

Govt. College Barwala, Hisar
Lesson Plan, BSc-II CSc. , w.e.f.25-07-2024, to 22-11-2024
(17Weeks (Diwali break 27-10-2024 to 03-11-2024)) , Subject:-Operating System
Teacher Name:-Minakshi Sharma
online studymaterial:-cslectminakshi.blogspot.com

Weeks	Topics
Week1	Structure of Operating Systems: Layers-MS-DOS Layer Structure, Traditional UNIX System Structure; Running Multiple Operating Systems,
Week2	Running a Virtual Operating System, Operating System Modes, SJ stem Boot.
Week3	Process Management: Introduction to Process, Attributes of a process, Process States, Operations on the Process. Process Schedulers, CPU Scheduling,
Week4	Scheduling Algorithms, Purpose of a Scheduling algorithms. Introduction to FCFS, Shortest Job First (SJF). Shortest Job First (SJF), Round Robin Scheduling .Algorithms.
Week5	Memory Management : Fixed and Dynamic partition, Physical and Logical Address Space, Page Table,
Week6	Mapping t'rom page table to main memory, Page Table Entry, Size of the page table, Finding Optimal Page Size.
Week7	Virtual Memory Concepts, Advantages and disadvantage of Virtual Memory.
Week8	Segmentation, Translation of Logical address into physical address by segment table, Advantages and disadvantage of Segmentation. Paging VS Segmentation
Week9	Attributes of File, Operations on File; File Access Methods- Sequential,
Week10	Direct and Indexed Access: Directory Structure, File Systems,
Week11	File System Structure- different layers;
Week12	Master Boot Record, Directory Implementation-Linear List and Hash Table;
Week13	Disk space Allocation Methods- Contiguous Allocation and FAT.
Week14	What is shell and various type of shell, Various editors present in Linux / Unix ; Different modes of operation in vi editor,
Week15	Diwali break
Week16	Shell script, Writing and executing the shell script ,Shell variable (user defined and system variables); System calls, Pipes and filters.
Week 17	Decision making in Shell Scripts (If else , switch) , Loops in shell,Utility programs (cut , paste , join, tr, uniq , utilities). Pattern matching utility (grep)
Week 18	Revision

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Govt. College Barwala, Hisar
Lesson Plan, BA & BCom-I. , w.e.f.25-07-2024, to 22-11-2024
(17Weeks (Diwali break 27-10-2024 to 03-11-2024)) ,
Subject:- C24MDC105T: Information Technology
Teacher Name:-Minakshi Sharma
online studymaterial:-cslectminakshi.blogspot.com

Weeks	Topics
Week1	Computer Fundamentals: Introduction to Computers: Characteristics and Limitations of Computers,.
Week2	Evolutions of Computers, Classification of Computers,
Week3	Types of software, Computer Languages
Week4	Basic Computer Organization: Units of a computer, CPU, ALU,
Week5	Memory Hierarchy, Registers, I/O devices, Mother Board.
Week6	Word Processing Software: Introduction to MS-Word, Creating & Editing Text:
Week7	Paragraph Formatting, Page Formatting, Template, Page, Views, Table;
Week8	Advanced Features: Bookmark, Mail Merge, Macros. Spread Sheets:
Week9	Introduction to MS-Excel, Creating & Editing Worksheet, Formatting data, Formulas and Functions,
Week10	Creating Charts. Power Point Presentations: Creating, Manipulating & Enhancing Slides,
Week11	Organizational Charts, Animations & Sounds, Inserting Animated Pictures
Week12	Internet Basics: Internet, Intranet, Extranet, Internet Security, Uses of Internet,
Week13	History of Internet, Web Browsers, Internet Connection Types,
Week14	How Internet Works, ISPs, Search Engines,
Week15	Diwali break
Week16	Emails and Its Working,
Week 17	Introduction to Cloud and its Applications.
Week 18	Revision

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Govt. College Barwala, Hisar
Lesson Plan, BSc-III CSc.
w.e.f.25-07-2024, to 22-11-2024
(17Weeks (Diwali break 27-10-2024 to 03-11-2024))
Subject:-Data Analytics
Teacher Name:-Minakshi Sharma
online studymaterial:-cslectminakshi.blogspot.com

