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15IS72

Seventh Semester B.E. Degree Examination, Jan./Feb. 2021
Software Architecture and Design Patterns

Time: 3 hrs.

Max. Marks: 80

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

Module-1

1 a. List out and explain four essential elements of design pattern with small talk MVC example. **(08 Marks)**
   b. List out the templates used in describing design pattern. **(04 Marks)**
   c. Name any four design pattern available in catalog of design pattern. **(04 Marks)**

OR

2 a. Name the several approaches to find the design pattern that's rights for your problem. **(06 Marks)**
   b. Define object oriented development. Name the various key concepts of OOD. **(06 Marks)**
   c. Explain the benefits and drawback of the paradigm in OOD. **(04 Marks)**

Module-2

3 a. List out the business process of the library system. **(05 Marks)**
   b. Define business rule. List out the rules of the library system. **(07 Marks)**
   c. Explain how do business rules relate to use cases with its four categories. **(04 Marks)**

OR

4 a. List out the guidelines to remember when writing use cases. **(07 Marks)**
   b. What is domain analysis? Explain the thumb rules and caveats come on handy. **(06 Marks)**
   c. Compare business process modeling and use case modeling. **(03 Marks)**

Module-3

5 a. Define structural pattern. List out the consequences of adapter pattern. **(05 Marks)**
   b. Describe the two important issues when implementing the fly weight pattern. **(04 Marks)**
   c. Describe the implementation and sample code of adapter pattern. **(07 Marks)**

OR

6 a. Define the intent of Bridge pattern. Mention the consequences of bridge pattern. **(04 Marks)**
   b. What is decorator pattern? Explain with neat sketch various participants of decorator pattern. **(07 Marks)**
   c. Explain with necessary diagram how compiler facade makes life easier for most programmers. **(05 Marks)**

Module-4

7 a. Mention and explain benefits of MVC pattern. **(05 Marks)**
   b. With suitable use case tables explain analyzing a simple drawing program of MVC pattern. **(06 Marks)**
   c. Explain interaction diagram for the bridge pattern between the two classes. **(05 Marks)**

OR

8 a. Explain the sequence of operations for adding a label which deals with the Environmental variables. **(08 Marks)**
   b. Explain the design of the controller subsystem with controller class diagram. **(08 Marks)**

Module-5

9 a. What is remote object? Explain Java Remote Method Invocation. **(06 Marks)**
   b. Explain implanting an object oriented system on the web. **(06 Marks)**
   c. Write short notes on servlet container. **(04 Marks)**

OR

10 a. Explain the class diagram for library servlets. **(06 Marks)**
    b. Explain simplified sequence diagram for removing books. **(08 Marks)**
    c. Define sessions and session object of servlets. **(02 Marks)**

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