

Reg. No.

Question Paper Code

11991

13 JUL 2023

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL/MAY 2023

Fourth Semester

Computer Science and Business Systems

20CBPC402 - SOFTWARE DESIGN WITH UML

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|--------------------------------------------------------------------|-------------------------------|
| 1. Define Object. | 2,K1,CO1 |
| 2. List out Degree of an Association. | 2,K1,CO1 |
| 3. Write the types of design patterns. | 2,K1,CO2 |
| 4. What is UML? | 2,K1,CO2 |
| 5. Define Use Case. | 2,K1,CO3 |
| 6. What is meant by transition? | 2,K1,CO3 |
| 7. Identify the types of messages can be used in sequence diagram. | 2,K1,CO4 |
| 8. What are the three partitions in a class in the class diagram? | 2,K1,CO4 |
| 9. Write the rules for drawing package diagram. | 2,K1,CO5 |
| 10. List the relationships in a component diagram. | 2,K1,CO5 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Explain in detail about spiral model. Write the advantages and disadvantages of spiral model. 13,K2,CO1
- OR**
- b) (i) Discuss in detail about the reasons for software crisis with examples and scenarios. 7,K2,CO1
- (ii) Explain inheritance and multiple configurations with suitable examples. 6,K2,CO1
12. a) (i) Explain the basic elements of the UML in detail. 7,K2,CO2
- (ii) Explain and write a Java program to implement factory pattern. 6,K2,CO2
- OR**
- b) (i) Discuss in detail the phases of object oriented software development. 7,K2,CO2
- (ii) Explain in detail about the technological description of Distributed systems. 6,K2,CO2

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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13. a) What is an activity diagram? Illustrate the activity diagram notations with suitable example. 13,K3,CO3

OR

b) (i) Illustrate the use case template for login page. 7,K3,CO3
(ii) Explain Generalization, include and exclude with examples. 6,K2,CO3

14. a) What is meant by class diagram? Explain class diagram with its notations. Illustrate the class diagram with suitable example. 13,K3CO4

OR

b) Explain in detail about Collaboration diagram. Illustrate its notations with suitable example. 13,K2.CO4

15. a) What is meant by package diagram? Write the purpose of package diagram. Explain the basic concepts of package diagram with suitable example. 13,K2,CO5

OR

b) What is meant by deployment diagram? Explain the notations of deployment diagram and draw the working of HTML5 video player in the browser. 13,K2,CO5

PART - C (1 × 15 = 15 Marks)

16. a) Explain and draw the component diagram for online shopping system. 15,K2,CO5

OR

b) Draw and explain the use case diagram for library management system. 15,K2,CO3