E – 4806

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Reg. No. : .....

Name : .....

Fourth Semester B.Tech. Degree Examination, August 2018
(2013 Scheme)
13.403 : OBJECT ORIENTED TECHNIQUES (FR)

Time : 3 Hours Max. Marks : 100

PART — A

All questions are **compulsory**. **Each** question carries **4** marks.

1. What is the use of "const" qualifier in C++ ?
2. Distinguish between private, protected and public access specifiers in a class.
3. How many arguments are needed for friend functions which overload unary and binary operators ?
4. List any four parameters that cannot be overloaded and why ?
5. What are streams ? Specify its use. **(5×4=20 Marks)**

PART — B

Answer **one** question from **each** Module. **Each** question carries **20** marks.

Module – I

6. a) Elaborate various concepts of object oriented programming. **12**
   b) Explain the use of inline functions with example program. **8**

7. a) Write a C++ program to calculate the area of a circle, rectangle and triangle using function overloading. **12**
   b) Write about the use of new and delete operators. **8**

P.T.O.

Module – II

8. a) Define a class to represent a bank account. Include the following members : Data members : Depositor name, Account number, Type of account, Balance amount in the account. Member functions : To assign initial values (constructor), To deposit an amount, To withdraw an amount after checking the balance, To display name and balance. Write a main program to test the program. **12**

   b) Demonstrate the use of array of objects with an example program. **8**

9. Explain the following with suitable program :

   a) Default and parameterized constructors **10**

   b) Copy and Dynamic constructors. **10**

Module – III

10. Illustrate various types of inheritances with an example program. **20**

11. a) Demonstrate the use of virtual function with an example. **8**

    b) Write a C++ program using operator overloading to perform the following complex number arithmetic. Arithmetic operations on two complex numbers (a, b) and (c, d) are as follows.

    (a, b) + (c, d) = (a + c, b + d)

    (a, b) – (c, d) = (a – c, b– d). **12**

Module – IV

12. Write a C++ file program to store the details of 10 employees in a file called emp.dat. Read the contents file and generate a payroll for employees. **20**

13. a) Write a generic function in C++ that will sort an array of integer, float values. Create a menu with appropriate options and accept the values from the user. **10**

    b) Discuss in detail the formatted I/O operations. **10**

(4×20=80 Marks)