Code No.: AI304PC | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
II–B.TECH–I–Semester End Examinations (Regular) - February- 2023
OBJECT ORIENTED PROGRAMMING USING C++
(Common to CSC, CSD, & CSM)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1. a)	How does an inline function differ from a preprocessor macro?	[2M]
b)	What are the advantages of using new operator as compared to the function malloc().	[2M]
c)	List the characteristics of a constructor.	[2M]
d)	What is abstraction? Explain how is it implemented in C++?	[2M]
e)	List out the benefits of inheritance.	[2M]
f)	What is meant by the term dynamic polymorphism?	[2M]
g)	List the operators which are not possible to overload.	[2M]
h)	What are different file openings Modes? Discuss.	[2M]
i)	How is exception handled in C++?	[2M]
j)	What should be placed inside a try block? Give the syntax.	[2M]

PART-B **(50 Marks)**

2.a)	Make use of an example, how does variable declare and initialization performed in C++?	[5M]
b)	How will you destroy the objects initialized by the constructor in the program?	[5M]
	OR	
3.	List at least four new operators added by C++ which aid OOP and explain the application of the scope resolution operator:: in C++.	[10M]
4.a)	Explain polymorphism, data abstraction and data encapsulation with examples.	[5M]
b)	What are the access privileges in C++? What is the default access level? Explain them.	[5M]
	OR	
5.a)	How the member function can be defined inside class and outside the class? Explain.	[5M]
b)	What are the various types of situations that might arise in data conversion between incompatible types? How can they be handled?	[5M]
6.a)	Make use of an example, explain the syntax for passing arguments to base class constructors in multiple inheritances.	[5M]
b)	What is a virtual base class? Why it is important to make a class virtual?	[5M]
	OR	
7.	Discuss about the three different inheritance behaviors achieved through the use of pure virtual, ordinary virtual and non-virtual functions?	[10M]

8.a) Write a C++ Program for reading the Content in the File and perform any manipulation to the content. [5M]

b) What are Streams? Explain in detail I/O Console stream classes? [5M]

OR

9.a) Discuss about the member function of Istream class. [5M]

b) Make use of an example, to differentiate between dynamic binding and message passing. [5M]

10. Write a main program that calls a deeply nested function containing an exception handling. Explain in detail what exceptions mechanism can be used to handle exception. Justify why other mechanism are not used. [10M]

OR

11.a) Write a C++ program that illustrates exception handling with the help of keywords: try, throws and catch. [5M]

b) How to handle exceptions that arise in constructors? Explain with an example. [5M]

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