Code No: 127CF

R15

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, May/June - 2019
DESIGN PATTERNS
(Common to CSE, IT)

Time: 3 Hours   **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each
question carries 10 marks and may have a, b, c as sub questions.

PART- A
(25 Marks)

1.a)	What is a Design Pattern? Explain.	[2]
b)	What are the three categories of design patterns?	[3]
c)	List out some problems associated in designing a document editor.	[2]
d)	What is the benefit of Factory pattern?	[3]
e)	What is the intent of the Adapter pattern?	[2]
f)	Explain what is Composite pattern?	[3]
g)	What are the consequences of mediator pattern?	[2]
h)	What is the intent of the Observer pattern?	[3]
i)	Write the purpose of behavioral patterns.	[2]
j)	What are the five errors in using design patterns?	[3]

PART-B
(50 Marks)

2.a)   What are three reasons for studying design patterns?
  b)   What is the relationship between "consequence" and "forces" in a pattern?   [5+5]

OR

3.a)   What are the key elements in the description of a design pattern?
  b)   Explain how design patterns solve design problems.   [5+5]

4.a)   Write about the functionality of operations that are accessed indirectly through user operations.
  b)   What are the implementation issues that are to be considered for builder pattern?   [5+5]

OR

5.   What are the benefits of Singleton pattern? Discuss the implementation issues of singleton pattern in detail.   [10]

6.a)   What is the basic problem being solved by the Bridge pattern? Explain.
  b)   The Façade pattern and the Adapter pattern may seem similar. What is the essential difference between the two? Explain.   [5+5]

OR

7.a)   What are two classic examples of decorators? How does the Decorator pattern help to decompose the problem?
  b)   Why are the Bridge and Decorator patterns more correctly classified as structural rather than behavioral patterns?   [5+5]

8.a)   Discuss about the structure and participants of Interpreter pattern.
  b)   What are the implementation issues to be considered in Chain of Responsibility pattern?
       Explain.   [5+5]

OR

9.a)   Explain in detail about the applicability and structure of Command pattern.
  b)   Describe the implementation issues of Memento pattern.   [5+5]

10.a) Write about the benefits and liabilities of the Visitor pattern.
   b) What are the difference between the Strategy pattern and the Template Method pattern?
                                                                                   [5+5]

OR

11.a) Describe in detail about the structure and participants of Strategy design pattern.
   b) Write about the implementation issues of State Behavioral pattern.   [5+5]

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