R10

Set No: 1

III B.Tech. II Semester Regular and Supplementary Examinations, May/June -2014
OBJECT ORIENTED ANALYSIS AND DESIGN
(Information Technology)

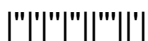Time: 3 Hours   Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks
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1) a) What are models and Meta models?
   b) Object oriented system development is use case driven approach, justify
   c) What are the main underlying concepts of object orientation?
   d) Why is it necessary to have a variety of diagrams in a model of a system?

2) a) Define Interface. Compare and Contrast it with an abstract class?
   b) Define object, class, method and messages?
   c) Differentiate persistent & non-persistent objects?

3) a) What are relationships?
   b) What are the relations accommodated by class diagrams?
   c) Compare and contrast link, association and navigation?
   d) Define the terms package and package generalization?

4) a) What is need of interaction and how it is modeled?
   b) Give the structural and semantic differences between sequence and collaboration diagrams?
   c) Give the sequence diagram for Electronic voting machine (EVM)?

5) a) What are Design artifacts?
   b) Compare and contrast aggregation and composition with example?
   c) What are the refined associations?
   d) Why association relations are more in diagrams of a system?

6) a) Explain general modeling techniques for interaction diagrams.
   b) Give the components and interface semantics for Library Automation.
   c) What is interface realization?

7) a) Explain state machine for Industrial temperature control system?
   b) Explain following terms with illustrative examples.
      i) Deferred Events ii) History States iii) Event Trigger iv) Guard Condition?

8) a) What are implementation artifacts?
   b) Explain general modeling techniques for deployment diagrams?
   c) Give the deployment diagram for embedded system?
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Set No: 2

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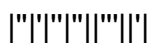**Time: 3 Hours**   **Max Marks: 75**

Answer any FIVE Questions
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1. a) Define Requirement Engineering and give the Process?
    b) Difference between object oriented approach and traditional approach?
    c) Contrast the following:
        i. Actors Vs. Stakeholders, ii. Usecase Vs. Algorithm
    d) Why is it necessary to have a variety of diagrams in a model of a system?

2. a) Differentiate persistent & non-persistent objects?
    b) Distinguish between class diagrams & Object class diagrams?
    c) What are the main underlying concepts of object orientation?
    d) Give the Object diagram for ATM system?

3. a) Explain the adornments for all relations with examples?
    b) Write short notes on Dependency, Generalization, Package and Inheritance?

4. a) Give any two dynamic diagrams for Point of Sale (POS) System?
    b) Write short notes on Lifeline, messages, connectors, events?
    c) Explain Activity diagram for Library book renewal?

5. a) Write a short note on association adornments.
    b) Explain architectural design unified classes?
    c) What are the main underlying concepts of Designed classes?

6. a) What is meant by timing diagrams?
    b) Identify the subsystems and interfaces for Windows OS?
    c) What is need of use the interaction diagrams?
    d) Write about activity, subsystem and use case realization?

7. a) Discuss the significance of state chart diagrams in modeling a system?
    b) Give the state machine semantics in detail?
    c) What is communication scenario in state machine?

8. a) Explain implementation workflow in detail?
    b) Give the relational concepts between Nodes and components?
    c) Write a short note on OCL?
    d) Identify the nodes for TCP/IP protocol suite servers over the Internet?

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Set No: 3

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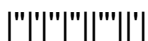**Time: 3 Hours**   **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
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1. a) Give the Use cases of student daily plan?
   b) Define actor, use case and give adornments to them?
   c) What is the difference between the up phase and up workflows?

2. a) Distinguish between class diagrams & Object class diagrams?
   b) Object oriented system need class diagram compulsory, justify it?
   c) What are the main features and types of objects?
   d) Why object diagram is not informative, give the views?

3. a) What is meant by importing and exporting with regard to packages? Explain.
   b) What are the visibility specifiers for classes and packages? Explain.
   c) What is need of relationship, give the explanation?
   d) Why is it necessary to have a variety of relations in diagrams of a system?

4. a) What are interaction overview diagrams?
   b) Explain activity diagrams semantics, regions and control nodes.
   c) What are the main underlying concepts of Signals and multicast messages.

5. a) Explain design workflow in detail?
   b) Object oriented system schema is a class diagram, justify it?
   c) What are the semantics of associations?
   d) Give the possible compositions and aggregation for College-Departments system?

6. a) How to model concurrency and synchronization?
   b) Explain use case realization with example.
   c) What are the subsystem interactions, write in detail.
   d) Give the components stereotypes for Library system.

7. a) Explain the necessity of state machine sub-states?
   b) Give the State machine diagram for ATM with-drawl?
   c) Write short note on History state.

8. a) What are diagrams required to model the hardware with example?
   b) Explain the deployment scenario for Railway reservation system.
   c) What are the main underlying concepts of Architectural views?

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1. a) What is Unified approach, give axioms and phases?
   b) Discuss how UML is evolved? Give the various things in UML?
   c) What are the main underlying concepts of diagrams?
   d) Why generalization is strong in a model of a system, justify it?

2. a) What are the common properties and uses of class diagrams?
   b) Give the class diagram for ATM system?
   c) What is first cut analysis model of a class?
   d) What is analysis of class?

3. a) Define the terms Encapsulation, information hiding, and inheritance reusability?
   b) Give the scaling issues of Object, Class and Package?
   c) What are the various stereo types that can be defined on dependency relationship and Explain with suitable examples?

4. a) Draw the Interaction diagram for Electronic Voting Machine (EVM).
   b) Draw the Activity diagram for ATM system?

5. a) What are Collections about association?
   b) Explain Inheritance and templates?
   c) Write short note on anatomy of a designed class?

6. a) What are interfaces and components?
   b) Give the advantages and disadvantages of interfaces?

7. a) What are the semantics required to follows for events and transitions in state machine?
   b) Explain the process of sub-machine communication?
   c) Give the state machine for Refrigerator control?

8. a) Give the Deployment diagram for hospital management system?
   b) Discuss common modeling techniques for deployment diagrams?
   c) What are the main underlying concepts of hardware things to be modeled?

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