05/12/2024 (AN)

ADDITIONAL CONTROLLER OF EXAMINATIONS
AU
CHENNAI
600 025

Roll No. | | | | | | | | | | |

B.E (FT) END SEMESTER EXAMINATIONS – NOV / DEC 2018

Computer Science and Engineering
V Semester
CS6110-Object Oriented Analysis and Design
(Regulation 2018 - RUSA)

Time: 3 Hours | Answer ALL Questions | Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What is UML? Write the benefits of using it.
2. Mention the purpose of inception phase.
3. When to design description classes?
4. Why domain model is called as visual dictionary?
5. How SSD and Use cases are related?
6. Define: events, states and transitions.
7. What does a very low value of Relational Cohesion(RC) suggest in package organization?
8. Why design patterns are needed in software development?
9. Write a Java code snippet for the given design.

10. List the three object oriented methodologies and mention the strengths of each method.

PART – B (8 x 8 = 64 marks)

(Answer any 8 questions)

11. Illustrate the phases of Unified Process, its development cycle and UP disciplines.
12. Draw the use case diagram for an Online Agriculture Support System to the farmers which is useful for farmers & agriculture institutes, for providing recommendation to cultivate different crops, increase productivity etc. It also suggests most probable matching crops according to the basic inputs like water availability, average temperature, nature of soil, farm locality etc.
13. Tabulate and explain the artifacts of inception phase.
14. Explain the three strategies of finding conceptual classes.
15. How polymorphism is handled in SSD? Explain with an example.

16. An Insurance Claim Management System(ICMS) is a web-based application, designed to cover a wide range of insurance company and management processes. It provides relevant information across the insurance company to support effective decision making for clients, insurance administration, claim and financial accounting in a seamless flow. For the ICMS system:
    a) Draw the state chart diagram for the entire system.**(4 m)**
    b) Draw the activity diagram for verifying and approving a claim **(4 m)**
17. Discuss the package organization guidelines.
18. For an online banking system, draw the component and deployment diagrams.
19. How does Adapter and Factory patterns help in achieving low coupling and high cohesion? Explain.
20. Explain any four GoF patterns with example.
21. For a library management system, illustrate the process of converting the design elements into corresponding code segments in a programming language of your choice.
22. Discuss the various software quality assurance activities carried out in a software lifecycle to ensure the quality of a software system.

PART – C (2 x 8 = 16 marks)

23. Consider an online shopping system that allows users to browse products, add them to their shopping cart, place orders, and process payments. The system consists of several classes, including Product, ShoppingCart, Order, PaymentProcessor, and User. These classes interact with each other to fulfill the system's business requirements. Draw a complete UML class diagram for this system.
24. For the system explained in **Question 23,** explain the rationale behind assigning the Responsibilities to classes as Information Expert, Creator, Controller pattern and Pure Fabrication.