Machine Concepts, Primitive Data Type And Variables, Java Operators, Expressions, Statements and Arrays. Object Oriented Concepts: **Week 7:**Class and Objects-- Class Fundamentals, Creating objects , Assigning object reference variables; Introducing Methods, Static methods, **Week 8**: Holi Holidays

Week 9: Constructors , Overloading constructors; This Keyword; Using Objects as Parameters, Argument passing, Returning objects , Method overloading, Garbage Collection, The Finalize ( ) Method.

Week 10: Inheritance and Polymorphism: Inheritance Basics, Access Control, Multilevel Inheritance, Method Overriding, Abstract Classes, Polymorphism, Final Keyword.

Week 11: Packages : Defining Package, CLASSPATH, Package naming, Accessibility of Packages , using Package Members. Interfaces: Implementing Interfaces, Interface and Abstract Classes, Extends and Implements together .

Week 12:Exceptions Handling : Exception , Handling of Exception, Using try-catch , Catching Multiple Exceptions , Using finally clause , Types of Exceptions, Throwing Exceptions, Writing Exception Subclasses.

Week 13: Multithreading : Introduction , The Main Thread, Java Thread Model, Thread Priorities.

Week 14: Synchronization in Java, Inter thread Communication. I/O in Java : I/O Basics, Streams and Stream Classes .

Week 15: The Predefined Streams, Reading from, and Writing to, Console, Reading and Writing Files , The Transient and Volatile Modifiers , Using Instance of Native Methods. Strings and Characters .

Week 16: Fundamentals of Characters and Strings, The String Class , String Operations , Data Conversion using Value Of ( ) Methods .

Week 17: String Buffer Class and Methods.

NAME OF ASSISTANT PROFESSOR: M a n i n d e r

CLASS AND SECTION: …BCA-6th SEM

SUBJECT: ARTIFICIAL INTELLIGENCE

LESSON PLAN: 17 WEEK (FROM Jan 2025 TO April 2025)

Week 1:
Overview of A.I: Introduction to AI, Importance of AI, AI and its related field, AI techniques,Criteria for success.

Week 2:
Problems, problem space and search: Defining the problem as a state space search.

Week 3:
Production system and its characteristics, Issues in the design of the search problem Heuristicsearch techniques : Generate and test

Week 4:
Hill climbing, best first search technique, problem reduction, constraint satisfaction

Week 5:
UNIT - II Knowledge Representation: Definition and importance of knowledge, Knowledgerepresentation, , Revision and Test

Week 6:
Issues in knowledge representation. Using Predicate Logic : Represent ting Simple Facts inlogic.

Week 7:
Representing instances and is_a relationship, Computable function and predicate.

Week 8: Holi Holidays

Week 9: Natural language processing : Introduction syntactic processing.

Week 10:
Discourse and pragmatic processing. Learning: Introduction learning, Rote learning

Week 11:
Learning by taking advice, Learning in problem solving,

Week 12:
Learning from example-induction, Explanation based learning**.**

Week 13:
UNIT - IV Expert System: Introduction, Representing using domain specific knowledge**,**

Week 14:
Semantic processing,Various approaches used in knowledge representation

Week 15:
Expert system shells.,Revision &Test

Week 16 :
Revision of all heuristic techniques.

Week 17: problem solving and doubts of students. And test

Name of Teacher–Babita Rani Subject:-Computer Science
Paper–Introduction to .Net (BCA 309)

Class–BCA 6th sem Session:-2024-2025(EvenSem.)

