Subject Code: SAE3A

Subject: Programming in C++ & Data Structures

COURSE PLAN

Session No	Topics to be covered	Teaching Methodology		
UNIT - I				
1	Subject Introduction and Syllabus Discussion	BB		
2	Introduction To C++	BB		
3	Tokens, Keywords, Identifiers, Variables, Basic Data Types	BB, PPT		
4	Operators, Manipulators, Expressions	GD		
5	Control Structures In C++	Assignment		
6	Pointers - Introduction, Manipulation Of Pointers	BB		
7	Pointers With Arrays, Array Of Pointers, Pointers And Strings	BB		
8	Pointers To Functions And Objects, This Pointer	BB		
9	Functions In C++ - Main Function - Function Prototyping	Seminar		
10	Parameters Passing In Functions - Values Return By Functions - Inline Functions	GD		
11	Friend Functions	Seminar		
12	Revision On UNIT I	_		
Unit Test - I				
	UNIT - II			
13	Classes And Objects - Introduction, Creating Objects & Accessing Members	BB		
14	Defining Member Functions, Static Data Members & Functions	BB		
15	Array Of Objects, Objects As Function Arguments, Returning Objects	BB		
16	Function Overloading	Seminar		
17	Constructors And Destructors, Type Of Constructors	Seminar		
18,19	Operator Overloading Using Member & Friend Function	Seminar		

20	Type Conversions	GD			
21	Inheritance : Single Inheritance - Multilevel Inheritance	PPT			
22	Multiple Inheritance - Hierarchical Inheritance - Hybrid Inheritance	PPT			
23	Virtual Functions And Polymorphism	BB			
24	Managing Console I/O Operations - C++ Streams	GD			
25	Unformatted I/O Operations	BB			
26	Formatted Console I/O Operations	BB			
27	Revision On UNIT II	_			
CIA TEST - I					
	UNIT - III				
28	Classes For File Stream Operations - Opening And Closing A File	BB			
29	End- Of- File Deduction, File Modes	BB			
30	File Pointers updating A File	BB			
31	Updating A File	BB			
32	Error Handling During File Operations - Command- Line Arguments	BB			
33	Definition Of A Data Structure - Primitive And Composite Data Types	GD			
34	Asymptotic Notations	BB			
35	Arrays, Operations On Arrays, Order Lists	GD			
36	Revision On UNIT III	_			
	Unit Test - III				
UNIT - IV					
37	Stacks	Practical Demonstration			
38	Applications Of Stack - Infix To Postfix Conversion	BB			
39	Evaluation Of Postfix Expression, Recursion	BB			
40	Maze Problems	Puzzle			

41	Queues - Operations On Queues	Practical Demonstration		
42	Queue Applications, Circular Queue	BB		
43	Singly Linked List - Operations, Application	BB		
44	Representation Of A Polynomial, Polynomial Addition	Seminar		
45	Doubly Linked List - Operations, Applications	BB		
46	Revision On UNIT IV	-		
CIA TEST - I				
UNIT - V				
47	Binary Trees - Conversion Of Forest To Binary Tree	BB		
48	Tree Traversals	BB		
49	Graph - Definition, Types Of Graphs	PPT		
50	Hashing Tables And Hashing Functions	BB		
51	Traversal - Shortest Path; Dijkstra's Algorithm	BB		
52	Revision On UNIT V	_		
REVISION				
53	Revision of UNIT I	BB		
54	Revision of UNIT II	BB		
55	Revision of UNIT III	BB		
56	Revision of UNIT IV	BB		
57	Revision of UNIT V	BB		
CIA TEST - III				

Name & Signature	Prepared by	Approved by
	Mrs.P.Calista Bebe	
	Mrs.S.Meenakshi	Mrs.V.Umadevi
Designation	Asst.Professor / CS	HOD / CS
Date		