D5BHM2304 (PAGES: 2) **Reg. No.....**

Name: .....

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

(Regular/Improvement/Supplementary)

HONOURS IN MATHEMATICS

GMAH5B23T: OBJECT ORIENTED PROGRAMMING USING C++

Time: 3 hours **Maximum Marks: 80**

Part A: Answer *all* the questions. Each question carries *one* mark.

Choose the correct answer.

1. Which among the following doesn't come under OOP concept?
   a) Data hiding
   b) Message passing
   c) Platform independent
   d) Data binding
2. Which keyword is used to represent a friend function?
   a) friend
   b) Friend
   c) friend_func
   d) Friend_func
3. Which access type data gets derived as private member in derived class?
   a) Private
   b) Public
   c) Protected
   d) Protected and Private
4. C++ supports run time polymorphism with the help of virtual functions, which is called _____ binding.
   a) dynamic
   b) run time
   c) early binding
   d) static
5. _____ is useful in creating objects at run time.
   a) void pointer
   b) null pointer
   c) this pointer
   d) object pointer

Fill in the blanks.

6. C++ is a _____ type of language.
7. _____ constructor allows to initializes an object using another object of the same class.
8. _____ operator is used to deallocate memory space that is dynamically created.
9. A class with pure virtual function is called _____.
10. _____ keyword is used to throw an exception.

(10 x 1 = 10 Marks)

(PTO)

Part B: Answer any *eight* questions. Each carries *two* marks.

11. Explain the use of friend function.
12. Define the process of function overloading.
13. Write the syntax of try and catch statements.
14. Write any two features of destructor.
15. Compare class and objects.
16. What is multilevel inheritance?
17. Define variables and constants.
18. Give the syntax and example for if-else statement.
19. List out any four operator types.
20. When do we use multiple catch handlers?

(8 x 2 = 16 Marks)

Part C: Answer any *six* questions. Each carries *four* marks.

21. Write a short note on abstract class.
22. Discuss any four characteristics of pure virtual function.
23. Distinguish between single inheritance and multiple inheritance.
24. Write a short note on binding.
25. What are the basic data types available in C++?
26. Differentiate between static member function and normal function.
27. How is an exception handled in c++?
28. What do you mean by method overriding? Write the methods to implement.

(6 x 4 = 24 Marks)

Part D: Answer any *two* questions. Each carries *fifteen* marks.

29. a) Define datatype. Explain classifications of datatypes in detail.
    b) Explain any three bitwise operators and three logical operators in C++, with example.
30. a) How to pass object as argument? Explain with example.
    b) What is friend function? Explain its features and give an example to demonstrate the use of friend function.
31. a) How unary operator overloading implemented with friend function? Explain.
    b) Discuss the use of new and virtual keyword with example.
    c) Write a program to find sum of three numbers using single inheritance.

(2 x 15 = 30 Marks)