

**Design Patterns**

P. Pages : 2

Time : Three Hours



**KNT/KW/16/7407**

Max. Marks :80

- Notes :
1. All questions carry marks as indicated.
  2. Solve Question 1 OR Questions No. 2.
  3. Solve Question 3 OR Questions No. 4.
  4. Solve Question 5 OR Questions No. 6.
  5. Solve Question 7 OR Questions No. 8.
  6. Solve Question 9 OR Questions No. 10.
  7. Solve Question 11 OR Questions No. 12.
  8. Due credit will be given to neatness and adequate dimensions.
  9. Assume suitable data whenever necessary.
  10. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) What is Design Pattern? List all design patterns and it's classification. 7  
b) Describe the elements of design pattern. 6  

**OR**
2. a) Explain the characteristics of design pattern. 7  
b) Explain usages of design pattern with proper example. 6
3. a) Illustrate the notion of bridge design pattern with example. 7  
b) Explain the concept of prototype design pattern with suitable example? 7  

**OR**
4. a) Explain abstract factory design pattern with class diagram. 7  
b) Explain where singleton design pattern play an important role along with it's advantages and disadvantages. 7
5. a) Explain the role of structural design pattern in object oriented design. 7  
b) Explain working of Adapter design pattern with its applications. 6  

**OR**
6. a) Where to use Decorator design pattern explain with example. 7  
b) How to implement composite design pattern explain with suitable example. 6

7. a) Explain working of visitor design pattern with example. 7  
b) Explain observer design pattern along with its advantages and disadvantages. 7

**OR**

8. a) Explain working of Memento design pattern with it's applications. 7  
b) Draw a class diagram for Template method and explain working of Template method with suitable example. 7
9. a) Explain the overall case study of document editor with proper example. 13

**OR**

- 10 a) Write a short note on. 13  
i) Supporting multiple look-and fell standard in document editor.  
ii) Spelling checking & hyphenation.  
iii) User operation.
11. a) What is design complexity? Explain it's types. 7  
b) Explain methods to analyze the complexity of design pattern. 6

**OR**

12. a) Explain case study of Game design. 7  
b) Explain the application of design pattern in product design. 6

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