GANPAT UNIVERSITY

B. Tech. Semester. V – Computer Engineering / Information Technology
Regular Examination November-December 2014
2CE501/2IT501: Object Oriented Analysis and Design

Time: 3 Hours

Total Marks: 70

Instructions:

1. Figures to the right indicate full marks.
2. Each section should be written in a separate answer book.

SECTION-I

Q.1 (a) Draw the use case diagram for "Online Admission Process". Show all possible (6) elements and relationships.

(b) Explain use case specification with suitable example. (6)

OR

Q.1 (a) What is the requirement of use case diagram? Explain use case diagram with (6) various elements and their notations.

(b) Draw the use case diagram for "Transfer Money using fund Transfer facility of (6) Internet banking". Mention all the possible elements and relationships.

Q.2 (a) Draw the sequence diagram to "purchase laptop" from Flipkart: (6)

(b) What is the need of collaboration diagram? Discuss collaboration diagram with (5) proper elements.

OR

Q.2 (a) Draw the sequence diagram which covers all possible elements and relationships (6) for "Quiz Process" on Moodle System.

(b) Draw the collaboration diagram which covers all possible elements and (5) relationships for "Online Mobile Recharge".

Q.3 (a) Define UML. Explain UML architecture with suitable diagram. (6)

(b) Discuss following with suitable example : (6)
1) UML Building Blocks
2) Reverse Engineering
3) Deployment Diagram

SECTION-II

Q.4 **(a)** Draw class diagram for the given set of classes: **(6)**
Building, Room, refrigerator, Milk, butter, freezer, ice, table, light, bedroom, kitchen, drawing room, door, bread, window, smoke alarm, burglar alarm, floor. Show advance relationships wherever applicable in your diagram.

(b) Explain the importance of class diagram? Draw class diagram and object diagram **(6)** for the given statements :
Gujarat shares border with Rajasthan, Madhya Pradesh & Maharashtra, Rajasthan shares border with Uttar Pradesh, Madhya Pradesh, Punjab & Gujarat.
Assume suitable attributes for the classes.

OR

Q.4 **(a)** Draw class diagram for the given scenario. **(6)**
A set of course is selected. Each course consists of a unique course number, number of credits and the syllabus. Students are admitted to courses. Each students detail includes roll number, address, semester number and the courses registered for the semester. The marks of the student for various units are keyed in; the SGPA is calculated. The recent marks of a student are added to his previous marks and a CGPA based on the credit points for various units is calculated. The marks for the current semester are formatted and printed. The CGPA and SGPA appear on the report.

(b) Draw the object diagram for the given statements: **(6)**
1) Raina and Ishant plays cricket for India.
2) Rohan scored 70 marks in Mathematics & 60 marks in English.
3) UVPCE has Computer & IT departments.

Q.5 **(a)** Draw state diagram for "Lift Elevator System". **(6)**

(b) Draw swimlane diagram for getting new postpaid connection of GTPL. Customer **(5)** chooses a plan from the given plans and fills the form online to get a unique ID. Using this unique ID, customer can pay the initial amount online either by debit card or net banking. GTPL sales executive installs the modem at the address mentioned in form. Customer verifies the plan and then signs the documents. Sales executive gives the payment receipt, instruction manual and user account details to customer.

OR

Q.5 **(a)** Define State & Event. Draw state diagram for the booking tickets online in **(6)** Gujarat Bus Reservation System (GBRS). In case of ticket availability, GBRS offers 40% discount on tickets booked before 2 months from the departure date. Tickets can only be cancelled 12 hrs before the departure of bus. In case of ticket cancellation 75% of money is refunded back to the customer's account. Tickets are upgraded from sitting to sleeper class if the sleeper class tickets are vacant at the time of departure.

(b) Draw the Activity Diagram for the Soft drink vending machine. **(5)**

Q.6 **(a)** Define the following terms with proper example : **(6)**
1) Signal Event , Change Event & Time Event
2) Entry and Exit activities

(b) Define model. Why do we need modeling? What are the advantages of modeling? **(6)**

END OF PAPER

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