

Lesson Plan
Even Semester (Feb.-May 2023)

Name of Teacher :- Lakhvinder Singh

Class and Section :- BCA II Sem IV

Subject Name and Code :- E-Commerce (BCA-243)

1.	07 Feb to 15 Feb	Introduction to E-Commerce:-Business operations; E-commerce practices vs. traditional business practices; concepts of b2b, b2c,c2c,b2g,g2h,g2c; Features of E-Commerce, Types of Ecommerce Systems, Elements of E-Commerce, principles of E-Commerce, Benefits and Limitations of E-Commerce.
2.	16 Feb to 28 Feb	Management Issues relating to e-commerce. Operations of E-commerce: Credit card transaction; Secure Hypertext Transfer Protocol (SHTTP); Electronic payment systems; Secure electronic transaction (SET); SET's encryption; Process; Cybercash; Smart cards; Indian payment models.. Assignment-1
3.	01 March to 15 March	Applications in governance: EDI in governance; E-government; E-Governance applications of Internet; concept of government –to- business, business-to-government and citizen-to-government. TEST-1
4.	16 March to 31 March	E-governance models; Private sector interface in E-governance. Applications in B2C: Consumers shopping procedure on the Internet; Impact on disintermediation and re-intermediation; Global market; Strategy of traditional department stores. Assignment-2
5.	01 April to 15 April	Products in b2c model; success factors of e-brokers; Broker-based services on-line; Online travel tourism services; Benefits and impact of e-commerce on travel industry
6.	16 April to 30 April	Deal estate market; online stock trading and its benefits; Online banking and its benefits; Online financial services and their future; E-auctions – benefits, implementation and impact. TEST-2
7.	01 May to 15 May	Applications in B2B: Key technologies for b2b; architectural models of b2b, characteristics of the supplier –oriented marketplace, buyer-oriented marketplace and intermediary-oriented marketplace; Just In Time delivery in b2b; Internet-based EDI from traditional EDI; Marketing Issues in b2b.
8.	16 May to 26 May	Emerging Business models: Retail model; Media model; advisory model, made-to-order manufacturing model; Do-it- yourself model; Information service model; Emerging hybrid models; Emerging models in India, Internet & E-Commerce scenario in India; Internet security Issues; Legal aspects of E-commerce

Lesson Plan
Even Semester (Feb.-May 2023)

Name of Teacher :- Lakhvinder Singh

Class and Section :- BCA I Sem II

Subject Name and Code :- Office Automation Tools (BCA-124)

1.	07 Feb to 15 Feb	Word Processing: Introduction to Office Automation, Creating & Editing Document, Formatting Document, Auto-text, Autocorrect, Spelling and Grammar Tool, Document Dictionary.
2.	16 Feb to 28 Feb	Page Formatting, Bookmark, Advance Features of Word-Mail Merge, Macros, Tables, File Management, Printing, Styles, linking and embedding object. Assignment-1
3.	01 March to 15 March	Desktop Publishing: Concept, Need and Applications; Hardware and Software requirements for DTP, An Overview and comparison between DTP packages, Common features of DTP. TEST-1
4.	16 March to 31 March	Introduction to Page Maker: Features, System Requirements, Components of Page Maker Window, Introduction to Menu and Toolbars, PageMaker Preferences Assignment-2
5.	01 April to 15 April	Presentation using PowerPoint: Presentations, Creating, Manipulating & Enhancing Slides, Organizational Charts, Excel Charts, Word Art, Layering art Objects.
6.	16 April to 30 April	Animations and Sounds, Inserting Animated Pictures or Accessing through Object, Inserting Recorded Sound Effect or In-Built Sound Effect. TEST-2
7.	01 May to 15 May	Creating of Publications: Starting PageMaker, Setting Page size, Placing the text Formatting the text: Character Specification Paragraph setting: Paragraph Specification, Paragraph Rules, Spacing, Indents/Tabs, Define Styles, Hyphenation, Header & Footer, Page Numbering, Saving and Closing publication.
8.	16 May to 26 May	Editing Publication: Open a publication ,Story editor, Find and change the text, Change character and Paragraph attributes ,spell checking, Selecting text, Cut, Copy, Paste, Paste multiple, Working with columns

Lesson Plan
Even Semester (Feb.-May 2023)

Name of Teacher :- Lakhvinder Singh

Class and Section :- BCA III Sem VI

Subject Name and Code :- Web Designing Using Advanced Tools (BCA-361)

1.	07 Feb to 15 Feb	Microsoft FrontPage: Introduction, Features, Title Bar, Menu bar, FrontPage Tool Bar, Style, FontFace and Formatting Bar, Scroll Bars
2.	16 Feb to 28 Feb	Interactivity Tool - JavaScript: Introduction, Features, Data types, Operators, Statements, Functions, Event Handling, Use of Predefined Object and Methods, Frames, Windows, Tables, Images, Links Assignment-1
3.	01 March to 15 March	XML: Introduction, Features, XML Support and Usage, Structure of XML Documents, Structures in XML, Creating Document Type Declarations, Flow Objects, Working with Text and Font, Color and Background Properties TEST-1
4.	16 March to 31 March	Interactivity Tool - VBScript: Introduction, Features, Variables, Data Types, Numeric and Literal Constants, Arrays, Operators, Subroutine Procedures, Function Procedures, Control Statements, Strings, Message and Input Boxes, Date and Time, Event Handlers, Embedding VBScript in HTML .Assignment-2
5.	01 April to 15 April	Interactivity Tool - Active Script Pages – Introduction, Features, Client-Server Model, Data Types, Decision Making Statements, Control statements, Use of Various Objects of ASP, Various Techniques of Connecting to Database
6.	16 April to 30 April	Other Interactivity Tools - Macromedia Flash, Macromedia Dreamweaver, PHP: Basic Introduction and Features TEST-2
7.	01 May to 15 May	DHTML: Introduction, Features, Events, Dynamic Positioning, Layer Object, Properties of STYLE, Dynamic Styles, Inline Styles, Event Handlers; Cascading Style Sheets (CSS): Basic Concepts, Properties
8.	16 May to 26 May	Creating Style Sheets; Common Tasks with CSS: Text, Fonts, Margins, Links, Tables, Colors; Marquee; Mouseovers; Filters and Transitions; Adding Links; Adding Tables; Adding Forms; Adding Image and Sound; Use of CSS in HTML Documents Linking and Embedding of CSS in HTML Document

Lesson Plan

Even Semester (Feb.-May, 2023)

Name of Teacher :- Dr. Vishal Verma

Class and Section :- BCA-4th Sem

Subject Name and Code :- Relational Data Base Management System (BCA-344)

