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

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
II–B.TECH–I–Semester End Examinations (Regular) - January- 2022
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) Explain about polymorphism in brief. [2M]
   b) Conclude the main features of 'oops'. [2M]
   c) Determine the principles of 'static class members'. [2M]
   d) Define 'data abstraction' in oops. [2M]
   e) Discuss about 'pure virtual functions'. [2M]
   f) Justify the concepts of static and dynamic binding [2M]
   g) Discuss about 'ifstream class' [2M]
   h) Summarize the benefits of exception handling. [2M]
   i) Write a simple try catch block that catches divided-by-zero exception [2M]
   j) What are exception specifications? [2M]

PART-B **(50 Marks)**

2. a) What are inline functions in C++? [5M]
   b) Write a sample C++ code for the usage of inline functions [5M]

OR

3. Elaborate the coding conventions available in C++ for 'decision making' with suitable examples. [10M]

4. Discuss about 'class methods and access specifiers in C++. [10M]

OR

5. What are constructors and explain about different types of constructors used in C++ in detail. [10M]

6. Elaborate the principles of 'Inheritance' and discuss about 'Multiple Inheritance' with sample code [10M]

OR

7. Discuss about compile time and runtime polymorphism in detail with suitable C++ snippet. [10M]

8. What are string stream classes in C++? Explain its usage and applications with example. [10M]

OR

9. a) Develop C++ code for insertion and extraction operations of the string stream class [5M]
   b) Write C++ program for counting number of words in a string [5M]

10. Justify the purpose of stack unwinding in C++ with suitable example. [10M]

OR

11. Write the purpose of try and catch blocks in exception handling in C++ with suitable case study. [10M]

****