

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

THIRD SEMESTER INTEGRATED M.C.A DEGREE EXAMINATION (R), DECEMBER 2022 (2020 SCHEME)

Course Code: 20IMCAT205

Course Name: Introduction to Object Oriented Programming

Max. Marks: 60

Duration: 3 Hours

PART A

(Answer all questions. Each question carries 3 marks)

1. Define the following keywords.
 - a. public
 - b. private
 - c. protected
2. Write a C++ program to read and print the *employee_name*, *employee_ID*, *department*, *designation*, and *net_salary* of 5 employees using array of objects.
3. Write any three advantages of inline function.
4. Show the usage of *friend* function with an example.
5. Explain *abstract* class with an example.
6. Write a C++ program to find the maximum of two numbers using *friend* function.
7. Write short note on *delete* operator with example.
8. How compile time polymorphism can be distinguished from run time polymorphism?
9. Explain C++ streams with examples.
10. Define the following console I/O operations.
 - a. Precision()
 - b. Fill()

PART B

(Answer one full question from each module, each question carries 6 marks)

MODULE I

11. Explain the key concepts of OOPs. (6)

OR

12. Elaborate the different methods to define a member function with (6)

example.

MODULE II

13. What is a constructor? Explain any two types of constructors with examples. (6)

OR

14. Explain *static* data member and *static* member function with examples. (6)

MODULE III

15. Create a class *student* which stores the protected data *rollno*. Use two functions *get_no()* and *put_no()* to initialize and display values. Derive another class *test* from *student*, which stores the marks obtained in two subjects, *getmarks()* function to initialize the marks and the *putmarks()* function to display them. Derive another class *result* from *test* with the member, *total* to store the total marks obtained in the *test*. Write a C++ program to implement multilevel inheritance. (6)

OR

16. Describe binary operator overloading with example. (6)

MODULE IV

17. Explain virtual function with example. Point out the rules for virtual function. (6)

OR

18. a) Write short note on *void* pointer with example. (3)
b) Write a program to find the factorial of a number using pointer. (3)

MODULE V

19. Explain template function and class template with examples. (6)

OR

20. What are exceptions? How is an exception handled in C++? (6)