1.	01 Feb to 15 Feb	Relational Model Concepts, Codd's Rules for Relational Model, Relational Algebra – Selection and Projection, Set Operation, Renaming, Join and Division
2.	16 Feb to 28 Feb	Relational Calculus – Tuple Relational Calculus and Domain Relational Calculus Normalization – Purpose, Data Redundancy and Update Anomalies
3.	01 March to 15 March	Functional Dependencies – Full Functional Dependencies and Transitive Functional Dependencies, Characteristics of Functional Dependencies Decomposition and Normal Forms (1NF, 2NF, 3NF & BCNF) Assignment – 1
4.	16 March to 31 March	SQL: Data Definition and data types, SQL Operators, Specifying Constraints in SQL, Basic DDL, DML and DCL commands in SQL Class Test
5.	01 April to 15 April	Simple Queries, Nested Queries, Tables, Views, Indexes, Aggregate Functions, Clauses Assignment – 2
6.	16 April to 30 April	PL/SQL architecture, PL/SQL and SQL*Plus, PL/SQL Basics, Advantages of PL/SQL, The Generic PL/SQL Block: PL/SQL Execution Environment
7.	01 May to 15 May	PL/SQL Character set and Data Types, Control Structure in PL/SQL, Cursors in PL/SQL, Triggers in PL/SQL, Programming using PL/SQL.
8.	16 May to 26 May	Revision & Problems Handling

Lesson Plan

Even Semester (Feb.-May, 2023)

Name of Teacher :- Dr. Vishal Verma

Class and Section :- BCA-6th Sem

Subject Name and Code :- Advanced Programming with Visual Basic (BCA-365)

1.	01 Feb to 15 Feb	Collections – Adding, Removing, Counting, Returning Items in a Collection, Processing a Collection Working with Forms – Form Properties, Creating, Adding, Removing Forms in Project, Adding Multiple Forms
2.	16 Feb to 28 Feb	Working with Forms – Managing Forms at Run Time, Hiding & Showing Forms, Load & Unload Statements, Drag and Drop Operation, Activate & Deactivate events, Form-load event, Example using Forms, Programs in VB using Forms
3.	01 March to 15 March	Working with Menu – Menu Designing in VB, Adding a Menu to a Form, Modifying and Deleting Menu Items, Adding Access Characters, Adding Shortcut Keys, Manipulating Menus using Common Dialog Box, Attaching Code to Events, Creating Submenus, Dynamic Menu Appearance Assignment – 1
4.	16 March to 31 March	Advanced Controls in VB – Scroll Bar, Slider Control, Tree View, List View, Rich Text Box Control, Toolbar, Status Bar, Progress Bar, Cool bar, Image List Program Development in VB using Menus and Advance Controls Class Test
5.	01 April to 15 April	File Handling & File Controls – Sequential & Random files, Opening and Closing Data Files, Viewing the Data in a File, Performing Operations on a File, Creating a Sequential Data File, Writing Data to a Sequential File, Reading the Data in a Sequential File, Finding the End of a Data File, Locating a File, Reading and Writing a Random File (get, put, LOF, seek) Assignment – 2
6.	16 April to 30 April	Working with Graphics – Using Paint, Line, Circle, Manipulating Graphics Program Development in VB using Files and Graphics
7.	01 May to 15 May	Accessing Databases – Data Controls, Data-Bound Controls, DAO, RDO, ADO, Creating the Database, Setting Properties, Applying Operations on Database, Viewing the Database, Updating the Database (adding, deleting records) Program Development in VB using Database and Advance Controls
8.	16 May to 26 May	Revision & Problems Handling

Lesson Plan

Even Semester (Feb.-May, 2023)

Name of Teacher :- Dr. Vishal Verma

Class and Section :- M.Sc.-2nd Sem

Subject Name and Code :- JAVA Programming (MS 15-21)

1.	01 Feb to 15 Feb	Introduction to Java – Importance and features of Java, Java virtual machine, Byte code, JDK, Keywords, constants, variables and Data Types, Operators and Expressions, Decision Making, Branching and Looping, Jump statements – break, continue, return.
2.	16 Feb to 28 Feb	Introducing classes, objects and methods – defining a class, adding variables and methods, creating objects, constructors, class inheritance. Arrays and String – Creating an array, one and two dimensional arrays, string array and methods
3.	01 March to 15 March	Packages and interfaces, Exception Handling – Fundamentals exception types, uncaught exceptions, throw exception, built in exception, creating your own exceptions Assignment – 1
4.	16 March to 31 March	Multithreaded Programming – Fundamentals, Java thread model: synchronization, messaging, thread classes, Runnable interface, inter thread Communication, suspending, resuming and stopping threads. Class Test
5.	01 April to 15 April	I/O Streams – String and String Buffer classes, Wrapper classes: Basics types, using super, Multilevel hierarchy abstract and final classes. Input/Output Programming – Basics, Streams, Byte and Character Stream, predefined streams, Reading and writing from console and files. Assignment – 2
6.	16 April to 30 April	Event Handling – Different Mechanism, the Delegation Event Model, Event Classes, Event Listener Interfaces, Adapter and Inner Classes
7.	01 May to 15 May	Working with windows, Graphics and Text, using AWT controls, Layout managers and menus, handling Image, animation, sound and video, Java Applet. Beans – Introduction to Java Beans and Swings.
8.	16 May to 26 May	Revision & Problems Handling

Lesson Plan

Even Semester (Feb.-May, 2023)

Name of Teacher :- Dr. Vishal Verma

Class and Section :- M.Sc.-2nd Sem

Subject Name and Code :- Software Lab – III based on MS 15-21

1.	01 Feb to 15 Feb	<ol style="list-style-type: none"> 1. WAP to print Welcome Message. 2. WAP to demonstrate the concept of classes and objects. 3. WAP to implement Constructors.
2.	16 Feb to 28 Feb	<ol style="list-style-type: none"> 1. WAP to implement Method Overloading. 2. WAP to implement Constructor Overloading. 3. WAP to demonstrate the concept of Object Passing and Returning. 4. WAP to demonstrate Call by Value and Call by Reference. 5. WAP to demonstrate the use of static keyword and static block.
3.	01 March to 15 March	<ol style="list-style-type: none"> 1. WAP to demonstrate the use of Command Line Arguments in Java. 2. WAP to find the largest number from given n numbers using 1-D arrays. 3. WAP to find the addition of two matrices 4. WAP to demonstrate Single Inheritance 5. WAP to demonstrate Hierarchical Inheritance 6. WAP to implement Multi-Level Inheritance 7. WAP to implement Method Overriding in Java
4.	16 March to 31 March	<ol style="list-style-type: none"> 1. WAP to demonstrate the concept of Dynamic Method Dispatch 2. WAP to illustrate the concept of Abstract classes in Java 3. WAP to illustrate the concept of packages in Java 4. WAP to illustrate the concept of interfaces in Java 5. WAP to illustrate the concept of multi-threading in Java 6. WAP to illustrate the concept of Synchronization in Java
5.	01 April to 15 April	<ol style="list-style-type: none"> 1. WAP to illustrate the concept of exception handling in Java using try catch block 2. WAP to illustrate the concept of using multiple catch blocks for exception handling. 3. WAP to illustrate the concept of using nested try blocks for exception handling. 4. WAP to illustrate the use of throw and throws statement for exception handling. 5. WAP to demonstrate own exception classes.

