

**CS-403**

**B.E. IV Semester**

Examination, December 2016

**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.

1. a) What is a Class? How does it accomplish data hiding?  
b) What are Objects? How are they created?  
c) Differentiate between global and local objects. Also write their advantages and disadvantages.  
d) What are class diagrams? How is it useful in object oriented programming? Take any one example to elaborate class diagrams.

OR

Describe the mechanism of accessing data member and member functions in the following cases.

- i) Inside the main program  
ii) Inside a member function of the same class  
iii) Inside a member function of another class
2. a) What do you understand by recursive association?  
b) Define the term Delegation.  
c) What is an association end? What are the properties of an association end?  
d) Draw the slate of a car as an aggregation of part slates (ignition, transmission, accelerator, brake). Draw the slate diagram of all the part slates.

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OR

What do you mean by behavioral modelling? Justify its need in OOT. Also write the name of various diagrams used to show the behaviour of system in UML.

3. a) How is polymorphism achieved at compile and run time?  
b) Distinguish between early and late binding?  
c) Write a program in C++ to show how constructors are implemented when the classes are inherited.  
d) What is Multiple inheritance? Explain its importance. Write a code to show the concept of multiple inheritance.

OR

Define a Class string. Use overloaded == operator to compare two strings with the help of program.

4. a) What are container Classes?  
b) What does the "current position" mean when applied to files?  
c) What is a file mode? Describe the various file mode options available.  
d) Two files named 'Source 1' and 'Source 2' contain sorted list of integer. Write a program that reads the contents of both the files and stores the merged list in sorted form in a new file named 'Target'.

OR

What is the major difference between a sequence container and an associative container? What are the best situations for the use of the associative containers?

5. a) What do you mean by friend function?  
b) How is dynamic initialization of objects achieved?  
c) What is exception handling? Take any one example to show an exception and how can we handle it?  
d) How can a derived function use a virtual function? In which class should a virtual function be declared and defined.

OR

Write short note on :

- i) Data Abstraction    ii) JSP and Servlets  
iii) JVM

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