

B.E. (Computer Science Engineering) Sixth Semester (C.B.S.)  
**Design Patterns**

P. Pages : 2

Time : Three Hours



TKN/KS/16/7494

Max. Marks : 80

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

1. a) What is design pattern? List down all design patterns and their classification? 7
- b) Explain usage of design pattern with example. 6

**OR**

2. a) Explain the various elements of design pattern. 7
- b) Explain properties of design patterns? Also explain the advantages of design pattern. 6
3. a) Write an explain singleton design pattern with suitable example. 7
- b) Explain the difference between factory method and abstract factory design pattern. 6

**OR**

4. a) Explain prototype design pattern along with it's practical implementation. 7
- b) Differentiate between abstract factory and builder design pattern. 6
5. a) What is the working strategy of adopter design pattern. 7
- b) Explain decorator design pattern along with it's advantages. 7

**OR**

6. a) Illustrate the notion of flyweight design pattern with example. 7
- b) Where to use proxy design pattern? Also explain it's advantages and disadvantages. 7

7. a) Explain command design pattern? Also explain it's advantages and disadvantages. 7  
b) What is observer pattern explain it's implementation. 7

**OR**

8. a) Explain strategy design pattern along with it's applicability. 7  
b) Illustrate the concept of visitor design pattern with example. 7
9. a) Explain the different design problem in Lexi's document editor. 7  
b) Explain the concept of recursive composition with example. 6

**OR**

10. a) Which design pattern is suitable for spelling checking and hyphenation explain it with example. 7  
b) Explain the concept of embellishing the user interface. 6
11. a) What is software complexity? Explain it's type. 7  
b) What are the applications of design pattern in game design. 6

**OR**

12. a) State different methods to analyze the complexity of design pattern. 7  
b) Explain the application of design pattern in product design. 6

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