6.	16 April to 30 April	<ol style="list-style-type: none">1. WAP to illustrate various String Operation in Java2. WAP to demonstrate Java Applets.3. WAP to demonstrate the Event Handling for ActionEvent, MouseEvent, ItemEvent and AdjustmentEvent using Frames.
7.	01 May to 15 May	<ol style="list-style-type: none">1. WAP to demonstrate the use of various Layout Managers.2. WAP to demonstrate the Menus in Java.3. WAP to create simple calculator in Java using Frame and Event Handling.
8.	16 May to 26 May	Revision & Problems Handling

Lesson Plan

Even Semester (Feb.-May, 2023)

Name of Teacher :- Dr. Vishal Verma

Class and Section :- BCA-6th Sem

Subject Name and Code :- Lab II based on BCA-355 and BCA-365

1.	01 Feb to 15 Feb	1. WAP to demonstrate Collections in VB 2. WAP to illustrate working with Multiple Forms in VB
2.	16 Feb to 28 Feb	1. WAP to illustrate Drag and Drop operations in VB 2. WAP to demonstrate the use of Menus in VB
3.	01 March to 15 March	1. WAP to illustrate the use of pop-up menu in VB 2. WAP to demonstrate the use of Color and Font dialog box in VB
4.	16 March to 31 March	1. WAP to demonstrate the use of StatusBar and ToolBar in VB 2. WAP to illustrate the use of Progress Bar in VB
5.	01 April to 15 April	1. WAP for Temperature Conversion from Fahrenheit to Celsius using Scrollbar. 2. WAP to draw the Happy Face using various Graphics Methods
6.	16 April to 30 April	1. WAP to illustrate the Reading and Writing a Sequential File in VB 2. WAP to illustrate the Reading and Writing a Random File in VB
7.	01 May to 15 May	1. WAP to illustrate the Database navigation and modification using DAO control 2. WAP to illustrate the Database navigation and modification using ADO control
8.	16 May to 26 May	Revision & Problems Handling

Note:-

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Lesson Plan
Even Semester (Feb.-May 2023)

Name of Teacher :- Priyanka

Class and Section :- MSc computer science (software)

Subject Name and Code :- LINUX AND SHELL PROGRAMMING MS-15-22

1.	07 Feb to 15 Feb	Introduction to Unix/Linux: Evolution of Unix/Linux, Unix/Linux distributions, Linux/Unix operating system, Linux/Unix architecture, Features of Linux/Unix, Interfacing with Unix/Linux system.
2.	16 Feb to 28 Feb	Commands in Unix/Linux: General-Purpose commands, File oriented commands, directory oriented commands, Communication-oriented commands, process oriented commands and other commonly used commands. Assignment-1
3.	01 March to 15 March	Regular expressions & Filters in Linux: Regular expressions and their use, Simple filters viz. more, wc, diff, sort, uniq, grep, sed, etc TEST-1
4.	16 March to 31 March	Linux/Unix file system: Linux/Unix files, inodes and structure and file system, file system components, standard file system, file system types, file system mounting and unmounting. Assignment-2
5.	01 April to 15 April	Processes in Linux : starting and stopping processes, initialization Processes, mechanism of process creation, job control - at, batch, cron, time, Signal handling
6.	16 April to 30 April	System Calls: creat, open, close, read, write, lseek, link, unlink, stat, fstat, umask, chmod, exec, fork, wait, system TEST-2
7.	01 May to 15 May	Basic system administration in Linux/Unix
8.	16 May to 26 May	Shell Programming: vi editor, shell variables, I/O in shell, control structures, loops, subprograms, command line programming, creating shell scripts.

Lesson Plan
Even Semester (Feb.-May 2023)

Name of Teacher :- Priyanka

Class and Section :- BCA

Subject Name and Code :- Operating System- II (BCA-362)

1.	01 Feb to 15 Feb	Directory Structure: Single Level, Two Level, Tree Structures, Acyclic Graph, General Graph; Directory Implementation, Recovery
2.	16 Feb to 28 Feb	Secondary Storage Structure: Disk Structure, Disk Scheduling: FCFS, SSTF, SCAN, C-SCAN, LOOK; Selection of Disk Scheduling Algorithm; Disk Management; Swap Space Management Assignment-1
3.	01 March to 15 March	Network Operating Systems: Remote Login, Remote File Transfer; Distributed Operating System: Data Migration, Computation Migration, Process Migration. TEST-1
4.	16 March to 31 March	The Critical Section Problem – Single Process/Two Process Solutions; Semaphores – Types, Implementation, Deadlocks and Starvation; Classical Problems of Synchronization – The Bounded Buffer Problem, The Readers and Writers Problem, The Dining- Philosophers Problem, Critical Regions, Monitors Assignment-2
5.	01 April to 15 April	Linux: Introduction, Features, Architecture, Distributions, Accessing Linux System, Login/Logout/Shutting Down, Comparison of Linux with other Operating Systems,
6.	16 April to 30 April	Commands in Linux: General-Purpose Commands, File Oriented Commands, Directory Oriented Commands, Communication Oriented Commands, Process Oriented Commands, Redirection of Input and Output, Pipes TEST-2
7.	01 May to 15 May	Linux File System: Types of Files in Linux, File Attributes, Structure of File System, inode, File Permission, File System Components, Standard File System, File System Types, Disk Related Commands Processes in Linux: Introduction, Job Control in Linux using at, batch, cron & time commands
8.	16 May to 26 May	The vi editor: Introduction, Modes of vi Editor, Command in vi Editor Shell Programming: Introduction, Shell Variables, Shell Keywords, Operators, Assigning Values to the Variables, I/O in Shell, Control Structures, Creating & Executing Shell Programs in Linux.

<u>Lesson Plan</u> Even Semester (Feb.-May 2023)		
Name of Teacher :- Priyanka		
Class and Section :- BSc. (CS)		
Subject Name and Code :- Operating System (Paper II)		
1.	01 Feb to 15 Feb	Introduction: operating system, architecture, functions, characteristics, historical evolution, types: Serial batch, multiprogramming, time sharing, real time, distributed and parallel. OS as resource Manager.
2.	16 Feb to 28 Feb	Computer system structures: I/O structure, storage structure, storage hierarchy. Operating system structure: system components, services, system calls, system programs, system structures Assignment-1
3.	01 March to 15 March	Process management: process concepts, process state, process control block, operations, process scheduling, inter process communication. CPU Scheduling: scheduling criteria, levels of scheduling, scheduling algorithms, multiple processor scheduling. TEST-1
4.	16 March to 31 March	. Deadlocks: Characterization, methods of handling, deadlock detection, prevention, avoidance, recovery. Assignment-2
5.	01 April to 15 April	Storage Management: memory management of single-user and multiuser operating system, partitioning, swapping, paging and segmentation, virtual memory, Page replacement Algorithms, Thrashing
6.	16 April to 30 April	Process synchronization: critical section problems, semaphores. Mutual exclusion TEST-2
7.	01 May to 15 May	Disk scheduling, Disk structure, Disk management, File Systems: Functions of the system,
8.	16 May to 26 May	Disk scheduling, Disk structure, Disk management, File Systems: Functions of the system,

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Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Dr. Neha Saini

Class and Section :- B.Sc. IInd Year (4th Semester)