Weeks	Topics
Week1	Data Analytics: Introduction to Data Analytics, Business Intelligence (BI) for better decisions.
Week2	Decision types, BI tools, BI skills, BI applications.
Week3	Data warehousing: Introduction to Data warehousing (OW), Design considerations for DW.
Week4	DW development approaches, OW architecture. Data Mining: Introduction to Data mining, Data cleaning and preparation.
Week5	outputs of Data mining. evaluation of data mining results, Data Mining Techniques
Week6	Decision Trees: Introduction to Decision tree, Decision tree problem. Decision tree construction. Lessons from constructing trees, Decision tree algorithms
Week7	Regression: Introduction, Correlations and Relationships, Visual Look at Relationships,
Week8	Logistic regression. Advantages and disadvantages of regression models.
Week9	Artificial Neural Networks: Introduction , business applications of ANN, Design principles of an ANN,
Week10	Representation of a neural network, Architecting a neural network. Developing an ANN, Advantages and disadvantages of using ANN.
Week11	Cluster analysis: Introduction, Applications of cluster analysis, Definition of a cluster, Representing clusters.
Week12	Clustering techniques, K-means algorithm for clustering. Selecting the number of clusters.
Week13	Association rule Mining: Introduction, Business applications of association rules, Representing association rules, Algorithms for association rule
Week14	Apriori algorithm. Creating association rules. Web Mining: Introduction, Web content mining, Web structure mining, Web usage mining. Web mining algorithms.
Week15	Diwali Break
Week16	Naive-base analysis: Introduction, Probability, Na'ive base model, Text classification example, Support vector machines: Introduction, SVM model, The kernel method,
Week 17	Big Introduction, Defining Big Data, Big Data Landscape, Big data implications of big data. Technology, implications of big data, Big data technologies, Management of big data.
Week 18	Revision

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Lesson Plan, BSc-II CSc. w.e.f.25-07-2024, to 22-11-2024
(17Weeks (Diwali break 27-10-2024 to 03-11-2024)) Subject:-DBMS
Teacher Name:-Minakshi Sharma
online studymaterial:-cslectminakshi.blogspot.com

Weeks	Topics
Week1	A Historical perspective, File System vs. DBMS, Characteristics of the Data Base Abstraction and Data Integration.
Week2	Database users, Advantages and Disadvantages of DBMS, DBMS architecture, Data Models , Schemas and Instances Data Independence.
Week3	
Week4	Basic Concepts –Entity Attributes , Types of Attributes , Entity set and Keys ; Relationships- Relationship set, Degree of Relationship,
Week5	Mapping Cardinalities. ER diagram representation – Representation of Entity,
Week6	Attributes and relationship. Binary Representation and Cardinality , Participation Constraints.
Week7	Relational model concepts (Tables, Tuple, Relation instance, Relation schema, Relation key , Attribute domain),
Week8	Constraints – Key constraints,Domain constraints, Referential integrity constraints; Relational algebra ,
Week9	Basic operations: Select , Project, Union, Set difference, Cartesian product, Rename.
Week10	Mapping ER model to relational database, functional dependencies,
Week11	Lossless decomposition, Desirable properties of decomposition,
Week12	Normal forms (1NF.2NF. 3NF and BCNF).
Week13	BCNF, SQL: Why SQL, Data Types; DDL – Create, Alter and Drop table Commands.
Week14	DML-SELECT/FROM/ WHERE,
Week15	Diwali break
Week16	INSERT INTO/ VALUES, UPDATE / SET / WHERE,
Week 17	DELETE Commands. UNION [ALL], INTERSECTION and MINUS Operators
Week 18	Revision

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 Lesson Plan, PGDCA. , w.e.f.25-07-2024, to 22-11-2024
 (17Weeks (Diwali break 27-10-2024 to 03-11-2024)) , Subject:-Operating System
 Teacher Name:-Minakshi Sharma
 online studymaterial:-cslectminakshi.blogspot.com

