R13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, November/December - 2016
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 Gang of Four *GOF*?	[2]
b)	How to select a design pattern?	[3]
c)	How many objects is the Singleton responsible for creating?	[2]
d)	What are the consequences of the Abstract Factory pattern?	[3]
e)	What is the basic problem being solved by the Bridge pattern?	[2]
f)	What are the two variations of the Adapter pattern?	[3]
g)	What is the intent of mediator pattern?	[2]
h)	What are the consequences of Chain of Responsibility pattern?	[3]
i)	What is Template method pattern?	[2]
j)	What is the purpose of Visitor pattern?	[3]

PART-B

(50 Marks)

2.a) What are the different ways in which patterns and frameworks share similarities and in which they differ? Discuss.
  b) Describe the consistent format for describing the design patterns.   [5+5]
OR
3.a) Give the step-by-step approach to apply a design pattern effectively.
  b) What is the basis for classifying design patterns? Categorize and tabulate the design patterns.   [5+5]

4.a) Discuss about Lexi's user interface and its design problems.
  b) The Singleton uses a special method to instantiate objects. What is special about this method?   [5+5]
OR
5.a) What are the implementation issues of prototype design pattern? Discuss.
  b) Can we use an abstract factory for supporting multiple window system in Lexi's design? Explain.   [5+5]

6.a) Discuss in detail about the participants and consequences of Composite pattern.
  b) What is the intent and motivation of Façade pattern? Explain.   [5+5]
OR

7.a) When can be a Flyweight pattern effectively be applicable? Explain.
 b) What are the different language features that are exploited by proxy pattern? [5+5]

8.a) Write about the implementation issues of memento pattern.
 b) Explain the motivation and applicability of observer pattern. [5+5]

OR

9. What is Command Pattern? Describe in detail about structure, participants and collaborations of Command pattern. [10]

10.a) Discuss the implementation issues of Strategy behavioral pattern.
  b) Explain what to expect from design patterns. [5+5]

OR

11.a) Discuss about the structure and participants of state design pattern.
  b) Write about Pattern community in brief. [5+5]

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