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18CS731

Seventh Semester B.E. Degree Examination, July/August 2022 Software Architecture and Design Pattern

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 design pattern? Explain essential elements of design pattern. (08 Marks)
- b. Explain key concept of object oriented design. (08 Marks)
- c. What are benefits of drawback of object oriented design? (04 Marks)

OR

- 2 a. List the activities of analysis phase? Explain different type of requirements with examples. (08 Marks)
- b. Draw and explain sequence diagram for,
 - (i) Issuing a book from library. (06 Marks)
 - (ii) Removing a book from library. (06 Marks)
- c. What are the guidelines to remember when writing use cases? (06 Marks)

Module-2

- 3 a. Explain the structure and applicability of an bridge pattern. (08 Marks)
- b. Explain different issues need to be consider while implementing the composite pattern. (08 Marks)
- c. With a neat diagram, explain the structure of adapter pattern. (04 Marks)

OR

- 4 a. Explain the issues to be consider when implementing decorator pattern. (08 Marks)
- b. Explain different participants in fly weight pattern. (04 Marks)
- c. Explain structure and participants of proxy pattern. (08 Marks)

Module-3

- 5 a. Explain structure, participants, Applicability in chain of responsibility pattern. (06 Marks)
- b. Explain the implementation details of iterator pattern. (08 Marks)
- c. Describe the motivation of mediator pattern with neat diagram. (06 Marks)

OR

- 6 a. Explain different issues need to be considered while implementing observer patterns. (08 Marks)
- b. What are the different consequences of memento pattern? (06 Marks)
- c. Explain structure and participants in visitor pattern. (06 Marks)

Module-4

- 7 a. With a neat diagram, explain alternate view of M.V.C pattern. (06 Marks)
- b. Explain different issues need to be highlighted when implementing undo operation. (08 Marks)
- c. Draw and explain sequence diagram for,
 - (i) Sequence of operation for drawing a line. (06 Marks)
 - (ii) Sequence of operation for adding a label. (06 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.



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OR

- 8 a. Explain the characteristics of architectural pattern in pattern based solution. (08 Marks)
b. With neat diagram, explain the design of the view subsystem. (08 Marks)
c. Explain different benefits of M.V.C patterns. (04 Marks)

Module-5

- 9 a. What are distributed system? Explain the base architecture of client server system. (08 Marks)
b. Explain the process of implementing a remote interface. (08 Marks)
c. Compare Get and Post method. (04 Marks)

OR

- 10 a. How to develop the user requirement? Explain steps involved in it by taking library system as example. (08 Marks)
b. Draw and explain sequence diagram for renewing book in library system. (06 Marks)
c. Draw and explain the directory structure of servlet. (06 Marks)

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