d) Write a program in Java using class to add two distances entered in feet and inches and store the result in third distance. Pass two distances as argument to a function and the function should return the added distance.

OR

Write short note on: (Any two)

i) Encapsulation in OOPs

ii) Named Association

iii) JSP and servlets

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CS - 403

B.E. IV Semester

Examination, June 2015

Object Oriented Technology

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

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

   b) What is abstract class and why it is needed?

   c) Explain the significant of data hiding with an example. Compare static and dynamic objects.

   d) Create a class TIME. Create T_1, T_2 and T_3 as objects of TIME. Write a C++ program to read time T_1 and T_2 as hh, mm and ss.
   Where hh indicates hours, mm indicates minutes and ss indicates seconds. Assume hh, mm and ss all to be integers. Add these times T_1 and T_2 and store the result in time T_3. Print the value of T_3.

OR

What is meta class? How it modeling the real world objects? Give example and explain it with the example of classes.

Unit - II

2. a) What is association? Give syntax structure of many to many association.

   b) Discuss aggregation Vs generalization.

   c) What is use of class diagram and object diagram? Describe the icons used for class relationship. How can we use objects as software module?

   d) Draw the object diagram and class diagram to capture the interaction between students and teachers for courses as per given time-table. You are advised to choose descriptive self explanatory class, attribute and association names.

OR

Explain the multiplicity and Navigability with suitable example. Draw the relationship between them?

Unit - III

3. a) What is inheritance and polymorphism in object oriented programming?

   b) What is function polymorphism? What are different forms of its? Give example of each.

   c) When deriving a class from a base class with protected inheritance public members of the base class become protected members of the derived class?

   d) How in the C++ programming language, virtual inheritance is a kind of inheritance that solves some of the problems caused by multiple inheritance?

OR

What is meant by overriding member function? Explain containership? How does it differ from inheritance?

Unit - IV

4. a) What is basic properties of the public and private inheritance? Explain Disinheritance?

   b) How explain the stream and files in object oriented programming?

   c) What is the importance of copy constructor? Under which condition explicit definition of copy constructor is necessary? Explain by proper examples.

   d) Explain container class. Example of container classes and types of container.

OR

Write a program to explain how an objects can be returned from a function.

Unit - V

5. a) Explain Heterogeneous container with example.

   b) Explain threads in java programming.

   c) Explain the following terms:

      i) Throw an exception

      ii) Catching an exception