

Lesson plan		
Discipline-Information Technology	Semester- 2nd (Winter 2025)	
Subject-Data structures and algorithms	Name of teaching Faculty-Smt. Abhijita Routray, Lecturer in Computer Application	
No of weeks-15	No of classes per week allotted-3	
Week	Period	Topic
1st	1st	Introduction to Data Structures : Basic Terminology
	2nd	Classification of Data Structure
	3rd	Classification of Data Structure
2nd	1st	Operations on Data Structure
	2nd	Operations on Data Structure
	3rd	Asymptotic and worst-case analysis of algorithms
3rd	1st	Stacks-Introduction to Stacks, Array Representation of Stacks
	2nd	Operations on a Stack, Applications of Stacks- Infix-to-Postfix Transformation
	3rd	evaluating Postfix Expressions.
4th	1st	Queues: Introduction to Queues
	2nd	Array Representation of Queues
	3rd	Operations on a Queue , Types of Queues-DeQueue, Circular Queue,
5th	1st	Applications of Queues-Round Robin Algorithm.
	2nd	Linked Lists: Singly Linked List, Representation in Memory
	3rd	Operations on a Single Linked List
6th	1st	Circular Linked Lists
	2nd	Doubly Linked Lists,
	3rd	Linked List Representation and Operations of Stack,
7th	1st	Linked List Representation and Operations of Queue.
	2nd	Non-Linear Data Structures: Trees-Basic Terminologies
	3rd	Definition and Concepts of Binary Trees
8th	1st	Representations of a Binary Tree using Arrays and Linked Lists
	2nd	Operations on a Binary Tree-Insertion
	3rd	Deletion, Traversals,
9th	1st	Types of Binary Trees. GRAPHS: Graph Terminologies,
	2nd	Representation of Graphs- Set, Linked, Matrix, Graph Traversals
	3rd	Algorithm Paradigms: Greedy, Divide and Conquer
10th	1st	Algorithm Paradigms: Greedy, Divide and Conquer
	2nd	Branch and Bound
	3rd	Dynamic Programming and Backtracking
11th	1st	Dynamic Programming and Backtracking
	2nd	Sorting: The sorting problem
	3rd	Bubble sort
12th	1st	Selection sort
	2nd	Insertion sort
	3rd	Merge sort
	1st	Quicksort

13th	2nd	Searching: Symbol Tables , Binary Search Trees
	3rd	Balanced Search Trees, Hash Tables.
14th	1st	Graphs: Definition of a directed and undirected graph
	2nd	Paths, Cycles, spanning trees
	3rd	Directed Acyclic Graphs
15th	1st	Topological Sorting, Minimum Spanning Tree algorithms,
	2nd	Shortest Path algorithms: Dijkstra's algorithm
	3rd	Flow-based algorithms

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 14/07/2015
 (Lecturer in Computer Applications)

Lesson plan

Discipline- Information Technology		Semester- 3rd (Winter 2025)
Subject-TH:1- PROGRAMMING IN C		Name of teaching Faculty-Smt. Abhijita Routray, Lecturer in Computer Application
No of weeks-15		No of classes per week allotted-3
Week	Period	Topic
1st	1st	Types of Programming Languages
	2nd	Introduction to C
	3rd	The 'C' Character Set ,Identifiers and Keywords,Data Types
2nd	1st	Constants ,Variables and Arrays ,Declarations ,Expressions
	2nd	Statements , Symbolic Constants
	3rd	Arithmetic Operators ,Unary operators
3rd	1st	Relational and Logical Operators
	2nd	Assignment Operators
	3rd	The Conditional Operator,Library Functions
4th	1st	Preliminaries , Single Character Input-The getchar Function
	2nd	Single Character Output-The putchar Function
	3rd	Entering Input data-The scanf function
5th	1st	Writing Output Data-The printf function ,gets and puts Function
	2nd	Planning a C Program , Writing a C Program
	3rd	Entering the Program into the Computer
6th	1st	Compiling and Executing the Program
	2nd	Error Diagnostics,Debugging Techniques
	3rd	Preliminaries,Branching: The if statement, if-else statement, elseif ladder
7th	1st	Looping: while, do-while & for statements
	2nd	Nested Control Structures
	3rd	The switch statement
8th	1st	The break statement
	2nd	The continue statement
	3rd	The Comma operator
9th	1st	The goto statement
	2nd	Concepts of a Function
	3rd	Accessing a Function
10th	1st	Function Prototypes
	2nd	Function Prototypes
	3rd	Passing parameters in Functions
11th	1st	Defining an Array
	2nd	Processing an Array
	3rd	Processing an Array
12th	1st	Multidimensional Arrays
	2nd	Arrays and Strings & its Library functions
	3rd	Fundamentals of Pointers