Subject Name and Code :- Paper I Object Oriented Programming with C++

1.	01 Feb to 15 Feb	Object oriented Programming: Object-Oriented programming features and benefits. Object-Oriented features of C++, Class and Objects, Data Hiding & Encapsulation, Structures
2.	16 Feb to 28 Feb	Data members and Member functions, Scope resolution operator and its significance, Static Data Members, Static member functions, Nested and Local Class, Accessing Members of Class and Structure. Assignment 1
3.	01 March to 15 March	Constructor, Initialization using constructor, types of constructor–Default, Parameterized & Copy Constructors, Constructor overloading, Default Values to Parameters, Destructors, Console I/O: Hierarchy of Console Stream Classes, Unformatted and Formatted I/O Operations. Test 1
4.	16 March to 31 March	Manipulators, Friend Function, Friend Class, Arrays, Array of Objects, Passing and Returning Objects to Functions, String Handling in C++,
5.	01 April to 15 April	Dynamic Memory Management: Pointers, new and delete Operator, Array of Pointers to Objects, this Pointer, Passing Parameters to Functions by Reference & pointers. Assignment 2
6.	16 April to 30 April	Static Polymorphism: Operators in C++, Precedence and Associativity Rules, Operator Overloading, Unary & Binary Operators Overloading. Test 2
7.	01 May to 15 May	Function Overloading, Inline Functions, Merits/Demerits of Static Polymorphism
8.	16 May to 26 May	Revision of Complete Syllabus

Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Dr. Neha Saini

Class and Section :- BCA Ist Year (2nd Semester)

Subject Name and Code :- BCA-125 Structured System Analysis and Design

1.	01 Feb to 15 Feb	System Concept: Definition, Characteristics, Elements of system, Physical and abstract system, open and closed system, man-made information systems.
2.	16 Feb to 28 Feb	System Development Life Cycle: Various phases of system development, Considerations for system planning and control for system success, Role of system analyst. Assignment 1
3.	01 March to 15 March	System Planning: Bases for planning in system analysis: Dimensions of Planning. Initial Investigation: Determining user's requirements and analysis, fact finding process and techniques. Test 1
4.	16 March to 31 March	Tools of structured Analysis: Data Flow diagram, data dictionary, IPO and HIPO charts, Gantt charts, pseudo codes, Flow charts, decision tree, decision tables. Feasibility study: Technical, Operational & Economic Feasibilities.
5.	01 April to 15 April	Cost/Benefit Analysis: Data analysis cost and benefit analysis of a system, Input/ Output and Form Design, File Organization and database design: Introduction to files and database, File structures and organization, objectives of database design, logical and physical view of data. Assignment 2
6.	16 April to 30 April	System testing: Introduction, objectives of testing, test planning, testing techniques. Quality assurance: Goal of quality assurance, levels of quality assurance Test 2
7.	01 May to 15 May	System implementation and software maintenance: primary activities in maintenance, reducing maintenance costs.
8.	16 May to 26 May	Revision of Complete Syllabus

Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Dr. Neha Saini

Class and Section :- M.Sc. Ist Year (2nd Semester)

Subject Name and Code :- MS-15-23 Theory of Computation

1.	01 Feb to 15 Feb	Computability and Non-computability and examples of non-computable problems, Russel's paradox, Finite State System, Extended Transition Function, Designing of DFA and NDFA, Finite Automata with E-Transitions, Equivalence of DFA and NFA with proof
2.	16 Feb to 28 Feb	Regular Expression, Laws of Regular Expressions, Kleene's Theorem 1 and 2, Properties and Limitations of FSM, FSM with Output: Moore and Mealy Machines, Arden's Theorem with proof, Closure Properties of Regular Sets, Application of Pumping Lemma, Myhill-Nerode Theorem, Minimization of FA. Assignment 1
3.	01 March to 15 March	Grammar: Definition, Chomsky Classification of Grammars, Construction of Context Free Grammar, Derivation, Parse Trees, Ambiguity, Removal of Ambiguity, Simplification of Context Free Grammar, CNF and GNF, Closure properties of CFL, Pumping Lemma for CFL. Test 1
4.	16 March to 31 March	Pushdown Automaton: Introduction, Types of PDA, Designing of PDA's, Conversion from PDA to CFG and vice-versa, Applications, Parsing: Early's, Cook-Kasami-Young, Tomito's, top-down and bottom-up methods. Linear Bounded Automata (LBA), Turing machines, variants of TMs, Restricted TMs, TMs and Computers.
5.	01 April to 15 April	Recursive and recursively- enumerable languages and Properties. Decidability: Post's correspondence problem, Rice's theorem, decidability of membership, emptiness and equivalence problems of languages. Assignment 2
6.	16 April to 30 April	Random Access Machines, Decidable languages, decidable problems, The halting problem, Diagonalization method, Undecidable problems for Regular expressions, Turing machines and other undecidable problems. Test 2
7.	01 May to 15 May	Reducibility: The Set NP and Polynomial Verifiability, Polynomial-Time Reductions and NP-Completeness, The Cook-Levin Theorem, Some Other

		NP-Complete Problems, Reduction, mapping reducibility.
8.	16 May to 26 May	Computational Complexity: Primitive recursive functions, computable functions, examples, Recursion theorem. Tractable and Intractable problems, Theory of Optimization. Revision of Complete Syllabus

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Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Sandeepi

Class and Section :- BCA 2nd Year

Subject Name and Code :- Management Information System(BCA-246)

1.	01 Feb to 15 Feb	Introduction to system and Basic System Concepts, Types of Systems, The Systems Approach, Information System: Definition & Characteristics.
2.	16 Feb to 28 Feb	Types of information, Role of Information in Decision-Making, Sub-Systems of an Information system: EDP and MIS management levels, EDP/MIS/DSS.
3.	01 March to 15 March	An overview of Management Information System: Definition & Characteristics, Components of MIS, Frame Work for Understanding MIS.
4.	16 March to 31 March	Information requirements & Levels of Management, Simon's Model of decision-Making, Structured Vs Un-structured decisions, Formal vs. Informal systems.
5.	01 April to 15 April	Developing Information Systems: Analysis & Design of Information Systems.
6.	16 April to 30 April	Implementation & Evaluation, Pitfalls in MIS Development, Functional MIS: A Study of Personnel,
7.	01 May to 15 May	Financial and production MIS, Introduction to e-business systems, ecommerce – technologies, applications,
8.	16 May to 26 May	Decision support systems – support systems for planning, control and decision-making

Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Sandeepi

Class and Section :- BCA 3rd Year

Subject Name and Code :- Internet Technology(BCA-364)

1.	01 Feb to 15 Feb	Internet: Introduction; History; Internet Services; TCP/IP: Architecture, Layers, Protocols; TCP/IP model versus OSI Model; World Wide Web (WWW) - The Client Side, The Server Side, Creating and Searching Information on the Web.
2.	16 Feb to 28 Feb	Popular Search Engines, URL, HTTP, Web Browsers, Chat & Bulletin Board, USENET & NNTP (Network News Transfer Protocol); Internet vs. Intranet. Test 1.
3.	01 March to 15 March	TCP, UDP and IP Protocols, Port Numbers; Format of TCP, UDP and IP; IPv4 addressing; The need for IPv6; IPv6 addressing and packet format; TCP Services; TCP Connection Management; Remote Procedure Call.
4.	16 March to 31 March	IP Address Resolution- DNS; Domain Name Space; DNS Mapping; Recursive and Iterative Resolution; Mapping Internet Addresses to Physical Addresses: ARP, RARP, DHCP; ICMP; IGMP.
5.	01 April to 15 April	Application Layer: Electronic Mail: Architecture; Protocols - SMTP, MIME, POP, IMAP; Web Based Mail; File Access and Transfer: FTP.
6.	16 April to 30 April	Anonymous FTP, TFTP, NFS; Remote Login using TELNET; Voice and Video over IP: RTP, RTCP, IP Telephony and Signaling, RSVP. Test 2.
7.	01 May to 15 May	Routing in Internet: RIP, OSPF, BGP; Internet Multicasting; Mobile IP; Private Network Interconnection: Network Address Translation (NAT),
8.	16 May to 26 May	Virtual Private Network (VPN); Internet Management and SNMP; Internet Security: E-Mail Security; Web Security; Firewall; Introduction to IPsec and SSL.

Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Sandeepi

Class and Section :- MSc 1st Year

Subject Name and Code :- Compiler Design(MS-15-24)

1.	01 Feb to 15 Feb	Compilers and Translators, Need of Translators, Tools used for compilation, Structure and Phases of Compiler, Single-Pass and Multi-Pass Compilers, Bootstrapping, Compiler Construction Tools. Bootstrap compilers, Phases of Compilation process. Lexical Analysis: Design of Lexical Analyzer.
2.	16 Feb to 28 Feb	Finite Automata and Regular Expressions, Lex package on UNIX systems. Process of Lexical Analysis, Recognition of Regular Expressions. Syntax-Directed Translation: Translation Schemes, Implementation of Syntax-Directed Translators, Intermediate code and its need, Postfix Notation.
3.	01 March to 15 March	Parse Trees and Syntax Trees, Three-address code and its representations, Boolean Expressions, Flow of Control. Symbol Table: Contents of Symbol Table, Data Structures used for symbol table, Representing scope information.
4.	16 March to 31 March	Run Time Storage Administration: Types of Storage Allocation Schemes, Implementation of Stack Allocation Scheme, Implementation of Block Structured Languages, Storage Allocation in Block Structured Languages. Error Detection and Recovery: Errors, Lexical-Phase Errors, Syntactic Phase Errors, Semantic Errors. Parsing Techniques: Top down & Bottom-up parsing.
5.	01 April to 15 April	Shift Reduce parsing, Operator Precedence parsing, Predictive Parsers. Left Recursion and its removal, Recursive Descent parser, Automatic Construction of efficient Parsers: LR parsers, the Canonical Collection of LR(0) items.
6.	16 April to 30 April	Constructing SLR parsing tables, Constructing Canonical LR parsing tables, Constructing LALR parsing tables, Using Ambiguous Grammars, an Automatic Parser Generator, Implementation of LR parsing tables, Constructing LALR sets of items. YACC package on UNIX systems.
7.	01 May to 15 May	Intermediate Code Generation: Object programs, Issues in the design of a code generator, Intermediate languages, Quadruples, Generating intermediate code for declarative statement, Register Allocation and Assignment statement, Boolean expression, and case statement, peephole optimization.
8.	16 May to 26 May	Code Optimization: Principle sources of Optimization, optimization of basic blocks, Loop Optimizations, DAG Representation of Basic Blocks, Loop Invariant Computation, Reducible Flow Graphs, Global Data Flow Analysis, code improving transformation.

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Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Mr. Dinesh Parkash

Class and Section :- BCA Semester – IV

Subject Name and Code :- BCA-241 Advanced Data Structures

1.	01 Feb to 15 Feb	Graph: Introduction, Graph theory terminology, Sequential and linked representation of graphs, operations on graphs, traversal algorithms in graphs and their implementation
2.	16 Feb to 28 Feb	Warshall's algorithm for shortest path, Dijkstra algorithm for shortest path. Tree: Introduction, Definition, Representing Binary tree in memory, Traversing binary trees.
3.	01 March to 15 March	Traversal algorithms using stacks, Binary search trees: introduction, storage, Searching, Insertion and deletion in a Binary search tree, Huffman's algorithm, General trees.
4.	16 March to 31 March	Files: Introduction Attributes of a file, Classification of files, File operations, Comparison of various types of files.
5.	01 April to 15 April	File organization: Sequential, Indexed-sequential, Random-access file. Hashing: Introduction, Collision resolution.
6.	16 April to 30 April	Sorting: Internal & external sorting, Radix sort, Quick sort, Heap sort.
7.	01 May to 15 May	Merge sort, Tournament sort, Comparison of various sorting and searching algorithms on the basis of their complexity.
8.	16 May to 26 May	Revision

Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Mr. Dinesh Parkash

Class and Section :- PGDCA

Subject Name and Code :- CS-DE-13 DATA STRUCTURES

1.	01 Feb to 15 Feb	Introduction to Data Structures: Elementary data organization, Data structure operations, Algorithm complexity and time-space tradeoff, Classification of data structures.
2.	16 Feb to 28 Feb	String Processing: Storing strings, String operations, Pattern matching algorithms. Arrays: Linear arrays, Operations on arrays, Multidimensional arrays, Storage of arrays, Matrices, Sparse Matrices.
3.	01 March to 15 March	Linked Lists: Representation of linked list in memory, Traversal, Searching, Insertion, Deletion, Sorted Linked List, Header List, Two – Way List.
4.	16 March to 31 March	Stacks, Queues, Linked and Array representation of Stacks, Queues, and Dequeues, Priority Queues, Operations on stacks and queues.
5.	01 April to 15 April	Applications of stacks: Recursion, Polish Notation, Quicksort. Trees: Binary Trees, Representation of binary trees in memory, Threaded Binary Trees, Balanced Tree.
6.	16 April to 30 April	Different tree traversal algorithms, Binary Search Tree: Searching, Insertion, and deletion in a Binary search tree, Heap Sort.
7.	01 May to 15 May	Representation of Graphs and Applications: Adjacency Matrix, Path Matrix, Warshall's Algorithm, Linked Representation of a Graph, Traversing a Graph.
8.	16 May to 26 May	Sorting and Searching: Radix Sort, Merge Sort, Linear Search, Binary Search, Insertion Sort, Selection Sort, Bubble Sort.

Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Mr. Dinesh Parkash

Class and Section :- PGDCA

Subject Name and Code :- CS-DE- 15 Operating System

1.	01 Feb to 15 Feb	Introductory Concepts: Operating system functions and characteristics, historical evolution of operating systems, Real time systems, Distributed systems, O/S services, system calls, system programs.
2.	16 Feb to 28 Feb	CPU Scheduling: Process concept, Process scheduling, scheduling criteria, Scheduling algorithms.
3.	01 March to 15 March	Deadlocks: Deadlock characterization, Deadlock prevention and avoidance, Deadlock detection and recovery.
4.	16 March to 31 March	Storage Management: Storage allocation methods: Single contiguous allocation, Multiple contiguous allocation, Paging; Segmentation, Virtual memory concepts, Demand Paging, Page replacement Algorithms, Thrashing.
5.	01 April to 15 April	File Systems: File concept, File access and allocation methods, Directory Systems: Structured Organizations. Hardware Management: Disk scheduling policies.
6.	16 April to 30 April	Protection: Goals of protection, principles of protection, domain of protection, access matrix & its implementation, revocation of access rights.
7.	01 May to 15 May	Windows: Features of Windows; Various versions of Windows & its use; My Computer & Recycle bin; Desktop, Icons and Windows Explorer; Dialog Boxes & Toolbars;
8.	16 May to 26 May	Working with Files & Folders; simple operations like copy, delete, moving of files and folders from one drive to another, Accessories and Windows Settings using Control Panel. Linux: Linux architecture, Features of Linux, Simple Commands in Linux.

Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Mr. Dinesh Parkash

Class and Section :- M.Sc. CS (Software)

Subject Name and Code :- MS-15-44 CLOUD COMPUTING

1.	01 Feb to 15 Feb	Cloud Computing: Definition, roots of clouds, characteristics, Cloud Architecture – public, private, hybrid, community, advantages & disadvantages of Cloud Computing.
2.	16 Feb to 28 Feb	Migrating into a Cloud: broad approaches, seven-step model to migrate Virtualization: benefits & drawbacks of virtualization, virtualization types – operating system virtualization, platform virtualization, storage virtualization, network virtualization, application virtualization, virtualization technologies.
3.	01 March to 15 March	Cloud Services & Platforms: Compute services, Storage services Database services, Application Services, Queuing services, E-mail services, Notification services, Media services, Content delivery services, Analytics services.
4.	16 March to 31 March	Deployment & management services, Identity & access management services. Case studies of these services. Federated & Multimedia Cloud Computing: architecture, features of federation types, federation scenarios, layers enhancement of federation; Multimedia Cloud.
5.	01 April to 15 April	SLA Management in Cloud Computing: traditional approaches to SLA management, types of SLA, life cycle of SLA, SLA management in cloud, automated policy-based management.
6.	16 April to 30 April	Cloud Security: challenges, CSA cloud security architecture, authentication, authorization, identity & access management, data security, auditing. Legal Issues in Cloud Computing: data privacy and security issues, cloud contracting models.
7.	01 May to 15 May	Developing for Cloud: Design considerations for cloud applications, reference architectures for cloud applications, cloud application design methodologies, data storage approaches
8.	16 May to 26 May	Python for Cloud: Python characteristics, data types & data structures, control flows, functions, modules, packages, file handling, date/time operations, classes, Python web application framework – Django.

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Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Dr. Navneet Garg

Class and Section :- BCA-2nd Sem

Subject Name and Code :- Advanced Programming in C and BCA-121

1.	01 Feb to 15 Feb	Strings in 'C': Introduction, Declaration and initialization of string, String I/O, Array of strings, String manipulation functions: String length, copy, compare, concatenate, search for a substring.
2.	16 Feb to 28 Feb	Structure and Union: Introduction, Features of structures, Declaration and initialization of structures, Structure within structure, Array of structures, Structure and functions. Union: Introduction, Union of structures. Typedef, Enumerations.
3.	01 March to 15 March	Pointers: Introduction, Pointer variables, Pointer operators, Pointer assignment, Pointer conversions, Pointer arithmetic, Pointer comparison.
4.	16 March to 31 March	Pointers and arrays, Pointers and functions, Pointers and strings, Pointer to pointer, dynamic allocation using pointers.
5.	01 April to 15 April	Files: Introduction, File types, File operations, File I/O, Structure Read and write in a file, Errors in file handling.
6.	16 April to 30 April	Random-access I/O in files. Preprocessor: Introduction, #define, macros, macro versus functions, #include, Conditional compilation directives.
7.	01 May to 15 May	Undefining a macro. Command line arguments: defining and using command line arguments.
8.	16 May to 26 May	Revision and Test.

Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Dr. Navneet Garg

Class and Section :- M.Sc.- 4th Sem

Subject Name and Code :- ADVANCED WEB TECHNOLOGY and MS-15-41

1.	01 Feb to 15 Feb	Introduction: Web Browsers, Caching, Downloading and Rendering, Persistent Connections, DNS caching and prefetching, CSS Expressions and performance, Buffering, Weblog.
2.	16 Feb to 28 Feb	Optimization and Security: Parallel Downloading, Controlling caches, Content compression, Control size with minification, Optimizing images, Load balancers, Tuning MYSQL, Using query caching, Optimizing query execution and optimization, Marketing of Website: traffic generation, Newsletters; Security: SQL: query log, SQL injections.
3.	01 March to 15 March	Search engines: Searching techniques used by search engines, keywords, advertisements, Search engine optimization for individual web pages: header entries, tags, selection of URL, alt tags, Search engine optimization for entire website: Hyperlinks and link structure, page rank of Google, click rate, residence time of website, frames, scripts, content management system, cookies, robots.
4.	16 March to 31 March	Pitfalls in Optimization: optimization and testing, keyword density, doorway pages, duplicate contents, quick change of topics, broken links, poor readability, rigid layouts, navigation styles; tools for optimization: etracking, Google analytics, checklists.
5.	01 April to 15 April	Introduction to JavaScript: Introduction, Obtaining user inputs, memory concepts, Operators, Control Structures, Looping constructs, break, continue statements, Programmer defined functions, Scoping rules, Recursion and iteration.
6.	16 April to 30 April	Array declaration and allocation, passing arrays to function, Objects: String, Date, Boolean, Window, document; using cookies, Handling Events Using JavaScript.
7.	01 May to 15 May	Introduction to PHP: Installing and Configuring MySQL and PHP, Basic Security Guidelines, Variables, Data Types, Operators and Expressions, Constants, Flow Control Functions; Switching Flow, Loops, Code Blocks and Browser Output, Objects, Strings Processing, Form processing, Connecting to database, using cookies, dynamic contents.
8.	16 May to 26 May	Revision and Test.

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Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Dr.Mukul Sharma

Class and Section :- BCA IInd Sem

Subject Name and Code :- BCA-122 Logical Organization of Computers-II

1.	01 Feb to 15 Feb	Sequential Logic: Characteristics, Flip-Flops, Clocked RS, D type, JK
2.	16 Feb to 28 Feb	T type and Master-Slave flip-flops. State table, state diagram. Flip-flop excitation tables
3.	01 March to 15 March	Sequential Circuits: Designing registers – Serial Input Serial Output (SISO), Serial Input Parallel Output (SIPO), Parallel Input Serial Output (PISO), Parallel Input Parallel Output(PIPO) and shift registers
4.	16 March to 31 March	Designing counters – Asynchronous and Synchronous Binary Counters, Modulo-N Counters and Up-Down Counters
5.	01 April to 15 April	Memory & I/O Devices: Memory Parameters, Semiconductor RAM, ROM
6.	16 April to 30 April	Magnetic and Optical Storage devices, Flash memory, I/O Devices and their controllers.
7.	01 May to 15 May	Instruction Design & I/O Organization: Machine instruction, Instruction set selection ,Instruction cycle, Instruction Format and Addressing Modes
8.	16 May to 26 May	I/O Interface, Interrupt structure, Program-controlled, Interrupt-controlled & DMA transfer, I/O Channels, IOP

Lesson Plan Even Semester (Feb.-May 2023)

Name of Teacher :- Dr.Mukul Sharma

Class and Section :- BCA 4th Sem

Subject Name and Code :- **BCA – 242 Advanced PROGRAMMING USING C++**

1.	01 Feb to 15 Feb	Dynamic Polymorphism: Function Overriding, Virtual Function and its Need, Pure Virtual Function
2.	16 Feb to 28 Feb	Abstract Class, Virtual Derivation, Virtual Destructor
3.	01 March to 15 March	Type Conversion: Basic Type Conversion, Conversion between objects and basic types, Conversion between objects of different classes
4.	16 March to 31 March	Inheritance: Rules of Derivations – Private, Protected and Public Derivations
5.	01 April to 15 April	Different Forms of Inheritance – Single, Multiple, Multilevel, Hierarchical and Multipath Inheritance Roles of Constructors
6.	16 April to 30 April	Destructors in Inheritance, Genericity in C++: Templates in C++, Function templates
7.	01 May to 15 May	Class templates in C++, Exception Handling in C++: try, throw and catch, Files I/O in C++, Class Hierarchy for Files I/O, Text versus Binary Files
8.	16 May to 26 May	Opening and Closing Files, File Pointers, Operation on files

Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Dr. Mukul Sharma

Class and Section :- BSC (CS) 2nd Sem

Subject Name and Code :- Logical Organization of Computers

1.	01 Feb to 15 Feb	Number Systems, Binary Arithmetic, Fixed-point and Floating point representation of numbers, BCD Codes
2.	16 Feb to 28 Feb	Error detecting and correcting codes, Character Representation – ASCII, EBCDIC
3.	01 March to 15 March	Boolean Algebra, Boolean Theorems, Boolean Functions and Truth Tables, Canonical and Standard forms of Boolean functions
4.	16 March to 31 March	Simplification of Boolean Functions –Venn Diagram, Karnaugh Maps
5.	01 April to 15 April	Digital Logic: Basic Gates – AND, OR, NOT, Universal Gates – NAND, NOR, Other Gates – XOR, XNOR
6.	16 April to 30 April	Combinational Circuits: Half-Adder, Full-Adder, Half-Subtractor, Full-Subtractor, Encoders, Decoders, Multiplexers, Demultiplexers, Comparators, Code Converters.
7.	01 May to 15 May	Sequential Logic: Characteristics, Flip-Flops, Clocked RS, D type, JK, T type and Master-Slave flip-flops. State table, state diagram. Flip-flop excitation tables
8.	16 May to 26 May	Serial Input Parallel Output (SIPO) Parallel Input Parallel Output (PIPO) Designing counters – Asynchronous and Synchronous Binary Counters, Modulo-N Counters and Up-Down Counters

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Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Amarpreet Singh

Class and Section :- BCA-III

Subject Name and Code :- Computer Graphics

1.	01 Feb to 15 Feb	Introduction to Computer Graphics; Interactive and Passive Graphics; Applications of Computer Graphics; Display Devices: CRT; Random Scan, Raster Scan, Refresh Rate and Interlacing, Bit Planes, Color Depth, Color Palette, Color CRT Monitor, DVST,
2.	16 Feb to 28 Feb	Flat-Panel Displays: Plasma Panel, LED, LCD; Lookup Table, Interactive Input Devices, Display Processor, General Purpose Graphics Software, Coordinate Representations;
3.	01 March to 15 March	Point-Plotting Techniques: Scan Conversion, Scan-Converting a Straight Line: The Symmetrical DDA, The Simple DDA, Bresenham's Line Algorithm; Scan-Converting a Circle: Circle drawing using Polar Coordinates,
4.	16 March to 31 March	Bresenham's Circle Algorithm, Scan-Converting an Ellipse: Polynomial Method, Trigonometric Method; Polygon Area Filling: Scan-line Fill and Flood Fill Algorithms;
5.	01 April to 15 April	Two-Dimensional Graphics Transformation: Basic Transformations: Translation, Rotation, Scaling; Matrix Representations and Homogeneous Coordinates; Other Transformations: Reflection, Shearing; Coordinate Transformations;
6.	16 April to 30 April	Composite Transformations; Inverse Transformation; Affine Transformations; Raster Transformation; Graphical Input: Pointing and Positioning Devices and Techniques
7.	01 May to 15 May	Two-Dimensional Viewing: Window and Viewport, 2-D Viewing Transformation Clipping: Point Clipping; Line Clipping: Cohen-Sutherland Line Clipping Algorithm, Mid-Point Subdivision Line Clipping Algorithm; Polygon Clipping: Sutherland-Hodgman Polygon Clipping Algorithm
8.	16 May to 26 May	Three-Dimensional Graphics: Three-Dimensional Display Methods; 3-D Transformations: Translation, Rotation, Scaling; Composite Transformations;

Lesson Plan

Even Semester (Feb.-May 2023)

Name of Teacher :- Amarpreet Singh

Class and Section :- BCA-II

Subject Name and Code :- Computer Oriented Statistical Method(BCA-245)

1.	01 Feb to 15 Feb	Basic Statistics: Preparing Frequency Distribution Table and Cumulative frequency, Measure of Central Tendency, Types: Arithmetic mean, Geometric Mean, Harmonic Mean, Median, Mode. Measure of Dispersion: Range, Quartile Deviation, mean deviation, Coefficient of mean Deviation, Standard Deviation
2.	16 Feb to 28 Feb	Moments: Moments About mean, Moments about any point, Moment about origin, Moment about mean in terms of moment about any point, Moment about any point in terms of Moment about mean.
3.	01 March to 15 March	Probability Distribution: Random Variable- Discrete Random and Continuous Random variable, Probability Distribution of a Random Variable, Mathematical Expectation Types: Binomial, Poisson, Normal Distribution, Mean and Variance of Binomial, Poisson, and Normal Distribution.
4.	16 March to 31 March	Correlation: Introduction, Types, Properties, Methods of Correlation: Karl Pearson's Coefficient of Correlation, Rank Correlation and Concurrent Deviation method, Probable error.
5.	01 April to 15 April	Regression: Introduction, Aim of Regression Analysis, Types of Regression Analysis, Lines of Regression, Properties of Regression Coefficient and Regression Lines, Comparison with Correlation.
6.	16 April to 30 April	Curve Fitting: Straight Line, Parabolic curve, Geometric Curve and Exponential Curve Baye's Theorem in Decision Making, Forecasting Techniques
7.	01 May to 15 May	Sample introduction, Sampling: Meaning, methods of Sampling, Statistical Inference: Test of Hypothesis, Types of hypothesis, Procedure of hypothesis Testing, Type I and Type II error, One Tailed and two tailed Test,
8.	16 May to 26 May	Types of test of Significance: Test of significance for Attribute-Test of No. of success and test of proportion of success, Test of significance for large samples - Test of significance for single mean and Difference of mean, Test of significance for small samples (t-test) – test the significance between the mean of a random sample, between the mean of two independent samples

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Lesson Plan

Even Semester (Feb-May 2023)

Name of Teacher :- DR. BHAWNA SHARMA

Class and Section :- B.SC (6th SEMESTER)

Subject Name and Code :- Computer Networks(Paper-II)

1.	01 Feb to 15 Feb	Introduction to Data Communication and Computer Networks; Uses of Computer Networks; Types of Computer Networks and their Topologies; Network Hardware Components: Connectors, Transceivers, Repeaters, Hubs, Network Interface Cards and PC Cards, Bridges, Switches, Routers, Gateways.
2.	16 Feb to 28 Feb	Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services; OSI Reference Model; TCP/IP Model.
3.	01 March to 15 March	Analog and Digital Communications Concepts: Analog and Digital data and signals; Bandwidth and Data Rate, Capacity, Baud Rate.
4.	16 March to 31 March	Guided and Wireless Transmission Media; Communication Satellites; Switching and Multiplexing; Modems and modulation techniques;Data Link Layer Design issues; Error Detection and Correction methods; Sliding Window Protocols: One-bit, Go Back N and Selective Repeat.
5.	01 April to 15 April	Media Access Control: ALOHA, Slotted ALOHA, CSMA, Collision free protocols; Introduction to LAN technologies: Ethernet, Switched Ethernet, Fast Ethernet, Gigabit Ethernet; Token Ring; Introduction to Wireless LANs and Bluetooth.
6.	16 April to 30 April	Routing Algorithms: Flooding, Shortest Path Routing, Distance Vector Routing; Link State Routing, Hierarchical Routing.
7.	01 May to 15 May	Congestion Control; Traffic shaping; Choke packets; Load shedding; Application Layer.
8.	16 May to 26 May	Introduction to DNS, E-Mail and WWW services; Network Security Issues: Security attacks; Encryption methods; Firewalls; Digital Signatures. Revision

