R13

Code No: 117CF
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, April/May - 2018
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 the meaning of "Intent" in design pattern?   [2]
  b) How to use a design pattern? Write the guidelines.   [3]
  c) What is the rationale behind Prototype design pattern?   [2]
  d) List different types of creational patterns.   [3]
  e) Define Bridge pattern.   [2]
  f) Sketch the structure of composite pattern.   [3]
  g) List the benefits of Iterator pattern.   [2]
  h) What is the intent of Memento pattern?   [3]
  i) Write about the purpose of Behavioral patterns.   [2]
  j) Sketch the class diagram for TCP connection class.   [3]

PART-B
(50 Marks)

2.a) Write the general template used for describing the design patterns.
  b) List and explain different ways of organizing design patterns.   [5+5]
                                OR
3.a) Give an overview of organizing a catalog.
  b) Name the patterns that are included in catalog of design patterns along with their intents.
                                                                             [5+5]

4.a) Explain the Spelling Checking and Hyphenation design problem in detail.
  b) Why the Singleton uses a special method to instantiate objects? Discuss. [5+5]
                                OR
5.a) Discuss about the supporting multiple window systems design problem.
  b) Explain the consequences of the Abstract Factory pattern and Builder patterns.   [5+5]

6.a) Discuss about the participants of Adapter pattern and explain the functions of each.
  b) What are the implementation issues of Façade pattern? Explain with sample code. [5+5]
                                OR
7.a) Explain about the intent, uses and related patterns of Decorator and Proxy patterns.
  b) State the uses and related patterns of Flyweight and Bridge design patterns.   [5+5]

8.a) What are the issues to be considered while applying Observer pattern?
  b) What are the consequences of Chain of Responsibility pattern? Explain. [5+5]

OR

9.a) Describe the implementation issues of Mediator pattern.
  b) Write about the structure and participants of Interpreter pattern. [5+5]

10.a) Discuss about consequences and implementation issues of State design pattern.
   b) Explain the participants, collaborations and sample code of Template method. [5+5]

OR

11.a) Write about the intent, motivation, structure and applicability of Visitor pattern.
   b) Explain the implementation issues of Strategy pattern and write a sample code. [5+5]

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