END SEMESTER EXAMINATION : NOV.–DEC., 2021

OBJECT ORIENTED PROGRAMMING
USING C++

Time : 3 Hrs.   Maximum Marks : 60

Note: *Attempt questions from all sections as directed.*

SECTION – A   (24 Marks)

*Attempt any **four** questions out of **five**.*
*Each question carries **06** marks.*

1. Describe the process of creating an object of a class that contains objects of other classes as data members.

2. Discuss what are static data members in class and how these are defined? How static functions are accessed?

3. Explain streams and the hierarchy of stream classes?

4. Explain run-time polymorphism. When do we use this pointer? Explain it with example.

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5.   Explain the concept of Exception Handling in object oriented programming with example.

SECTION – B   (20 Marks)

*Attempt any **two** questions out of **three**.*
*Each question carries **10** marks.*

6.   Consider an example of declaring the examination result. Design three classes: Student, Exam, and Result. The Student class has data members such as those representing roll number, name, age, etc. Create the class Exam by inheriting the Student class in public visibility mode. The Exam class adds data members representing the marks scored in six subjects. Drive the Result class from Exam class in public visibility mode and it has its own data members such as total_marks. Develop a program for this relationship. What type of inheritance this model belongs to?

7.   Write a program to overload arithmetic minus '-' operator for subtracting two complex numbers (use constructors also).

8.   Write a program to copy contents of file ABC.txt to file XYZ.txt.

SECTION – C (16 Marks)

(Compulsory)

9. Let us consider a situation where a LIC office administration wants to terminate their employees based on their performance. The LIC office will terminate employee based on the following condition.

   (a) If the LIC employee is a manager then his monthly target for maintaining funds should not be less than 20 lakh rupees.

   (b) If the LIC employee is a marketing LIC agent whose job is to open accounts then his monthly target should not be less than 10 accounts.

   Write a program that help LIC office to short list such employee by using the concept of pure virtual function.