

**Exam.Code:0906**  
**Sub. Code: 6678**

**1079**  
B.E. (Computer Science and Engineering)  
Second Semester  
CS-202: Object Oriented Programming

Time allowed: 3 Hours

Max. Marks: 50

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Write short answers of the following:-
  - a) What are identifiers and keywords?
  - b) What is the use of scope resolution operator?
  - c) List the operators that cannot be overloaded in C++.
  - d) Why do we need virtual functions?
  - e) What is a default constructor? (5x2)

**UNIT – I**

- II. a) Describe in detail principles of object oriented programming.
- b) Describe in brief the syntax and usage of various control structures available in C++. (5,5)
- III. a) What is multiple inheritances? What is the problem that can arise when two parent classes of a particular class have common ancestor? How would you solve this problem?
- b) Define a class string with appropriate constructors, destructors and overloaded +, = and == operators and use them in a main program. (5,5)
- IV. a) What are pointers? Describe with the .help of an example, how the elements of an array can be accessed with the help of pointers.
- b) What is need of copy constructors? How do you implement them in C++? Describe with the help of an example. (5,5)

**UNIT – II**

- V. a) What is runtime polymorphism? How virtual functions can be used to implement the runtime polymorphism? Explain with an example.
- b) Write a template function to take, as arguments, either two integers, real numbers or characters and return 1 if they are equal and 0 otherwise. How will the function be called in the function main()? (5,5)

P.T.O.

- VI. a) With the help of an example, describe overloading of template functions.  
b) Write a C++ program to read a text file and display the contents, number of lines, number of words, and number of characters on the screen. (5,5)
- VII. Write short notes on:-  
a) Standard template library  
b) Exception handling (5,5)

x-x-x