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

P. Pages : 2

Time : Three Hours

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NRT/KS/19/3491

Max. Marks : 80

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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. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Explain the concept of software reusability used in design patterns. **7**

b) Describe the elements of design pattern. **6**

OR

2. a) Explain the characteristics of design pattern. **7**

b) Explain the applications of design patterns. **6**

3. a) Explain the concept of prototype design pattern with suitable example. **7**

b) What are the characteristics of creational design patterns. **6**

OR

4. a) Explain the applicability of Builder design pattern. Illustrate a Scenario in which builder pattern can be used. **7**

b) Explain where singleton design pattern play an important role along with its advantages and disadvantages. **6**

5. a) Explain the role of structural design pattern in object oriented design. **7**

b) Differentiate between Decorator and adapter design patterns. **6**

OR

6. a) How to implement composite design pattern explain with suitable example. **7**

b) Demonstrate with suitable example, the use of proxy design pattern. Also explain its advantages and drawbacks. **6**

7. a) Explain the observer design pattern with suitable example. **7**

b) Explain the Memento design pattern with suitable example. **7**

OR

8. a) Explain the features of behavioral design patterns. **7**

b) Explain the visitor design pattern with suitable example. **7**

9. Explain the overall case study of document editor with proper example. **13**

OR

10. a) Explain how design patterns can be used for Document structure, formatting and Embellishing the user interface. **8**

b) Discuss spelling checking and hyphenation in Document editor. **5**

11. a) Explain the product design process. **7**

b) What is design complexity? Explain it's types. **7**

OR

12. a) Explain case study of Game design. **7**

b) Explain the application of design pattern in product design. **7**

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