Month&Week	Contents
Week 1	The Framework of .Net: Building blocks of .Net Platform (the CLR, CTS and CLS), Features of .Net, Deploying the .Net Runtime,
Week 2	Architecture of .Net platform, Introduction to namespaces & type distinction. Types & Object in .Net, the evolution of Web development .
Week 3	Class Libraries in .Net, Introduction to Assemblies & Manifest in .Net, Metadata & attributes .
Week 4	Introduction to C#: Characteristics of C#, Data types: Value types, reference types, default value, constants, variables, scope of variables, boxing and unboxing.
Week 5	Operators and expressions: Arithmetic, relational, logical, bitwise, special operators, evolution of expressions, operator precedence & associativity,
Week 6	Control constructs in C#: Decision making, loops, Classes & methods: Class, methods,
Week 7	constructors, destructors,
Week 8	Holi Holidays
Week 9	overloading of operators & functions.
Week 10	Inheritance & polymorphism
Week 11	Introduction to visibility control
Week 12	overriding, abstract class & methods,
Week 13	sealed classes & methods, interfaces.
Week 14	Advanced features of C#: Exception handling & error handling,
Week 15	Automatic memory management,
Week 16	Input and output (Directories, Files, and streams)
Week 17	Revision and Class test

LESSON PLAN

Name of Teacher –Deepti **Subject: - Computer Science**

Paper – Data and File Structures

Class – BCA 2nd sem **Session:- 2024-2025(Even Sem.)**

Month & Week	Contents
Week 1	**Introduction:** Elementary data organization, Data Structure definition, Data type vs. data structure, Categories of data structures
Week 2	Data structure operations, Applications of data structures. **Arrays:** Introduction, Linear arrays, Representation of linear array in memory, address calculations, Traversal, Insertions, Deletion in an array, Multidimensional arrays, Parallel arrays, Sparse arrays.
Week 3	**Searching:** Introduction, Sequential search, Binary search, Prerequisite for binary search, Comparison in terms of efficiency
Week 4	Test of Unit 1
Week 5	**Sorting:** Bubble sort, Selection sort, Insertion sort, Quick sort, Merge sort, Comparison in terms of their efficiency
Week 6	**Stack:** Introduction, Array and linked representation of stacks, Operations on stacks, Applications of stacks: Polish notation, Recursion.
Week 7	**Queues:** Introduction, Array and linked representation of queues, Operations on queues, Deques, Priority Queues, Applications of queues.
Week 8	Test of Unit-2
Week 9	**Linked List:** Introduction, Representation of linked lists in memory,
Week 10	Traversal, Insertion, Deletion, Searching in a linked list, Header linked list, Circular linked list, Two-way linked list, Threaded lists, Garbage collection, Applications of linked lists.
Week 11	**Tree:** Introduction, Definition, Representing Binary tree in memory, Traversing binary trees, Traversal algorithms using stacks.
Week 12	**Graph:** Introduction, Graph Theory terminology, Sequential and Linked representation of Graphs. **Introduction to file structures:** Concept of a file, types of files, File operations - open, read, write, close. External storage devices, Concepts of record, file, database and database system.
Week 13	**ile Organization:** Sequential file organisation – structures and processing, Record structures and access methods., Indexing techniques,

Week 14	Indexed sequential file organisation – structures and processing
Week 15	Test
Week 16	B-trees and hashing for indexed files. Direct file organisation. Hashed File Organization - Hash function implementation.
Week 17	Revision

LESSON PLAN

Session: 2024-25 (EVEN SEM)

Name of Teacher- Tanu Batra, Nalini, Devender Kirar

Class- Value Added Course under NEP

Subject- Digital and Technological Solutions(23CSAX01VA01)

WEEKS	SYLLABUS
Week1	Introduction & Evolution of Digital Systems: Role & Significance of Digital Technology; Information and Communication Technology (ICT) & Tools
Week2	Computer System &its working, Software and its types
Week3	Operating Systems: Types and Functions. Problem Solving: Algorithms and Flowcharts
Week4	Communication Systems: Principles, Model & Transmission Media
Week5	Computer Networks & Internet: Concepts & Applications, WWW, Web Browsers, Search Engines
Week6	Messaging, Email, Social Networking. Computer Based Information System: Significance & Types.
Week7	E-commerce & Digital Marketing: Basic Concepts, Benefits & Challenges
Week8	Emerging Technologiesand their applications:Overview of Artificial Intelligence, Machine Learning
Week9	Deep Learning; Big Data, Data Science and Big Data Analytics; Internet of Things (IoT) and Industrial Internet of Things (IIoT),
Week10	Robotics and 3D Printing; Blockchain Technology; Quantum Computing; Cloud computing and its service models
Week11	Digital India & e-Governance: Initiatives, Infrastructure, Services and Empowerment.
Week12	Digital Financial Tools: Unified Payment Interface, AadharEnabled Payment System, USSD, Credit / Debit Cards,
Week13	e-Wallets, Internet Banking, NEFT/RTGS and IMPS, Online Bill Payment and POS.
Week14	Cyber Security: Threats, Significance, Challenges, Precautions, Safety Measures and Tools.
Week15	REVISION OF WHOLE SYLLABUS
Week16	REVISION OF WHOLE SYLLABUS

