MCA 2nd Semester Mid-Term Examination, 2022
Subject: - OBJECT ORIENTED PROGRAMMING
Paper Code: - PCA02C11

Total Marks:-20 **Time: 1:00 hour**

Attempt all the questions

GROUP A

[1 X 4 = 4]

1. What is the drawback of 'keyword'?
2. Define "encapsulation".
3. What do you mean by 'namespace std'?
4. What is 'manipulator' in C++?

GROUP B

[2 X 4 = 8]

5. In which situations 'Inline' functions might not work?
6. Differentiate between a 'Reference variable' and a 'Pointer'.
7. Explain 'enum' data type with suitable example.
8. What do you mean by 'function prototyping'?

GROUP C

[4 X 2 = 8]

9. Create a class *bank_account* with the data members as: *name of account holder, account type, account balance* and member functions as: *input()* to take input towards each data member. Also create a private member function: *deposit()* to deposit money in the account. Display all details with the help of object from the class.

10. Discuss the various 'Storage Classes' in C++.

Marks Division

Question	1	2	3	4	5	6	7	8	9	10
Marks	1	1	1	1	2	2	2	2	4	4

Enrolment No. | | | | | | | |

MCA 2nd Semester End-Term Examination, 2022
Subject: - OBJECT ORIENTED PROGRAMMING
Paper Code: - PCA02C11

Total Marks:-50 **Time: 2:00 hours**

Attempt all the questions

GROUP A - 10 Marks

1. Why a friend function cannot be used to overload '=' operator? [2]
2. How does object-oriented approach differ from object based approach? [2]
3. Demonstration the use of 'new' operator in object creation. [2]
4. Define an abstract class with appropriate syntax. [2]
5. Show the use of 'this' pointer with syntax. [2]

GROUP B - 20 Marks

6. a) How does a main() function in C++ differ from the main() in C program? [2]
   b) What are the different access specifier/ visibility mode? [3]
7. a) What are the two ways that a member function of a class can be defined? [2]
   b) Mention different types of Inheritance with diagram. [3]
8. Write a program to input five subject marks for five students and show the total marks and average of marks for each student by using array of objects concept. [5]
9. Can we have multiple constructors in a class? Explain such a situation with a programming example. [5]

GROUP C – 20 Marks

10. a) Explain the concept of friend function and operator overloading. [2 + 2]
    b) Write a program to show the use of friend function to overload a binary operator. [6]
11. a) Create a base class 'shape' with two data members to compute the area of a figure and derive two classes from it as 'triangle' and 'rectangle'. Create two functions as input() and output() to take the input data members and display the area of figures respectively. Make output() as a virtual function in 'shape' and redefine it in the derived classes as per requirement. Based on all these data, create a C++ program that will accept the dimensions of a triangle and rectangle respectively and display their area.
    [area of rectangle = a*b and area of triangle = ½*a*b] [7]
    b) Differentiate between early binding and late binding. [3]