B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Fourth Semester

Computer Science and Engineering

(Common to Computer and Communication Engineering)

20CSPC403 - OBJECT ORIENTED SOFTWARE ENGINEERING

(Regulations – 2020)

Duration: 3 Hours   Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

	Marks	K-Level	CO
1. What is Software Engineering?	2	K1	CO1
2. What are the Problems with agile methods?	2	K1	CO1
3. Define functional requirements in software development.	2	K1	CO2
4. Why architectural design is considered crucial in the software development process?	2	K2	CO2
5. What are the main components of a Use Case diagram?	2	K1	CO3
6. What is the Unified Process (UP) and list the different UP Phases?	2	K1	CO3
7. What is deployment diagram and component diagram?	2	K1	CO4
8. Define Package. Mention the three layers of package diagram.	2	K1	CO4
9. What is the tester's perspective in black box testing?	2	K1	CO5
10. Define Testing.	2	K1	CO5

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

11. a) Define software life cycle. List all life cycle models and explain spiral model with a neat diagram. — 13 K2 CO1

OR

   b) Describe how does the agile development methodology address the challenges of managing complexity and promoting adaptability throughout the software development lifecycle? — 13 K2 CO1

12. a) Describe how Software requirements are documented. State the importance of documentation. — 13 K2 CO2

OR

   b) What is software architecture? Outline the architectural styles with an example. — 13 K2 CO2

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

13. a) Write a problem statement for Library Management System. Perform the Object Oriented System Development and give the Use Case model for the same (use include, extend and generalization) and design the UML Use Case diagram for the same.   *13 K3 CO3*

<div align="center">**OR**</div>

   b) Discuss the difference between inception and elaboration. Explain how inception is used in POS system. List any five and artifacts related to Inception.   *13 K2 CO3*

14. a) What is GRASP ? List and explain the nine object oriented design principles.   *13 K2 CO4*

<div align="center">**OR**</div>

   b) Design use case realization with GoF design pattern.   *13 K2 CO4*

15. a) Discuss the advantages and disadvantages of White Box Testing compared to Black Box Testing. Provide examples to illustrate your points.   *13 K3 CO5*

<div align="center">**OR**</div>

   b) Explain about the purpose and challenges in Refactoring and list some refactoring techniques.   *13 K3 CO5*

<div align="center">**PART - C (1× 15 = 15 Marks)**</div>

16. a) Explain the activities involved in Business process engineering.   *15 K2 CO6*

<div align="center">**OR**</div>

   b) Explain about the purpose and challenges in Refactoring and list some refactoring techniques.   *15 K2 CO6*