



**B.TECH DEGREE EXAMINATIONS: MAY 2015**

Regulation 2013

Third Semester

**INFORMATION TECHNOLOGY**

U13ITT303-Object oriented programming with C++

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. The message for an object is a request for execution of a
  - a) Class
  - b) Any function
  - c) Member function
  - d) Structures
2. Approach of c++ program is based on the concept of \_\_\_\_\_
3. A member function declared constant cannot modify any of its
  - a) global data
  - b) public data
  - c) class's member data
  - d) static data
4. The \_\_\_\_\_ variable is defined outside the class
5. Operator overloading is
  - a) making c++ operators work with objects
  - b) giving c++ operators more than they can handle
  - c) not giving new meanings to existing c++ operators
  - d) Making new c++ operators.
6. The prototype for overloading ++ operator to perform postfix operation is \_\_\_\_\_
7. A pure virtual function is a virtual that
  - a) causes its class to be abstract
  - b) returns nothing
  - c) is not used in a base class
  - d) takes no argument
8. Run Time Polymorphism is achieved by \_\_\_\_\_
9. Exceptions are thrown from
  - a) the catch block to the try block
  - b) a thrown statement to the try block
  - c) the point of the error to the catch block
  - d) throw statement to a catch block.

10. We can output text to an object of class ostream using the insertion operator<< because the insertion operator is overloaded in ostream (True/False) \_\_\_\_\_

**PART B (10 x 2 = 20 Marks)**

11. Distinguish Member function and Inline function.
12. What is called as default argument? Give an example.
13. List the properties of static data member.
14. Write a syntax to create a pointer to a class data member
15. What is a conversion function? What situations conversion function will be created?
16. Define inheritance and list the types of inheritance.
17. Distinguish between virtual functions and pure virtual functions.
18. List the rules that need to be kept in mind in deciding virtual functions?
19. When should a function throw an exception?
20. Illustrate parameterized custom manipulators with example.

**PART C (5 x 14 = 70 Marks)**

**Q.No. 21 is Compulsory**

21.
    - i) Write a C++ program to take two values of time (hr,min,sec) and output their sum using constructor and operator overloading (8)
    - ii) Explain in detail about public and private inheritance. (6)
  22. a)
    - i) Compare procedure oriented programming and object oriented programming (8)
    - ii) Write a c++ program to print the sum of all squares between 1 and N, where N is a number accepted from the keyboard (ie)  $1+4+\dots+(N*N)$  (6)
- (OR)**
- b)
    - i) Write a function which takes object as input parameter & returns object reference to add length in the form of meter & centimeter. (8)
    - ii) Explain the control structures with suitable examples. (6)
  23. a)
    - i) Write a C++ program to find the mean and total of N numbers using array as a class member data. (8)
    - ii) Create a class that includes a data member that holds a serial number for each object created from the class. Add a member function that permits an object to report its own serial number. Write a main() program that creates three objects and queries each one about its serial number. (6)

**(OR)**

b) i) Write a C++ program to add 10 distance objects and show the result using array of objects. Distance object has km & meter as data member use operator overloading. (8)

ii) Explain the types of constructors with suitable examples. (6)

24. a) i) Define a class person with personal and age as data members. (8)

ii) How are template functions overloaded? Explain with a suitable example. (6)

**(OR)**

b) i) Model a class to check whether the given data member is palindrome or not. The data may be either integer array or character array variable. So the program has to accept any type of variables. Use templates to satisfy this condition. (8)

ii) Why do we need a virtual destructor? Explain with an example. (6)

25. a) What are the various ways of handling exceptions? Which one is the best? Explain.

**(OR)**

b) Develop a program to overload stream operators for reading and displaying the object of a student class using file concepts.

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