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17CS551

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021
Object Oriented Modeling and Design

Time: 3 hrs.   Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1   a.   What is an object orientation? Explain the four aspects of Object Orientation.   **(06 Marks)**
    b.   Explain Object Oriented Themes.   **(06 Marks)**
    c.   What is a model? Explain the three models used in object orientation modeling and design.   **(08 Marks)**

OR

2   a.   Define the following terms with an examples:
        (i)   Links and Association
        (ii)   Multiplicity
        (iii) Qualified Association
        (iv)   Ordering   **(08 Marks)**
    b.   Briefly explain Aggregation and Composition with an example.   **(06 Marks)**
    c.   List and explain various restricting techniques used with respect to workarounds.   **(06 Marks)**

Module-2

3   a.   With a neat diagram illustrate the detailed object oriented requirements definitions.   **(06 Marks)**
    b.   What is use-case and actor? With a neat diagram, describe order-entry subsystem with <<includes>> use cases.   **(06 Marks)**
    c.   List and define separate levels of use case description. Illustrate the intermediate description of telephone order scenario for create new order use case.   **(08 Marks)**

OR

4   a.   What is System Sequence Diagram (SSD)? Explain SSD of the simplified telephone order scenario for the create new order use case.   **(06 Marks)**
    b.   With a neat diagram, explain the activity diagram of web order scenario for the create new order use case.   **(08 Marks)**
    c.   With a neat sketch, explain partial state chart for OrderItem.   **(06 Marks)**

Module-3

5   a.   Explain the software development stages.   **(09 Marks)**
    b.   Differentiate between waterfall development and iterative development life cycles.**(04 Marks)**
    c.   Explain briefly the questions to be answered by a good system concept with respect to ATM case study.   **(07 Marks)**

OR

6   a.   Explain the steps used to construct a domain class model.   **(10 Marks)**
    b.   Explain the steps involved in developing domain state model.   **(10 Marks)**

Module-4

7 a. With a neat diagram, explain object oriented event-driven program flow. **(08 Marks)**
  b. What are the steps used in object oriented design process? **(04 Marks)**
  c. What is a stereo type? With a neat diagram, explain standard stereotypes found in design models. **(08 Marks)**

OR

8 a. Explain briefly the concepts of interaction diagrams:
   (i) Object responsibility
   (ii) Use case controller **(06 Marks)**
  b. Discuss the symbols used in communication diagram. **(06 Marks)**
  c. With a neat diagram, explain partial design of a three layer package for RMO. **(08 Marks)**

Module-5

9 a. What is design pattern? Explain in brief the four essential elements of pattern. **(07 Marks)**
  b. Briefly explain how to select a design pattern. **(06 Marks)**
  c. Explain how to use a design pattern. **(07 Marks)**

OR

10 a. Explain Intent, Structure, Applicability, Collaborations and Consequences of prototype pattern. **(10 Marks)**
  b. Explain Intent, Structure, Applicability, Structure, Participants and Implementation of Adapter Pattern. **(10 Marks)**

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