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18CS731

Seventh Semester B.E. Degree Examination, Dec.2023/Jan.2024 Software Architecture and Design Patterns

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? List and explain the four essential elements of a pattern with small talk MVC. (08 Marks)
b. Explain catalog of design pattern with organizing the catalog. (08 Marks)
c. How design pattern solve design problems? (04 Marks)

OR

- 2 a. Explain the types of UML diagrams with an example. (10 Marks)
b. Develop the use case diagram for the library system.
i) Registering a new member
ii) Returning a book. (10 Marks)

Module-2

- 3 a. Define structural pattern. Explain in detail adapter design pattern. (10 Marks)
b. What is decorator pattern? Explain with neat sketch various participants of decorator pattern. (10 Marks)

OR

- 4 a. Explain the participants and consequences of bridge pattern. (08 Marks)
b. Explain motivation, applicability, structure and participants of façade design pattern. (08 Marks)
c. Explain participants and consequences of proxy design pattern. (04 Marks)

Module-3

- 5 a. Define behavioral pattern. Explain in detail chain of responsibility design pattern. (10 Marks)
b. Explain in detail interpreter design pattern. (10 Marks)

OR

- 6 a. Discuss participants and consequences of command pattern. (10 Marks)
b. Explain when to use memento, observer, state and mediator, integrator design patterns. (10 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.

Module-4

- 7 a. What is architectural pattern? Explain the MVC architecture and alternative view of the MVC architecture. (10 Marks)
- b. Explain the issues need to be highlighted when implementing the UNDO operation. (10 Marks)

OR

- 8 a. Explain design of item and its subclasses. (08 Marks)
- b. Explain use case for drawing a line. (04 Marks)
- c. Define controller explain the steps involved in defining the controller. (08 Marks)

Module-5

- 9 a. With a neat diagram, explain the basic architecture of client/server systems. (10 Marks)
- b. Explain deploying the library system on the world wide web. (10 Marks)

OR

- 10 a. Explain Java remote method invocation. (10 Marks)
- b. Explain : (10 Marks)
- i) HTML and Java servelets
 - ii) GET or POST METHOD.
