Course Code: 20MC9104 **R20**

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY :: PUTTUR
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QUESTION BANK (DESCRIPTIVE)

Subject with Code : Object Oriented Programming through C++ (20MC9104) **Course :** MCA

Year & Sem: I - MCA I - Sem. **Regulation:** R20

UNIT –I

Different Paradigms for Problem Solving & C++ Basics

1	What are the Characteristics of OOPS? Explain.	[L1][CO1]	[12M]
2	Explain OOPS paradigm and the features of OOPS.	[L2][CO1]	[12M]
3	What are the differences between Procedure Oriented Language & Object Oriented Language? Clearly explain them.	[L1][CO1]	[12M]
4	a) What is program structure of C++?	[L1][CO1]	[06M]
	b) Illustrate C++ Data Types.	[L3][CO1]	[06M]
5	a) Define an Operator?	[L1][CO1]	[02M]
	b) Apply the types of Operators in C++ program.	[L3][CO1]	[10M]
6	a) Define Array.	[L1][CO1]	[02M]
	b) Analyze the types of Array with an example.	[L4][CO1]	[08M]
7	Evaluate Flow control Statements with an example.	[L5][CO1]	[12M]
8	Elaborate the usage of the following with C++ program i) for ii) while iii) do - while	[L6][CO1]	[12M]
9	a) Define Pointer.	[L1][CO1]	[02M]
	b) Develop a suitable program for pointer	[L6][CO1]	[10M]
10	a) State Structure and String.	[L1][CO1]	[04M]
	b) Explain details about Function of String with an example.	[L2][CO1]	[08M]

UNIT –II

C++ Functions & Dynamic Memory

1	Develop a program using C++ parameter passing methods and Pointers to functions.	[L6][CO2]	[12M]
2	Clearly explain about Inline Functions & Recursive Functions with an example.	[L2][CO1]	[12M]
3	a) Define Constructor & Destructors. b) Explain the Types of Constructor with an example.	[L1][CO2] [L2][CO2]	[04M] [08M]
4	a) Define class and object. b) Develop a program for class and object and explain.	[L1][CO2] [L6][CO2]	[04M] [08M]
5	Demonstrate Recursive Function with an example.	[L2][CO2]	[12M]
6	a) Construct Data abstraction program in C++. b) Illustrate static and static class members with an example.	[L3][CO2] [L3][CO2]	[06M] [06M]
7	Criticize Dynamic Memory allocation and De-allocation with an example.	[L4][CO2]	[12M]
8	Analyze and explain Preprocessor directives and name spaces with an example.	[L4][CO1]	[12M]
9	Differentiate between Dynamic creation and destruction of objects.	[L5][CO2]	[12M]
10	Construct programs for new and delete keyword and explain clearly.	[L6][CO2]	[12M]

UNIT –III

Polymorphism & Inheritance

1	What is Polymorphism? Explain details about Types of Polymorphism with an example.	[L1][CO2]	[12M]
2	a) Explain in detail about Operator Overloading. b) Identify the types of Operator Overloading with an example.	[L2][CO2] [L3][CO2]	[06M] [06M]
3	Design the Generic programming with an example.	[L6][CO4]	[12M]
4	Define and explain Function Template and Class Template with an example.	[L1][CO4]	[12M]
5	a) State Inheritance? b) Classify the types of Inheritance with an example.	[L1][CO6] [L4][CO6]	[02M] [10M]
6	Differentiate between Base and Derived classes with an example.	[L5][CO2]	[12M]
7	Briefly explain about Virtual Base class with an example.	[L2][CO6]	[12M]
8	a) What is Overloading? b) Explain types of overloading with an example.	[L1][CO2] [L2][CO2]	[12M] [12M]
9	Classify different forms of inheritance and clearly explain them.	[L4][CO2]	[12M]
10	Analyze Base and Derived class Construction and destruction.	[L4][CO6]	[12M]

UNIT –IV

Virtual Functions and Run Time Polymorphism & Dynamic binding through virtual functions

1	a) Explain in detail about Virtual Functions. b) Apply the virtual keyword to the function with an example.	[L2][CO6] [L3][CO4]	[06M] [06M]
2	a) Define static and dynamic Binding. b) Clearly explain static and dynamic binding by developing suitable programs.	[L1][CO2] [L6][CO2]	[04M] [08M]
3	Differentiate between Base and Derived class virtual function with an example.	[L6][CO6]	[12M]
4	Briefly explain Dynamic Binding through virtual function with an example.	[L5][CO3]	[12M]
5	a) Define overriding. b) Explain overriding with examples.	[L2][CO3] [L2][CO3]	[02M] [10M]
6	Analyze the usage of Virtual Function call Mechanism and Pure Virtual function with an example.	[L4][CO6]	[12M]
7	a) Define Abstract class. b) Describe implementation of Abstract class with an example.	[L1][CO2] [L2][CO2]	[02M] [10M]
8	a) List the importance of Static and dynamic bindings. b) Write a program to implement run time polymorphism.	[L5][CO2] [L6][CO4]	[05M] [07M]
9	Demonstrate Virtual Function call mechanism.	[L2][CO2]	[12M]
10	a) Discuss about polymorphism. b) Explain details about Run-Time Polymorphism with an example.	[L2][CO2] [L2][CO2]	[06M] [06M]

UNIT –V

C++ I/O & Exception Handling

1	Explain Stream I/O and File operations.	[L2][CO5]	[12M]
2	a) Define File Streams and String Streams	[L1][CO5]	[04M]
	b) Explain File Streams and String Streams with suitable example.	[L2][CO5]	[08M]
3	Determine error handling during file operations with an example.	[L3][CO5]	[12M]
4	Examine the usage of Formatted I/O operation with an example.	[L4][CO5]	[12M]
5	Explain details overloading operators << and >> with an example.	[L2][CO5]	[12M]
6	a) What is Exception Handling?	[L1][CO6]	[03M]
	b) Develop a program for Exception Handling.	[L6][CO6]	[09M]
7	Analyze Stack unwinding and Rethrowing an exception.	[L4][CO6]	[12M]
8	Briefly explain about try, throw, and catch with an example.	[L2][CO6]	[12M]
9	a) Define Exception objects and Exception specifications.	[L1][CO6]	[02M]
	b) Clearly explain Exception objects and Exception specifications.	[L2][CO6]	[10M]
10	a) Illustrate the Benefits of Exception Handling.	[L3][CO6]	[06M]
	b) Explain Exception objects.	[L2][CO6]	[06M]

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