

CBCS SCHEME

USN

15CS551

Fifth Semester B.E. Degree Examination, July/August 2022 Object Oriented Modeling and Design

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Explain the major themes that are well supported in object oriented technology. (06 Marks)
- b. What is a constraint with respect to a class modeling? Explain :
 - i) Constrains on Generalization Sets
 - ii) Constraints on Links
 - iii) Constraints on objects. (06 Marks)
- c. Explain the following with neat sketch :
 - i) Association Class Vs Ordinary Class
 - ii) Qualified Association Vs Not Qualified. (04 Marks)

OR

- 2 a. Define the following terms with example :
 - i) Metadata
 - ii) Reification
 - iii) Derived data
 - iv) Packages. (06 Marks)
- b. What is modeling? Explain what are the purposes it serves. (04 Marks)
- c. Illustrate classes of geometric figures with neat sketch. List the purposes of Generalization. (06 Marks)

Module-2

- 3 a. Illustrate a use case diagram of the order entry subsystem for RMD, showing a system boundary. (06 Marks)
- b. Explain the purposes of System Sequence Diagram. Illustrate what symbols are used in System Sequence Diagram. (06 Marks)
- c. Explain the Simple State Chart for a printer. (04 Marks)

OR

- 4 a. Illustrate the requirements diagram with UML model. (06 Marks)
- b. List and explain the rules for developing state charts. (06 Marks)
- c. Illustrate the relationship among object oriented requirements models. (04 Marks)

Module-3

- 5 a. Explain the process of a preparing a problem statement with an example ATM case study. (06 Marks)
- b. Explain the activity diagram for card verification. (06 Marks)
- c. Explain Domain class model. List the steps to construct domain class model. (04 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42 + 8 = 50, will be treated as malpractice.

OR

- 6 a. Explain the software development process with its stages. (06 Marks)
b. Define domain state model. List and explain the steps to construct domain state model. (06 Marks)
c. Summarize the use case diagram for the ATM. (04 Marks)

Module-4

- 7 a. Illustrate the relationship of design models with their respective input models. (06 Marks)
b. List and explain the steps required for object oriented design process. (05 Marks)
c. Explain the different symbols used in communication diagram. (05 Marks)

OR

- 8 a. Illustrate the System Sequence Diagram (SSD) of the telephone order scenario for the create new order use case. (05 Marks)
b. List and explain the guidelines for preliminary sequence diagram development. (06 Marks)
c. Explain the standard stereo types and their notations used for design classes. (05 Marks)

Module-5

- 9 a. Illustrate Adapter design pattern and explain the structure, consequences and implementation steps part of Adapter Design Pattern. (08 Marks)
b. List and summarize the Design Pattern Description (formed) with an example pattern Smalltalk MVC. (08 Marks)

OR

- 10 a. Explain the structure, applicability, consequences and implementation steps part of proxy design pattern. (08 Marks)
b. Explain the step-by-step approach to applying a design pattern effectively. (08 Marks)

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