13th	1st	Pointer Declaration
	2nd	Operation on pointers
	3rd	Passing pointer to a function
14th	1st	Pointers and one-dimensional array, Pointers and two-dimensional array
	2nd	Defining a Structure
	3rd	Processing a Structure
15th	1st	Structure and Pointers
	2nd	Arrays of Structure
	3rd	Unions

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Discipline- Information Technology			Semester-5th (Winter 2025)
Subject-Mobile Computing			Name of teaching Faculty-Smt. Abhijita Routray, Lecturer in Computer Application
No of weeks-15			No of classes per week allotted-4
Week	Period	Topic	
1st	1st	Networks	
	2nd	Wireless Networks	
	3rd	Mobile Computing	
	4th	Mobile Computing Characteristics	
2nd	1st	Mobile Computing Characteristics	
	2nd	Application of Mobile Computing	
	3rd	C/S architecture	
	4th	n-tier architecture	
3rd	1st	n-tier architecture and www	
	2nd	Peer-to Peer architecture	
	3rd	Mobile agent architecture	
	4th	Mobile agent architecture	
4th	1st	Introduction ,Signals , Period, Frequency and Bandwidth	
	2nd	Antennas	
	3rd	Signal Propagation	
	4th	Multiplexing	
5th	1st	Modulation	
	2nd	Spread Spectrum , Cellular System	
	3rd	Introduction	
	4th	Hidden/ Exposed Terminals	
6th	1st	The basic Access Method	
	2nd	Near / Far Terminals	
	3rd	SDMA, FDMA, TDMA, CDMA	
	4th	SDMA, FDMA, TDMA, CDMA	
7th	1st	Wireless LAN and communication ,Infrared , Radio Frequency	
	2nd	IR Advantages and Disadvantages	
	3rd	RF Advantages and Disadvantages	
	4th	Wireless Network Architecture Logical	
8th	1st	Types of WLAN , IEEE 802.11 , MAC layer , Security , Synchronization	
	2nd	Power Management , Roaming , Bluetooth Overview	
	3rd	Introduction	
	4th	Scenario of Mobile Communication	
9th	1st	Scenario of Mobile Communication	
	2nd	Mobile Communication Generations 1G to 3G	
	3rd	3rd Generation Mobile Communication Network	
	4th	Universal Mobile telecommunication System (UMTS)	
	1st	Overview , Working with mobile IP , Mobile IP Entities	
	2nd	Mobility Agents , Components of Mobile IP	

10th	3rd	Mobile IPv6 Features
	4th	Mobile IPv6 Address Types
11th	1st	Mobile IPv6 Address Scope
	2nd	Mobile IP Operation
	3rd	WWW architecture for Mobile computing , Need of WAP , Benefits of WAP
	4th	Examples of WAP , WAP- Architecture , WAP protocols , WML
12th	1st	WAP Push architecture
	2nd	Push-Pull based data acquisition
	3rd	I-mode
	4th	WAP 2.x
13th	1st	GSM
	2nd	GPRS
	3rd	IS-95
	4th	CDMA-2000
14th	1st	W-CDMA
	2nd	Wireless Sensor Networks
	3rd	Short Message Services (SMS)
	4th	Short Message Services (SMS)
15th	1st	Multimedia Message Services (MMS)
	2nd	Multimedia Message Services (MMS)
	3rd	Multimedia transmission over wireless
	4th	Multimedia transmission over wireless

12
 14/07/2025
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