Weeks	Topics
Week1	Operating systems functions and characteristics, operating system structure, operating system services,
Week2	system calls, system programs. Types of Operating system: Batch operating system, Time-sharing operating system,
Week3	Distributed operating system, Real time systems
Week4	Process Management: Introduction to Process, Attributes of a process, Process States, Operations on the Process. Process Schedulers,
Week5	CPU Scheduling, Control Block,
Week6	Cooperating processes Critical section problem ,Semaphores
Week7	Classical process co-ordination problems and their solutions,
Week8	Monitors, Inter-process Communications.
Week9	Deadlock: Introduction,Deadlock characterization, Methods for handling Deadlocks:
Week10	Deadlock prevention, Deadlock avoidance, Deadlock detection, Recovery from Deadlock.
Week11	Storage Management: Storage allocation methods: Single contiguous allocation,
Week12	Multiple contiguous allocation
Week13	, Paging, Segmentation, Virtual memory concepts,
Week14	Demand Paging, Page replacement Algorithms, Thrashing.
Week15	Diwali break
Week16	Device and file management: Disk scheduling, Disk structure, Disk management, File Systems: Functions of the system, File access and allocation methods, Directory Systems: Structured Organizations, directory and file protection mechanisms.

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Week 17	Case Studies: Comparative study of WINDOW, ANDROID & LINUX system.
Week 18	Revision

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Lesson Plan, BSc-III CSc.
w.e.f.25-07-2024, to 22-11-2024
(17Weeks (Diwali break 27-10-2024 to 03-11-2024)) Subject:-Cloud Computing
Teacher Name:-Minakshi Sharma
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Weeks	
Week1	Cloud Computing: Introduction to client server computing, Peer to Peer computing,
Week2	Distributed computing, collaborative computing and
Week3	cloud computing, Importance of cloud computing in current era, ,
Week4	Characteristics, advantages and disadvantages of cloud computing.
Week5	Cloud Services: Functioning of cloud computing.
Week6	, Classification of cloud Based on services: Software as a Service (SaaS), and
Week7	Platform as a Service (PaaS),
Week8	Infrastructure as a Service (IaaS): Definition, characteristics and their benefits
Week9	Cloud Architecture: Cloud computing Logical and service architecture,
Week10	Types of Clouds :-Private cloud, Public cloud and Hybrid cloud,
Week11	Comparison of a private,public and hybrid clouds, migrating to a cloud, Seven step model to migrate.
Week12	Applications: Business opportunities using cloud,
Week13	Managing Desktop and devices in cloud, cloud as a type of distributed infrastructure,
Week14	Application of cloud computing for centralizing Email communication,
Week15	Diwali break
Week16	collaboration on schedules, calendars, CASE STUDY: Overview of major cloud service providers -
Week 17	Amazon Ec2, Google App Engine. Google Drive, etc.
Week 18	Revision

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Lesson Plan, BSc-I NM.
w.e.f.25-07-2024, to 22-11-2024
(17Weeks (Diwali break 27-10-2024 to 03-11-2024))
Subject:-MIC, C24MIC102T: Computer Programming Fundamentals
Teacher Name:-Minakshi Sharma
online studymaterial:-cslectminakshi.blogspot.com

Weeks	Topic
Week1	Introduction to Programming: Overview of programming concepts,
Week2	Computer Languages: Machine Language, Assembly Language,
Week3	High Level Language; Source code, Object Code
Week4	Compiler, Interpreter,
Week5	Algorithm
Week6	Flow Chart and pseudocode,
Week7	Basics of problem-solving in programming,
Week8	Debugging, Error: Types of Error
Week9	Programming fundamentals: Data types: Integers, floating-point numbers,
Week10	strings, and Booleans, Variables and constants,
Week11	Input/output operations, Operators and expressions,
Week12	Conditional statements: if, else if, else,
Week13	Loops: while loops,
Week14	for loops;
Week15	Diwali break
Week16	Loops Revised
Week 17	Control structures: break, continue;
Week 18	Revision