LESSON PLAN

Session: 2024-25 (EVEN SEM)

Name of Teacher- Tanu Batra, Nalini, Devender Kirar

Class- MDC under NEP

Subject- Office Automation(24CSCX02MD01)

WEEKS	SYLLABUS
Week1	**MS-Windows:** Operating system-Definition & functions, basics of Windows .Basic components of windows
Week2	Icons, types of icons, taskbar, activating windows, using desktop, title bar, running applications
Week3	Exploringcomputer,managingfilesandfolders,copyingandmovingfilesandfolders.Controlpanel– display properties
Week4	Adding and removing software and hardware, setting date and time, screensaver and appearance. Using windows accessories
Week5	**Documentation Using MS-Word:** Introduction to word processing interface, Toolbars Creating & Editing Document
Week6	Formatting Document, Finding and replacing text, Format painter, Header and footer, Drop cap, Auto-text, Autocorrect,
Week7	Spelling and Grammar Tool, Document Dictionary, Page Formatting, Bookmark, Previewing and printing document,
Week8	Advance Features of MS-Word-Mail Merge, Macros and Tables
Week9	**Electronic Spread Sheet using MS-Excel:** Introduction to MS-Excel, Cell, cell address, Creating & Editing Worksheet,
Week10	Formatting and Essential Operations, Moving and copying data in excel, Header and footer, Formulas and Functions, Charts, Cell referencing, Page setup,
Week11	Macros, Advance features of MS-Excel-Pivot table & Pivot Chart, Linking and Consolidation,
Week12	Database Management using Excel-Sorting, Filtering, Validation, What if analysis with Goal Seek.
Week13	**Presentation using MS-PowerPoint:** Presentations, Creating, Manipulating & Enhancing Slides, Organizational Charts, Excel Charts,
Week14	Word Art, Layering art Objects, Animations and Sounds, Inserting Animated Pictures or Accessing through Object,
Week15	Inserting Recorded Sound Effect or In-Built Sound Effect with Revision
Week16	Revision of whole Syllabus

NAME OF ASSISTANT PROFESSOR: Mrs CHANCHAL RANI

CLASS AND SECTION: …BCA-2ND SEM (A& B)

SUBJECT: Web development -II(24CSC402SE01)

LESSON PLAN: 16 WEEK (FROM feb 2025 TO May 2025)

Week 1:

XML: Introduction – Syntax – Document structure – Document Type definitions – Namespaces – XML schemas – Displaying raw XML documents – Displaying XML documents with CSS – XSLT style sheets – XML Processors – Web services.

Week 2:

ECMA Script: ECMA Script versions, ES5 Features, ES6 introduction, Var Declarations and Hoisting, let declaration, Constant declaration, function with default parameter values, default parameter expressions, unnamed parameters.

Week3:

the spread operator, arrow functions, object destructuring, array destructuring, sets and maps, Array. find(), Array. findIndex(), template strings, Javascript classes, callbacks, promises, async/await.

Week4:

AJAX: What is Ajax? , Why use Ajax?, How Ajax works?, Handling Ajax request and response, data formats: XML, JSON; Working with JSON data, Loading HTML with Ajax, Loading XML with Ajax, Loading JSON with Ajax, working with data from other servers .

Week5:

JQuery : What isJQuery ?, A basic JQuery example, Why use JQuery ?, finding elements, JQuery selection, getting element content, updating elements, changing content

Week 6:

inserting elements, adding new content, getting and setting attributes, getting and setting CSS properties, using .each(), events, event object

Week7:

effects, animating CSS properties, using animation, traversing the DOM, working with forms, JavaScript libraries, JQuery and Ajax.

