MAHATMA GANDHI UNIVERSITY
MCA   DEGREE EXAMINATION
MODEL QUESTION PAPER
(2011 Revised Syllabi)
Fourth Semester
MCA 404 OBJECT ORIENTED MODELING AND DESIGN

Time : Three hours   **Maximum : 75 Marks**
Part A
Answer any ten questions.
Each question carries 3 marks.

1. List the phases in the Unified Process and the activities carried out in the inception phase.
2. What are the categories of requirements?
3. Describe the supplementary specification and its use.
4. What is the difference between System Sequence Diagrams and Sequence Diagrams?
5. Describe operation contracts with the help of an example.
6. Compare "analysis" and "design".
7. Explain the concept of refactoring.
8. Briefly describe any three common ways in which visibility can be achieved from one object to another.
9. Explain the terms forward, reverse and round trip engineering.
10. Explain association between objects.
11. Explain the use of component and deployment diagrams.
12. Briefly explain extend, include and generalize relations between use cases with the help of an example.

(10 x 3 = 30 marks)

Part B

All questions carry equal marks.

13. a) A meeting scheduler system is meant to manage group meetings to be conducted in a company. Develop two main use cases for this system in a fully dressed format. Also develop a supplementary specification relevant to this system. You should state clearly any reasonable assumption you make about the system.

OR

b) Explain in detail all aspects of the Inception phase. Justify the statement that Inception is not the Requirements Phase.

14. a) Develop the Domain Model and System Sequence Diagram for a meeting scheduler system meant to manage group meetings to be conducted in a company. You should state clearly any reasonable assumption you make about the system.

OR

b) List and briefly describe the various artifacts developed during the elaboration phase. What are the strategies used to find conceptual classes?

15. a) Develop the DCD and Sequence diagram for two major uses cases (not the login use case) for a meeting scheduler system. This system is meant to manage group meetings to be conducted in a company. You should state clearly any reasonable assumption you make about the system. Point out the patterns which you have used in this design and justify the usage.

OR

b) Describe the patterns – Creator, Information Expert, Low Coupling, Controller and High Cohesion with one example each with appropriate UML diagrams.

16. a) Can any of the patterns of Polymorphism, Indirection, Pure Fabrication and Protected Variations be used in the design of a meeting scheduler system? Justify usage/non usage of each of these patterns.

OR

b) Describe any three of the GoF patterns with the help of examples. Include appropriate UML diagrams.

17. a) Develop an activity diagram for a meeting scheduler system for a company. State any assumptions you make about this system while doing this.

OR

b) Develop a State Machine Diagram for an elevator system of a building. State clearly the assumptions you make about the system.

(5 X 9 = 45 marks)