

Total No. of Questions : 12]

SEAT No. :

P793

[Total No. of Pages : 3

[4659] - 205

B.E. (Information Technology) (Semester - I)

OBJECT ORIENTED MODELING AND DESIGN

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 from Section I and*
- 2) Solve Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12 from Section II*
- 3) Answers to the two sections should be written in separate books.*
- 4) Figures to the right indicate full marks.*
- 5) Neat diagrams must be drawn wherever necessary.*
- 6) Assume suitable data, if necessary.*

SECTION - I

- Q1)** a) Explain extended features of UML 2.0. [6]
- b) Explain the following UML concepts with example: [8]
- i) Constraints across Association
 - ii) Relation between Usecase and Collaboration.
- c) Give the OCL expression syntax with an example. [4]

OR

- Q2)** a) Write a note on : MDI. [6]
- b) Explain the following UML concepts with example: [8]
- i) Relation between Component and Interface
 - ii) Difference between Aggregation and Composition
- c) Why UML is called as a language? Explain. [4]

- Q3)** a) How class diagram is useful to model simple collaboration? Explain with example. [8]
- b) Draw a use case diagram for 'Credit Card Validation System'. Assume the suitable scope and use advanced notations. [8]

P.T.O.

OR

- Q4)** a) Does the actor always represent a human user? Justify with suitable example. [4]
- b) Explain different types of relationships in which an interface participate with suitable example. [6]
- c) Define type. Give the appropriate example of static and dynamic types. [6]
- Q5)** a) What is the difference between an object diagram and a class diagram? [4]
- b) Draw an Object diagram for School Management System. Assume suitable data. [6]
- c) Write short note on Composite Structure Diagram. [6]

OR

- Q6)** a) Explain the terms navigation and role name related to association relationship with suitable example. [6]
- b) Explain any two types of visibilities that we can specify in UML for an association end with suitable example. [6]
- c) Explain with example the stereotypes used in Package diagram. [4]

SECTION - II

- Q7)** a) Differentiate between: [8]
- i) Sequence diagram and collaboration diagram
- ii) Action State and Activity State
- b) Draw Collaboration diagram for 'Registering a new student at a school'. [8]

OR

- Q8)** a) Draw state machine diagram for an ATM System using concurrent substates. [8]
- b) Explain the importance of timing diagram with example. [8]

- Q9)** a) How an activity diagram differs from traditional flowchart? Draw an activity diagram using swimlanes for 'Purchasing Grocery Items from Super Market'. Represent object flow. [10]
- b) Draw a sequence diagram for 'Withdrawal of money from ATM System'. Represent following things: [8]
- i) Alt Operator
 - ii) Return Message
 - iii) Self Call

OR

- Q10)** a) Can we use activity diagram to represent concurrent flow? Explain with example. [6]
- b) Explain following terms related to state with example: [6]
- i) Entry/Exit actions
 - ii) Deferred Events
 - iii) Internal Transition
- c) Write short note on: Interaction Overview Diagram. [6]

- Q11)** a) How do you model the Tables, Files, and Documents using components? Explain with example. [8]
- b) What is signal? How signals are modeled in UML? Explain with suitable example. [8]

OR

- Q12)** a) Draw deployment diagram for 'Purchasing books online'. [8]
- b) What is pattern? Explain different categories of Pattern? [8]

