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10CS71

Seventh 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, selecting at least TWO full questions from each part.***

PART – A

1 a. What is Object Orientation? Elaborate on the major themes that are well supported in Object Oriented technology. **(08 Marks)**

b. Use illustrations and explain the following with UML convention.
i) Class ii) Values and attributes iii) Operations and Methods. **(06 Marks)**

c. What is generalization? Briefly discuss the generalization for equipments with neat diagram. **(06 Marks)**

2 a. Explain the following: i) Association Ends ii) N-ary Association iii) Constraints on links **(06 Marks)**

b. Explain the summary of basic state diagram notation with style conventions. **(08 Marks)**

c. What is state? Explain the various characterizations of a state. **(06 Marks)**

3 a. What is a nested state? Illustrate the importance of aggregation concurrency with the help of a state diagram. **(08 Marks)**

b. Explain use case relationship with a neat diagram. List the guidelines for use case relationships. **(08 Marks)**

c. Explain Swimlanes with a neat activity diagram. **(04 Marks)**

4 a. Identify the classes for ATM bank system. What criteria would you take into consideration to select right classes? Explain. **(08 Marks)**

b. What is System conception? List and explain questions that must be answered by a good system concept. **(08 Marks)**

c. Differentiate between waterfall approach and iterative approach. **(04 Marks)**

PART – B

5 a. List and explain the steps for constructing application state model. **(10 Marks)**

b. Describe the steps involved to allocate each concurrent sub-system to a hardware unit, either a general purpose processor or a fractional unit. **(10 Marks)**

6 a. Briefly discuss the design optimization and explain its tasks in detail. **(08 Marks)**

b. What is fine-tuning classes? Explain fine-tuning generalization by developing a translation model. **(08 Marks)**

c. Explain how to bridge the gap from high-level requirements to low-level services in class design. **(04 Marks)**

7 a. What is Pattern? Explain briefly properties of patterns for software architecture. **(08 Marks)**

b. Explain client-dispatcher design pattern. **(08 Marks)**

c. Describe three categories of patterns. **(04 Marks)**

8 a. Explain the command processor design pattern. **(08 Marks)**

b. What are idoms and styles? Explain with the help of an example. **(04 Marks)**

c. Write a note on:
i) Structure of view handler pattern.
ii) Consequence of view handler pattern. **(08 Marks)**

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