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B. E. (Fourth Semester) Examination April-May 2020

(New Scheme)

(IT Branch)

**OBJECT ORIENTED CONCEPTS &
PROGRAMMING using C++**

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : All questions are compulsory. Part (a) of each unit is compulsory. Attempt any two parts from (b), (c) and (d), of each unit.

Unit - I

- 1. (a) Define class and object and how it is created? 2
- (b) Differentiate between object oriented programming language and procedural programming language. 7

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- (c) Explain static data member and static member function. Write a program using these member function. 7
- (d) What is nested class? Write a program using nested class. 7

Unit - II

2. (a) What is manipulators? List some manipulators used in C++ with example. 2
- (b) What is friend function? Write a program using friend function. 7
- (c) Explain the following with example : 7
- (i) Const. keyword
 - (ii) Abstract class
 - (iii) Local classes
- (d) What is function overloading? Write a program that explains function overloading. 7

Unit - III

3. (a) Define dangling pointer and null pointer. 2

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- (b) What is meant by 'this' pointer? Write a C++ program to demonstrate how this pointer is used to access the member data of a class. 7
- (c) Explain dynamic memory management. Write a program that explain dynamic memory allocation. 7
- (d) What is Constructor? Write a program explaining the concept of copy constructor. 7

Unit - IV

4. (a) What is the need of operator overloading? 2
- (b) What is inheritance? Explain type and need of inheritance and write the advantages and disadvantages of inheritance. 7
- (c) Write a program for overloading the binary operators (+) using friend function for adding two objects. 7
- (d) Explain how logical operators can be used for overloading in C++. 7

Unit - V

5. (a) Explain the concept of binding. 2

- (b) What is Virtual Function? Why do we need it?
Support your answers with example. 7
- (c) What is the mechanism used to handle exception?
Explain with example. 7
- (d) Write a program for writing a swap () function
template that will swap two values of a given data. 7