

Code: 20IT6601

III B.Tech - II Semester – Regular Examinations – JUNE 2023

**SOFTWARE ARCHITECTURE AND DESIGN
PATTERNS
(HONORS in INFORMATION TECHNOLOGY)**

Duration: 3 hours

Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.

2. All parts of Question must be answered in one place.

BL – Blooms Level

CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Define Design Pattern. Explain the four essential elements of pattern.	L1	CO1	7 M
	b)	Explain advantages and disadvantages of delegation.	L2	CO1	7 M
OR					
2	a)	Describe the common causes of redesign along with pattern that address them.	L1	CO1	7 M
	b)	Explain, how design pattern help in specifying object implementations.	L2	CO1	7 M
UNIT-II					
3	a)	What are design patterns, and how do they help in analyzing a system?	L1	CO2	7 M
	b)	What factors should you consider when analyzing a system using design patterns?	L1	CO2	7 M

OR						
4	<p>A Hotel Reservation System supports the following functionalities:</p> <ul style="list-style-type: none"> i. Room Reservation ii. Changing the properties of a room(For example, from non-smoking to smoking) iii. Customer check-in iv. Customer check-out <p>Come-up with system use cases for the above functionality.</p>			L3	CO3	14 M

UNIT-III					
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5	a)	Describe the implementation and Structure of Bridge design pattern.	L1	CO3	7 M
	b)	Explain the Intent, Structure, Participants and related patterns of Adapter pattern.	L2	CO3	7 M

OR					
6	a)	What is the intent and motivation of Facade pattern? Explain.	L2	CO3	7 M
	b)	Discuss in detail about the participants and consequences of Composite pattern.	L1	CO3	7 M

UNIT-IV					
7	a)	Explain the implementation issues of chain of responsibility pattern with sample code.	L2	CO4	7 M
	b)	Explain the Motivation of command pattern.	L2	CO4	7 M
OR					
8	a)	Explain the Iterator pattern in detail.	L2	CO4	7 M
	b)	Explain the implementation issues of Interpreter pattern with sample code.	L2	CO4	7 M
UNIT-V					
9	a)	Discuss about embellishing the user interface in detail.	L2	CO4	7 M
	b)	Explain about supporting multiple window systems in designing a document Editor.	L2	CO4	7 M
OR					
10	a)	Write short notes on user operations.	L2	CO4	7 M
	b)	Explain about Spelling Checking and Hyphenation with suitable examples.	L2	CO4	7 M