

B.Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2024**SEMESTER 3 : COMPUTER APPLICATION****COURSE : 19U3CRCAP6 : OBJECT ORIENTED PROGRAMMING IN C++***(For Regular 2023 Admission and Improvement/Supplementary 2022/2021/2020/2019 Admissions)*

Time : Three Hours

Max. Marks: 75

PART A**Answer All (1 mark each)**

1. Define single inheritance.
2. When constructor and destructors are executed?
3. What you mean by hybrid inheritance?
4. What do you mean by dynamic constructor?
5. Define about compile time polymorphism.
6. Define Virtual functions.
7. What is the effect of absence of break in switch-case statement?
8. Differentiate between Class and Object.
9. Define keywords.
10. What you mean by forward declaration in class?

(1 x 10 = 10)**PART B****Answer any 8 (2 marks each)**

11. What are the different C++ operators which cannot be overloaded?
12. Define reference variable and also write the syntax for creating a reference variable.
13. Differentiate call by value and call by reference.
14. List some of the characteristics of the constructor.
15. Explain how to define a class.
16. Define operator. Give examples of different arithmetic operators in C++.
17. Write a short note on memory allocation of a class and its objects?
18. What is the use of try and catch in exception handling mechanism?
19. Can a derived class get access privilege for a private member of the base class? If yes, how?
20. Differentiate between functions read() and write().

(2 x 8 = 16)**PART C****Answer any 5 (5 marks each)**

21. Write a C++ program to find the sum of two time quantities in hours and minutes(HH:MM) by overloading the operator.
22. Explain the different order of invocation of constructors and destructors in inheritance with simple example.
23. Explain the following data types of C++ and state their differences with suitable examples.
a) structure b) class

24. Explain how to declare and define a destructor in a class with example.
25. Explain function definition and function prototyping with an example.
26. Explain copy constructor with example.
27. Explain the exception handling mechanism in C++.

(5 x 5 = 25)

PART D

Answer any 2 (12 marks each)

28. Differentiate procedure oriented programming and Object Oriented Programming.
29. Explain friend function with its characteristics. Write a program using friend function to find the largest of two numbers in two different classes.
30. What is the use of virtual functions? Write a program to illustrate the use of virtual functions.
31. What is Operator overloading? What are its uses? Write a program to find the sum of complex numbers using binary operator overloading and explain the difference of binary operator overloading using friends function.

(12 x 2 = 24)