No. of Printed Pages : 3

MCS-032

05185

MCA (Revised)
Term-End Examination
December, 2016

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) Read the situation given below :

"A University wants to computerise its admission process. The system should accept online applications for different programmes offered during respective admission cycles. Further, the system is also desired to verify the eligibility criteria, offer admission letter, accept fee through draft/cash/credit cards, allocate study centre and dispatch ID cards to the students."

Perform the following for this system : *20*

(i) Draw Class diagram.

(ii) Draw Object diagram.

(iii) Draw Use case diagram.

(iv) Draw Data flow diagram.

(b) Draw State diagram for online reservation of Railway tickets. 5

(c) Define Integrity constraints. Explain the types of Integrity constraints. 5

(d) Among the models, Object model, Functional model and Dynamic model, which model is the most important and why ? Give suitable justification for your answer. 5

(e) Briefly discuss the term persistence. How can you make your data persistent ? 5

2. Differentiate between the following : *4×5=20*

(a) Object Oriented Databases and Relational Databases

(b) Dynamic modeling and Functional modeling

(c) Generalization and Specialization

(d) Aggregation and Association

3. Discuss the following terms with suitable examples : *4×5=20*

(a) Deployment diagram

(b) Sequence diagram

(c) Activity diagram

(d) Collaboration diagram

4. (a) What do you understand by the term Association in the UML diagram. Briefly describe various types of Associations available in UML. 5

(b) Show the process of mapping ternary associations to tables, through an example. 5

(c) What do you understand by the term 'Serialization' ? Where is it required and why ? 5

(d) What is concurrency ? Explain the issues involved in identifying the concurrency in a system with suitable example. 5

5. (a) How does good software design differ from bad software design ? You are required to critically comment on the role of UML models in software designing. 5

(b) Briefly discuss two disadvantages of both structured analysis and object oriented analysis approach. 5

(c) Draw a sequence diagram for sending an e-mail to your friend. 5

(d) What is a system ? How is a model different from a system ? Explain briefly. 5