1129
M. E. (Information Technology)
First Semester
MEIT-102/112: Object Oriented Analysis and Design

Time allowed: 3 Hours

Max. Marks: 50

NOTE: *Attempt __five__ questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.*

x-x-x

I. Attempt the following:-

a) Describe the use of Data Flow diagrams.

b) Define Encapsulation with suitable example.

c) What are ER Diagrams? Give suitable example.

d) Show where we can identify concurrency in a state diagram with suitable example.

e) Enumerate key benefits of using relational database management systems.

(5x2)

UNIT – I

II. Enumerate the events and states for a mobile application of Taxi booking service. Draw its state diagram.

(10)

III. XYZ Credit Corporation provides financing for customers making large purchases of XYZ computer equipment. Its job is to analyse deals proposed by salesperson and write the final contracts governing those deals. First the salesperson called in with a proposed deal. The call was taken by one of a half dozen people sitting around a conference table. Whoever received the call logged it and wrote the details on the piece of paper. A clerk then carried the paper to the second person, who initiated the next step in the process by entering the data into a computer system and checking the client's creditworthiness. This person then wrote the details on a piece of paper and carried the paper along with the original documentation, to a loan officer. Then, in the third step, the loan officer modified the standard XYZ loan agreement for the customer. This step involved a separate computer system from the one used in step two. In the fourth step, details of the modified loan agreement, along with the other documentation, were sent on to the next station in the process, where a different clerk determined the appropriate interest rate for the loan.

P.T.O.

IV. The step also involved its own information system. In step five, the resulting interest rate and all of the paper generated upto this point were then carried to the next stop, where the quote letter was created. Once completed, the quote letter was sent via overnight mail back to the salesperson.

Draw a Level 0 and Level 1 DFD for the above mentioned scenario. (10)

V. Write short notes on:-

a) OMT Methodology

b) Concurrency identification in system design (2x5)

UNIT – II

VI. Differentiate between Association, Aggregation and Composition with suitable example. (10)

VII. Describe various features of Object-Oriented Languages. (10).

VIII. Draw E-R diagram for the following:-

a) Consider University hostel's room allotment procedure. Student is allotted a single room only whereas same room can be allotted to more than one student. Room has room no, location as its attributes whereas student is characterized by rollno, name and CGPA.

b) Consider an order processing system. An order contains no. of items. Each item can also be part of another order. For each (order, item pair) quantity is recorded. For each order, orderno and date is recorded and for each item, item's name and item's price is recorded. (2x5)

x-x-x