3E1635

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B.Tech. III Semester (Main/Back) Examination - 2014
Mechanical Engg.
3ME5A Object Oriented Programming In C++
(Common With 3AN5, 3AE5A)

Unit - I

1. a) Write a program in C++ to store the book information in a library using structure. Write functions to update the book information also. **(10)**

   b) Is there any difference between structure and union? Explain. **(6)**

OR

1. a) Write a program to store time using structure. Write a function to increase x minutes and y seconds in the time value. Also. **(9)**

   b) Write a function to pass whole structure to another function **(7)**

Unit - II

2. a) Define a class of triangles. Write member functions to get base and height of a triangle. Write a global function which creates an instance of the class triangle and computes area of the triangle. **(10)**

   b) Write a program to over load a unary operator. **(6)**

OR

2. a) Write a program to input date of birth of a student. Call a function to compute his lucky number. Add all digits of his date of birth (e.g. 01071969) to get single digit lucky number (e.g. 0+1+0+7+1+9+6+9=33=3+3=6). **(8)**

   b) What are the differences between manipulators and ios member functions in implementation? Give suitable examples. **(8)**

Unit - III

3. Explain the following with suitable examples-

   a) new and delete operators.

   b) constructor and destructor.

OR

3. a) Overload = = operator to compare 2 strings in string class. **(6)**

   b) Explain the use of key words 'using' and this with suitable examples. **(5+5)**

Unit - IV

4. a) Is there any difference between private and protected inheritance? Explain with suitable examples. **(10)**

   b) Explain the concept of dynamic binding. **(6)**

OR

4. a) What is the need of virtual destructors? Explain with a suitable example. **(8)**

   b) Can you create an instance of an abstract class? Explain with a suitable example.

Unit - V

5. a) Write a program to find cube of data using template. The data may be an integer, float or double number. (9)

 b) What is an 'exception'? Explain the best way exception handling with a suitable example. (7)

OR

5. a) Write a template for sorting of n integers.

 b) Is there any difference between function overloading and function overriding? Explain with suitable examples. (10)