Week 8:

Web Servers: Introduction, HTTP Transactions, Multitier Application Architecture, Client SideScripting versus Server-Side Scripting, Accessing Web Servers.

Week 9:

Server Side Scripting with Node.js: Getting to know node, node.js changed JavaScript forever, features of node, when to use and not use node,

Week 10:

asynchronous callbacks, the NoSql movement, node and MongoDB in the wild, Hello World in Node, package.json, modules, Built-in Modules: FS Module, HTTP Module, Events; Node Package Manager(npm),

Week 11:

web server using http, node.js with express, middleware, routing in express, CRUD operations in express, web server using express, making it live on Heroku

Week 12:

Node.js with MongoDB: basics of MongoDB, MongoDB CRUD Operations, Building a datamodel with MongoDB and Mongoose, Defining simple mongoose schemas, build node express app with MongoDB.

Week 13:

Introduction to PHP: Basic Knowledge of websites ; Introduction of Dynamic Website ; Introduction to PHP ; Why and Scope of PHP ; XAMPP and WAMP Installation PHP Functions ; PHP Functions

Week 14:

Creating an Array ; Modifying Array Elements ; Processing Arrays with Loops ; Grouping Form Selections with Arrays ; Using Array Functions ; Using Predefined PHP Functions ; Creating User- Defined Functions PHP Programming Basics ; Syntax of PHP ; Embedding PHP in HTML ; Embedding HTML in PHP ;

Week 15:

Introduction to PHP Variable ; Understanding Data Types ; Using Operators ; Using Conditional Statements ; If(), else if() and else if condition Statement ; Switch() Statements ; Using the while() Loop ; Using the for() Loop

Week 16:

revision &test

NAME OF ASSISTANT PROFESSOR:

Mrs CHANCHAL RANI, Anil Saini

CLASS AND SECTION: …BCA-2ND SEM (SECTION-B)

SUBJECT: DIGITAL LOGIC DESIGN(23BCA402DS01)

LESSON PLAN: 16 WEEK (FROM feb 2025 TO May 2025)

Week 1:*Digital Systems and Binary Numbers: Digital Systems: Digital Signals, Digital Waveforms, Digital Computers and Digital Integrated Circuits. Number Systems.*

Week 2:

Binary Number Systems, Octal and Hexadecimal Number System.

Week3:

Number Base Conversions. Complements, Signed Binary Numbers and Binary Codes, Error Detection and Correction codes.

Week4:

Boolean Algebra and Logic Gates: Boolean Algebra: Axiomatic Definition, Theorems and Properties.

Week5:

Boolean Functions, Canonical Standard forms: SOP and POS forms.

Week 6:

Digital Logic Gates: NOT, OR, AND, NOR, NAND, XOR and XNOR. Universal Gates and their implementation

Week7:*Gate Level Minimization: Karnaugh Map (K-map) Method: Simplification: Algebra postulates and Canonical forms.*

Week 8:

Prime Implicants: Types, Determination and Selection of Prime implicants. Don't Care Conditions, NAND and NOR implementation

Week 9:

Combinational Circuits: Introduction, Characteristics and Designing principles of Combinational circuits.

Week 10:

Binary Adder: Half-Adder & Full-Adder, Subtractor: Half-Subtractor & Full-Subtractor,

Week 11:

Parallel binary Adder/Subtractor, Binary Multiplier, Comparators, Multiplexers, De-multiplexers, Encoders and Decoders.

Week 12:
Sequential Circuits: Characteristics of Sequential Circuits, Latches,

Week 13:
Flip-Flops: Introduction, S-R Flip flop, J-K Flip Flop, D Flip flop, T Flip flop and Master Slave Flip flop.

Week 14:
Registers: Shift Registers, Applications of Registers.

Week 15:
Counters: Asynchronous & Synchronous Counters. Modulo-NCounters and Up-Down Counters.

Week 16:

revision &test