Roll No.....

M.Sc. (Informatics), Semester III, 2011

Paper IT 34 - OBJECT ORIENTED TECHNOLOGY

Time: 3 HOURS Maximum Marks: 75

(Write your Roll No. on the top of the paper)

(Attempt five questions in all. All questions carry equal marks)

Q.1 (a) What is the difference between object based and object oriented languages ? (5)

(b) Compare and contrast C-style String with String class Type of C++. (5)

(c) Once a const is defined , we can not change the value associated with a const. object. Can we assign its address to a pointer? Explain giving example. (5)

Q. 2 (a) Identify classes and draw CRC cards for the following case:

Given an A I System that has to function as a character Recognition S/W . Its purpose is to recognize the characters drawn by the user. Whatever character is drawn the software tries to match it with an already existing character in its knowledge base. If an exact match is found the software displays the charcater from the knowledge base else it displays the character from the knowledge base that matches the drawn character most closely. It then adds the new character to its knowledge base. Next time the character is drawn , it displays the newly learned character. (9)

(b) Using UML draw a complete class diagram for the above system. Show associations and cardinality (6)

Q. 3 (a) What is Encapsulation? Does inheritance strengthen or weaken Encapsulation? Explain? (5)

(b) A table gives a list of car models and the number of units sold in each type in a specified period.Write a program to store this table in a suitable container and to display interactively the total value of a particular model sold, given the unit cost of the model. (7)

(c) Differentiate between sequence container and asociative container? Explain when to use which container.
(4)

Q 4 (a) Briefly describe the Usage Of Name Space, Virtual Functions and Volatile Qualifier (6)

(b) Give guidelines for building stable, quality software systems. (4)

(c) What is enterprise computing? Discuss a tool used for enterprise computing? (5)

Q 5 (a) Explain a mechanism for transporting data between two potentially disparate systems.
(6)

(b) Write a class template that uses a vector to implement a stack data structure ? (9)

Q 6 (a) When used to describe features of programming languages, what do the terms static and dynamic mean?
(5)

(b) Imagine that you have two class hierarchies. A class of shapes, consisting of Triangle and Square, and a class of Output Devices, consisting of Printer and Terminal. Each of the four possible combinations of shape and output device requires a different algorithm for display. You have two variables, a shape and an output Device. Show how double dispatching can be used to correctly match a specific shape to a specific output device. (10)