**FACULTY OF INFORMATICS**

**B.E. (III/IV Year) (I.T.) II Semester (Main) Examination, June 2010**

OBJECT ORIENTED SYSTEM DEVELOPMENT

Time : 3 Hours]  [Max. Marks : 75

*Answer **all** questions from* Part A.
*Answer any **five** questions from* Part B.

**Part A –** (Marks : 25)

1. Explain briefly the following terms :

   (a) Association        (b) Dependency        3

2. Differentiate the following :

   (a) Activity and State      (b) Use case and Scenario        3

3. What is structural modeling of a system? How is it different from behavioral modeling?        3

4. What is multiplicity? How is it represented in UML? Give an example.        3

5. What are tagged values in UML? Give an example.        2

6. Give elements of UML.        2

7. What are artifact diagrams?        2

8. What is requirements capture?        2

9. "The unified process is architecture centric". Justify.        3

10. What are the responsibilities of a software architect?        2

**Part B –** (Marks : 5 × 10 = 50)

11. (a) Discuss the following concepts of UML with the help of an example.

    (i) Generalization

    (ii) Dependency

    (iii) Notes.        5

    (b) "UML is used for visualizing, specifying, contracting and documenting the artifacts of a software intensive system". Justify.        5

12. Assume that a professor is planning to write a book. In this process three people are involved; author, reviewer and publisher. The author writes a chapter and submits to the receiver. The author writes the next chapter provided that the reviewer accepts the previous one. After all the chapters are completed, the book is given to the publisher who in tern makes the book in a ready-to-print form. The book is printed after the author and reviewer approve.                                       10

   Accomplish the following for the above discussion :

   (a) Use case diagram.

   (b) Activity diagram using swim lanes.

13. (a) Explain the following parts of transition :

   (i) Guard Condition

   (ii) Action

   (iii) Target State.                                                            6

   (b) Discuss the concept of deferred event with the help of an example.         4

14. (a) Briefly explain the difference between class diagram and object diagram with an example.                                                                       5

   (b) Discuss any two features of sequence diagram that make them different from collaboration diagrams.                                                            5

15. (a) Explain the following relationships in use case diagrams :

   (i) extends

   (ii) includes

   (iii) uses.                                                                    5

   (b) Discuss the influence of the following in software development :

   (i) Process

   (ii) People.                                                                   5

16. (a) What is software architecture? Why we need it?                            3

   (b) What do you mean by iterative and incremental software development? Can they be used to mitigate risk? Justify your answer.                              7

17. (a) An do you understand a system context using a domain model.               4

   (b) Discuss the artifacts of a design model.                                   6

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