



# CBCS SCHEME

15IS72

Seventh Semester B.E. Degree Examination, Feb./Mar. 2022

## 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. What is Object – Oriented Development? Describe the key concepts of object oriented design. (10 Marks)  
b. Describe Design patterns. (06 Marks)

OR

- 2 a. List the benefits and drawbacks of paradigm. (06 Marks)  
b. How Design pattern Solve Design Problems. (10 Marks)

### Module-2

- 3 a. Describe the business processes of the library system. (08 Marks)  
b. Briefly explain Functional Requirement specification by means of use case analysis for the library system. (08 Marks)

OR

- 4 a. Explain the Design process. (08 Marks)  
b. Illustrate sequence diagrams for any two  
i) Adding new members ii) Issuing Books iii) Printing Member Transaction  
Pertaining to a library system. (08 Marks)

### Module-3

- 5 a. Describe a class adapter towards its structure, participant, Collaboration and Consequence. (08 Marks)  
b. Explain the Bridge pattern, Motivation and applicability. (08 Marks)

OR

- 6 a. List out the issues in implementing composite pattern. (08 Marks)  
b. Write short note on : i) Facade ii) Proxy. (08 Marks)

### Module-4

- 7 a. What is MVC architecture pattern? Explain and list the benefits. (08 Marks)  
b. Explain Designing the system, subsystem for an interactive system. (08 Marks)

OR

- 8 a. List the issues in context of implementing the undo operation. (06 Marks)  
b. List the characteristics of Architectural pattern (05 Marks)  
c. Write a note on different Architectural pattern. (05 Marks)

### Module-5

- 9 Explain in detail JAVA REMOTE METHOD INVOCATION. (16 Marks)

OR

- 10 a. Explain HTML and Java servlets pertaining to object oriented system on the web. (08 Marks)  
b. Write a note with minimal consideration is designing and developing a web-based version of a library system. (08 Marks)

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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.