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Lesson Plan, BSc-III CSc.
w.e.f.25-07-2024, to 22-11-2024
(17Weeks (Diwali break 27-10-2024 to 03-11-2024))
Subject:-C++
Teacher Name:-Minakshi Sharma
online studymaterial:-cslectminakshi.blogspot.com

Weeks	Topic
Week1	Procedure Oriented Programming, Object-Oriented programming Paradigm, difference between Procedure Oriented Programming and Object-Oriented programming, Basic concepts of Object-Oriented programming, Benefits of OOP,
Week2	Object Oriented Languages, and application of OOP. Structure of a C++, Program Insertion operator, Extraction operator, Hierarchy of Console Stream Classes, functions.
Week3	Unformatted and Formatted I/O Operations, Manipulators, inline
Week4	C structure revisited, specifying a Class. Creating Objects,
Week5	Defining member function, Memory allocation for objects,
Week6	Scope resolution operator and its significance,
Week7	Static Data Members, Static member functions,
Week8	Friend function, Friend Class
Week9	Dynamic Memory Management using new and delete Operator
Week10	Constructor, type of constructors, Dynamic initialization of objects, Constructor overloading, Constructor with default arguments, Destructors,
Week11	Constructor, type of constructors, Dynamic initialization of objects, Constructor overloading, Constructor with default arguments, Destructors,
Week12	function overloading
Week13	Operator Overloading, Overloading unary and binary operators
Week14	Inheritance, Single Inheritance. Making a private member inheritable,
Week15	Diwali break
Week16	Multilevel Inheritance, Multiple Inheritance, Hierarchical Inheritance, Hybrid Inheritance,
Week 17	Virtual Base Class. Abstract Classes, Constructors in derived classes.
Week 18	Revision

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Lesson Plan, BSc-I CSc.

w.e.f.25-07-2024, to 22-11-2024

(17Weeks (Diwali break 27-10-2024 to 03-11-2024))

Subject code :-C24COS101T: Fundamentals of Computer and Programming in C

Teacher Name:-Minakshi Sharma

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Weeks	Topics
Week1	Basics of Computers: Definition of a Computer - Characteristics and Applications of Computers – Block Diagram of a Digital Computer – Classification of Computers based on size
Week2	Classification of Computers based on working – Central Processing Unit – I/O Devices.
Week3	Storage: Primary, Auxiliary and Cache Memory – Memory Devices. Software, Hardware, Firmware.
Week4	Operating System – Definition and Functions of an Operating System – MS-DOS – MS Windows – Desktop, Computer, Documents, Pictures, Music, Videos, Recycle Bin, Task Bar – Control Panel.
Week5	C Programming Fundamentals: Keywords, Variables and Constants, Structure of a C Program, Input/Output.
Week6	Operators & Expressions: Arithmetic, Unary, Logical. Bit-wise, Assignment & Conditional Operators
Week7	Decision Making: Decision making using if...else. Else If Ladder; Switch, break. Continue and Goto statements.
Week8	Loop Control Structure: While and do-while, for loop and Nested for loop
Week9	Functions: Introduction, using functions – Function declaration/ prototype – Function definition function call – return statement –
Week10	Passing parameters , Recursive functions Call by Value and Call by Reference,
Week11	Arrays: Introduction, Declaration of Arrays , Accessing elements of the Array – Storing Values in Array, Passing array element to a function:
Week12	One dimensional array -declaration, initialization, Accessing one dimensional array, Two dimensional Arrays-declaration, initialization, Accessing two dimensional arrays
Week13	Strings: Introduction , String and Character functions, String Operations using String functions- strcat() , strcmp() , strcpy() , strlen().
Week14	Pointers: Declaring Pointer Variable, Pointer Expressions and Pointer Arithmetic , Passing Arguments to Functions using Pointers.
Week15	Diwali Break
Week16	Dynamic Memory Allocation: malloc(), calloc(), realloc(), free() functions Structures and Unions: Declaration of structures, Structure Initialization,
Week 17	Accessing structure members, Arrays of structure, Nested structures, Structure with pointers, Union
Week 18	Revision

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