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ES203

Enrol. No. A2305216200

[ET]

END SEMESTER EXAMINATION : NOV. – DEC., 2017

OBJECT ORIENTED PROGRAMMING USING C++

Time : 3 Hrs. *Maximum Marks : 70*

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

SECTION – A (30 Marks)

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

1. Explain briefly characteristics of OOPS language and mention advantages of OOPS approach over functional/procedural programming.

2. Describe what do you mean by nesting of classes? Also explain briefly how friend function is important in C++.

3. Differentiate between following terms with suitable examples :

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(i) Abstraction and Encapsulation.

(ii) Function Overloading and Function Overriding.

4. (a) What is meant by member access modifiers? Explain Exception handling with example. (3)

(b) What is a static data member? How they are used in static function? Explain with suitable illustrations. (3)

5. Explain the steps involved in reading and writing a file in a C++ program?

6. Using the concept of function overloading write a program in C++ to find the maximum of three integer numbers.

SECTION – B (20 Marks)

Attempt any **two** *questions out of* **three**.

Each question carries **10** *marks.*

7. (a) Define the term virtual base class and its implementation in C++. How it is used in function overriding? (5)

(b) Define a class bank account with current and saving bank account as inherited classes. Class bank account should have following data members: Account number, Name, Balance Amount and Member Functions: To initialize the value, to deposit and withdraw amount after checking the minimum balance. (5)

8. (a) Explain class and function template using suitable example in C++ programming. (6)

(b) Discuss the difference between virtual and pure virtual functions. (4)

9. Explain the different types of constructors in C++.

SECTION – C (20 Marks)

(Compulsory)

10. (a) WAP in C++ to implement array of objects, creating a class employee and accepting and displaying multiple datasets accepted by the user using array of objects. (5)

(b) Design three classes student, test and results, where result in inherited from test and test is

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inherited from student. Write possible functions to initialize the values. Also write a main function for execution by creating objects. (10)

(c) Create a generic function max that gives the maximum value of three generic type arguments that are passed to it. Then test this function by calling it with char, int and float type. (5)