Roll No. ....

OLE-3224

B. Tech. 5th Semester (ECE) (Open Elective-I) Examination – April, 2021

OBJECT ORIENTED PROGRAMMING WITH C++

Paper : OEC-ECE-317-G

Time : Three Hours]   *[Maximum Marks : 75*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* question in all, selecting *one* question from each Section. Question No. **1** is *compulsory*.

1. Answer the following questions : $2.5 \times 6 = 15$

   (a) What is scope resolution operator give an example of it in C++ ?

   (b) List and explain use of any four file mode parameters. State with example.

(c) Write a C++ program to swap two no. using pointer.

(d) Explain the working of insertion and extraction operators in C++ with example.

(e) State the use of friend function with example.

(f) Draw hierarchy of stream classes for file operations.

SECTION – A

2. (a) Explain data hiding & Encapsulation with example. 8

(b) Explain local & global object with example. 7

3. (a) How OOP is different from Procedure Oriented approach ? 8

(b) Explain recursion in C++. How recursion is achieved give example ? 7

SECTION – B

4. (a) Explain Inline function. State its advantages and disadvantages. Also write program to calculate area of circle using Inline function. 8

(b) Create a class "Book" whose private data members are "book name", "a book price" and public member functions are "get book details () "and "display book details ()". Create an object array of type book and write a friend function "align book ()" to align the array of books in alphabetical order. 7

5. (a) What is constructor? Explain its types and how it is different from member functions. Give example.

8

(b) What is destructor and when does a destructor member function invoked in a class ? 7

SECTION – C

6. (a) What is Inheritance ? Explain multilevel Inheritance with example. How it is different from hybrid Inheritance. 7

(b) What is virtual base classes ? Why it is important to make a class virtual ? 8

7. What is operator overloading ? Write a program in C++ to overload numerical operators + and / for complex numbers "addition and division" respectively.

15

SECTION – D

8. (a) Write C++ program to add two integers, two floating point no. and two complex no. using class templates.   7

(b) Explain virtual function. Differentiate between Virtual function and Pure virtual function. Also explain virtual destructors.   8

9. (a) What is exception handling ? How to throw an exception with example and how to catch multiple exceptions ?   8

(b) What is dynamic binding ? How it is different from static binding ? List some advantages of dynamic binding over static binding.   7