Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 50439

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

Sixth Semester

Computer Science and Engineering

CCS 356 – OBJECT ORIENTED SOFTWARE ENGINEERING

(Common to: Computer and Communication Engineering /Computer Science and Business Systems/ Information Technology)

(Regulations 2021)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is Software Engineering?

2. State few differences between traditional and agile software development.

3. How do you differentiate Functional Requirements and Non-Functional Requirements?

4. What is the use of Data Flow Diagrams?

5. List any 4 Software Design Patterns.

6. What is a Publish Subscribe model in Software Design?

7. Write the steps for debugging.

8. Define Regression Testing.

9. List any tools for Quality control in Project Management.

10. What are the testing tools available in DevOps software practice?

PART B — (5 × 13 = 65 marks)

11. (a) Explain in brief about the Extreme Programming process with a neat diagram.

Or

(b) Illustrate an overview of Object-oriented Software Engineering Development Activities and their products.

12. (a) Summarize on Petrinets with a suitable use case of your choice.

Or

(b) Illustrate the Interaction diagrams for Online Electric Vehicle Purchase System.

13. (a) Distinguish between Coupling and Cohesion using a suitable scenario.

Or

(b) Summarize on the various Architectural styles in Software Design.

14. (a) Explain in detail about the criterion for completion of software testing.

Or

(b) Compare Black box testing and White box testing with a Banking Application.

15. (a) Summarize the motivation behind adopting DevOps in Software Engineering.

Or

(b) Demonstrate the application of Cloud as a platform in Project Management through an appropriate illustration.

PART C — (1 × 15 = 15 marks)

16. (a) Scenario:

"An Inventory Management System (IMS) for a Supermarket is set to be developed with the following requirements: Each product's details including its name, price, and quantity are to be stored in the central database upon arrival. Products are categorized based on their type and shelf life. The IMS should provide a user-friendly interface for employees to update stock levels, mark items as expired, and generate purchase orders automatically when stock levels run low. Additionally, the system should track sales in real-time and generate daily, weekly, and monthly

sales reports for analysis. Special discounts and promotions are to be applied during festive seasons, with notifications sent to customers via email and SMS. Furthermore, the IMS should have the capability to integrate with the supermarket's existing accounting software for seamless financial management".

Question

For the given scenario, identify the Functional Requirements and Non-Functional Requirements for the given System and draw suitable use case diagrams.

Or

(b) Scenario:

Assume a Hotel Management System for a chain of hotels with multiple branches. This system would facilitate online booking of hotel rooms, where users can search for hotels, browse available rooms based on desired tariffs, check room availability for specified dates, and complete bookings by making a 50% payment through a payment gateway.

Question

For the given Scenario, identify classes, attributes, and methods for the system and Draw a class diagrams showing the relationships between classes.