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53 (CS 511) OOAD

2017

**OBJECT ORIENTED ANALYSIS  
& DESIGN**

Paper : CS 511

Full Marks : 100

Time : Three hours

***The figures in the margin indicate  
full marks for the questions.***

***Answer any five questions.***

1. (a) Distinguish between object oriented analysis and object oriented design. Which of the two requires more creative talents of the system developer? Justify. 4+2=6
- (b) Discuss the differences between object oriented programming and procedure oriented programming. 7
- (c) Explain the concept of virtual function in C++ with a suitable example. 7

Contd.

2. (a) What is a friend function? What are the merits and demerits of using friend functions? 2+3=5

(b) Explain the different types of constructors in C++ with suitable examples. 7

(c) Write a C++ program to add two distance objects (5km 700m and 7km 500m) overloading the unary '+' operator. 8

3. (a) Why UML is important? State the goals of UML. 6+4=10

(b) Discuss the different building blocks of UML modeling. 10

4. (a) Explain the terms 'actor' and 'use case' in a use case diagram. Give examples. 6

- (b) Draw the top level use cases for a web customer making purchases online. 4
- (c) Briefly explain the following terms : association, generalization and aggregation.  
What do you mean by multiplicity of an association? 6+4=10
5. (a) What is the importance of sequence diagram? Explain the process of making a hotel reservation with a neat sequence diagram. 3+7=10
- (b) Explain statechart diagram with a suitable example. 10
6. Write short notes on the following : **(any two)** 10×2=20
- (i) SDLC
- (ii) Activity diagram
- (iii) Memory allocation for objects.