Lesson Plan

Even Semester (Feb-May 2023)

Name of Teacher :- DR. BHAWNA SHARMA

Class and Section :- B.SC (6th SEMESTER)

Subject Name and Code :- Relational Data Base Management System (Paper-1)

1.	01 Feb to 15 Feb	Relational Model Concepts, Codd's Rules for Relational Model, Hierarchical Data Model– Introduction, Features, Components, Example, Network Data Model– Introduction, Features, Components, Example, Differences between Hierarchical Data Model and Network Data Model.
2.	16 Feb to 28 Feb	Comparison of Relational Data Model with Hierarchical Data Model and Network Data Model, Relational Algebra:-Selection and Projection, Set Operation, Join and Division. Relational Calculus: Tuple Relational Calculus and Domain Relational Calculus..
3.	01 March to 15 March	Functional Dependencies- Purpose, Data Redundancy, Update Anomalies, Partial/Fully Functional Dependencies, Transitive Functional Dependencies, Characteristics of Functional Dependencies, Decomposition. Normalization- Normal Forms (1NF, 2NF, 3NF & BCNF)
4.	16 March to 31 March	SQL: Data Definition and data types, Create Table, Insert Data, Viewing Data, Filtering Table Data, Sorting data, Creating Table from a Table, Destroy table, Update, View, Delete, Join, Concatenating data from Table
5.	01 April to 15 April	Specifying Constraints in SQL; Primary Key, Foreign Key, Unique Key, Check Constraint, Using Functions, PL/SQL-Introduction, Advantages of PL/SQL, The Generic PL/SQL Block: PL/SQL Execution Environment.
6.	16 April to 30 April	PL/SQL Character Set and Data Types, Declaration and Assignment of Variables Control Structure in PL/SQL: Conditional Control.
7.	01 May to 15 May	Iterative Control, Sequential Control (contd.), Revision
8.	16 May to 26 May	Revision

Lesson Plan

Even Semester (Feb-May 2023)

Name of Teacher :- DR. BHAWNA SHARMA

Class and Section :- BCA-6th SEMESTER

Subject Name and Code :- PROGRAMMING IN CORE JAVA (Paper Code: BCA-366)

1.	01 Feb to 15 Feb	Basic Principles of Object Oriented Programming, Introduction to Java, History and Features of Java, Java Virtual Machine (JVM), Java's Magic Bytecode; The Java Runtime Environment; Basic Language Elements: Lexical Tokens, Identifiers, Keywords, Literals, Comments, Primitive Data types, Operators, Assignments; Input/output in Java: Basics, I/O Classes, Reading Console Input, Control Structures in Java: Decision and Loop Control Statements
2.	16 Feb to 28 Feb	Class and Object in Java: Defining Class in Java, Creating Objects of a Class, Defining Methods, Argument Passing Mechanism, Using Class and Objects, Constructors, Nested Class, Inner Class, Abstract Class, Dealing with Static Members; Array & String in Java: Defining an Array, Initializing & Accessing Array, Multi -Dimensional Array,
3.	01 March to 15 March	Defining String, Operation on Array and String, Creating Strings using String Class, Creating Strings using StringBuffer Class,; Polymorphism in Java: Basic Concept, Types, Overriding vs. Overloading, Implementation, Extending Classes and Inheritance in Java: Benefits of Inheritance
4.	16 March to 31 March	Types of Inheritance in Java, Access Attributes, Inheriting Data Members and Methods, Role of Constructors in Inheritance, Use of "super"; Packages & Interfaces: Basic Concepts of Package and Interface
5.	01 April to 15 April	Organizing Classes and Interfaces in Packages, Defining Package, Adding Classes from a Package to Your Program, CLASSPATH Setting for Packages, Import Package, Naming Convention For Packages , Access Protection in Packages, Standard Packages
6.	16 April to 30 April	Exception Handling in Java: The Idea behind Exception, Types of Exception, Use of try, catch, finally, throw, throws in Exception Handling, In-built and User Defined Exceptions, Checked and Un-Checked Exceptions, Catching more than one Exception;
7.	01 May to 15 May	User Defined Exceptions, Checked and Un-Checked Exceptions, Catching more than one Exception; Applet in Java: Applet Basics, Applet Architecture, Applet Life Cycle, Applet Tag, Parameters to Applet, Embedding Applets in Web page, Creating Simple Applets
8.	16 May to 26 May	GUI Programming: Designing Graphical User Interfaces in Java, Components and Containers, Using Containers, Layout Managers, AWT Components, AWT Classes, AWT Controls, Revision

Lesson Plan

Even Semester (Feb-May 2023)

Name of Teacher :- DR. BHAWNA SHARMA

Class and Section :- M.Sc-4thSEMESTER

Subject Name and Code :- ADVANCED COMPUTER ARCHITECTURE (Paper Code: MS-15-43)

1.	01 Feb to 15 Feb	Computational Model: Basic computational models, evolution and interpretation of computer architecture, concept of computer architecture as a multilevel hierarchical framework. Classification of parallel architectures, Relationships between programming languages and parallel architectures Parallel Processing: Types and levels of parallelism, Instruction Level Parallel (ILP) processors, dependencies between instructions
2.	16 Feb to 28 Feb	Principle and general structure of pipelines, performance measures of pipeline, pipelined processing of integer, Boolean, load and store instructions, VLIW architecture, Code Scheduling for ILPProcessors - Basic block scheduling, loop scheduling, global scheduling
3.	01 March to 15 March	Superscalar Processors: Emergence of superscalar processors, Tasks of superscalar processing – parallel decoding, superscalar instruction issue, shelving, register renaming, parallel execution, preserving sequential consistency of instruction execution and exception processing, comparison of VLIW & superscalar processors
4.	16 March to 31 March	Branch Handling: Branch problem, Approaches to branch handling – delayed branching, branch detection and prediction schemes, branch penalties and schemes to reduce them, multiway branches, guarded execution,
5.	01 April to 15 April	MIMD Architectures: Concepts of distributed and shared memory MIMD architectures,UMA, NUMA, CCNUMA & COMA models, problems of scalable computers.
6.	16 April to 30 April	Direct Interconnection Networks: Linear array, ring, chordal rings, star, tree, 2D mesh, barrel shifter, hypercubes.,Dynamic interconnection networks: single shared buses, comparison of bandwidths of locked, pended & split transaction buses
7.	01 May to 15 May	Arbiter logics, crossbar, multistage networks – omega, butterfly,Cache coherence problem, hardware based protocols – snoopy cache protocol, directory schemes
8.	16 May to 26 May	Hierarchical cache coherence protocols, software based protocols. Revision

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