MCA (Revised)

Term-End Examination

June, 2013

MCS-032 : OBJECT ORIENTED ANALYSIS AND DESIGN

Time : 3 Hours   *Maximum Marks : 100*

Note :   *Question no.* **1** *is* **compulsory**. *Attempt* **any three** *questions from the rest.*

1. (a)   With appropriate examples and diagrams   **10**
          for each, explain the following Modeling
          techniques.

    (i)   Object Modeling

    (ii)   Dynamic Modeling

    (b)   AVR movies offers the sale of tickets online
          from every Friday to next Thursday. You
          can book the tickets online, payments can
          be made through credit/debit cards. You
          would be given a transaction ID (which you
          should remember) after the transaction was
          done sucessfully. While collecting the ticket
          from the counter just before half-an-hour
          of any particular show, you have to reveal
          the ID along with the credit/debit card
          proof. You'll be issued a ticket.

Perform the following tasks for the above mentioned procedure :

(i) Draw a class diagram 5

(ii) Draw a object diagram 5

(iii) Draw association diagram 5

(iv) Draw an Activity diagram 5

(c) With the help of an example, explain the 10 Concurrency Identification concept for the real life objects.

2. (a) "Object design is a very iterative process in 10 which several classes, relationships between objects, are added when you move from one level to another level of the design". Explain all the steps in detail to be followed for the Object Design.

(b) Draw a DFD for the student admission/ 10 registration process for a new programme at IGNOU. Assumptions can be made wherever necessary. Draw the DFD's till level - 2.

3. (a) With the help of an illustration for each, 10 discuss the following :

(i) Mapping object classes to tables

(ii) Mapping associations to tables

(b) Define persistent data. How to identify 5 persistent data ?

(c) Define serialization. Where it can be used 5 and why ?

4. (a) Draw an instance diagram for $s = p + q/t$.   5

    (b) With the help of an appropriate example,   10
explain how the associations are
implemented as classes.

    (c) List and describe the elements of a State   5
Diagram.

5. Write short notes on *any four* of the following :

    (a) Referential and Domain Integrity   5x4=20

    (b) Multiple Inheritance

    (c) Collaboration diagram

    (d) Signals, cells, Passing of time and change in
State in VML

    (e) Factors to be considered for Design
optimization of an object.

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