B.E. (Computer Science Engineering) Fifth Semester (C.B.S.)

Object Oriented Programming

P. Pages : 2 **NRT/KS/19/3434**

Time : Three Hours * 0 1 3 9 * Max. Marks : 80

Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Assume suitable data whenever necessary.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) What is object oriented programming? How is it different from the procedure oriented programming? **6**

b) Write a program having class account with data members account – number and balance amount accept the data for n accounts and display the data of accounts having balance less than 5000/- **7**

2. a) Write a program for copy constructor. Also differentiate between copy constructor & assignment operator with object. **6**

b) Explain various ways of declaring & defining member function of a class. **4**

c) Differentiate between static and non – static data members of a class. Can we access non static data members without using object. **3**

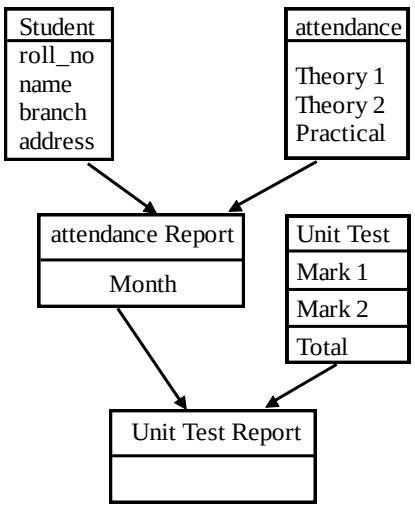
3. a) What is operator overloading? Explain overloading of unary & binary operators with suitable examples. **10**

b) What is difference between pointer to constant and constant pointer? **3**

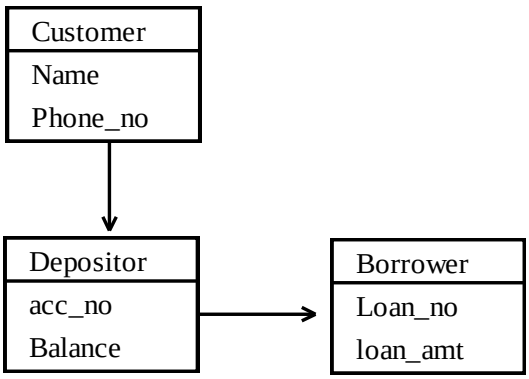
4. a) Explain New and DELETE operator with example. **6**

b) Write a program to overload the + operator so that two strings can be concatenated. **7**

5. Identify following inheritance and write a program by assuming proper member function. **14**



6. a) Identify following inheritance & write a program by assuming proper member function. **7**



b) Explain function overloading & write a program for that. **7**

7. a) What is virtual function and base pointer virtual function. Explain with example. **6**

b) Write down difference between static & dynamic binding. **7**

8. a) If a class hierarchy uses function overriding, how does a compiler resolve a call to over ridden function? Explain concept of late binding. **7**

b) Is it possible for a non member function of a class to access private data of that class? Support your answer with example. **6**

9. a) What is stream? What are its advantages. Explain the stream class hierarchy in C++. **7**

b) What is the use of manipulators? Explain various manipulators supported by C++ I/O streams. **6**

10. a) Explain the difference between formatted and unformatted I/O with example. **6**

b) Write a program that creates an output file "student info dat". Write student information to that file and read back that information. **7**

11. a) Define function sort ( ) using function template, which accepts an array of type int, char, float and sorts the array in ascending order. **7**

b) What is the need of multiple try blocks of a single catch block. Explain with example. **7**

12. a) Discuss iterators & specialized iterators. **4**

b) Write short note on : **10**

i) Sequential Container

ii) Associate Container

iii) Standard template binary.

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