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Question Paper Code : 40397

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2021.

Fifth/Sixth Semester

Computer Science and Engineering

CS 8592 — OBJECT ORIENTED ANALYSIS AND DESIGN

(Common to Computer and Communication Engineering/
Information Technology)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Delineate Object Oriented Analysis and Design.
2. List out the phases of unified process.
3. Confer class attributes based on fundamental type.
4. Discuss the strategies to find conceptual classes.
5. Compare and find the relation between SSD, System Operation and Layers.
6. Differentiate Sequence and Communication Diagrams.
7. Give the GRASP patterns used for object design.
8. Define high cohesion.
9. List out the errors that you may encounter when you execute your programs.
10. Describe the steps needed to create a test plan.

PART B — (5 × 13 = 65 marks)

11. (a) Define Unified Process Model? Exemplify the iterations, outcomes and workflow in unified Process Model with neat sketch.

Or

- (b) Deliberate different notations of UML diagrams in detail.

12. (a) Explain different categories of conceptual classes with examples and discuss the three strategies to find a conceptual class.

Or

- (b) Describe in detail, the Associations, Attributes, Aggregation and Composition give suitable example.

13. (a) Consider the Library management system. It should provide the facility to issue the book, to calculate the fine during book return, the placement of the books on the shelves, adding new books to the shelves and removing old books from the shelves. Draw the activity diagram with swim lanes for each and every components of the above scenario.

Or

- (b) Consider a House keeping system in a five star hotel. Draw a sequence and collaboration diagram for the given scenario.

14. (a) Illustrate and provide an interface for creating families of related or dependent objects without specifying their concrete classes using factory method.

Or

- (b) Elucidate Creator pattern and controller pattern with real time examples.

15. (a) Explicate in detail the various testing strategies and the impact of object orientation on testing.

Or

- (b) Illustrate with neat sketch the software development life cycle of object-oriented system.

PART C — (1 × 15 = 15 marks)

16. (a) Consider a distributed information system for accident management. It includes many actors such as FieldOfficer, who represent the police, fire officers who respond to accidents, and Dispatcher, the police officer responsible for answering 911 calls and dispatching resources to an accident. FRIEND supports both actors by keeping track of incidents, resources, and task plans. The FieldOfficer and the Dispatcher interact through different interface – FieldOfficer interacts FRIEND through a mobile personal assistant, and Dispatcher access FRIEND through a workstation. Identify suitable process model for the above project and justify your answer.

Or

- (b) To buy a book electronically from chapters.com, a customer needs to select the book from a list provided by Chapters' e-Commerce system, provide credit card information to the system, then the system gets authorization from the bank for the payment, and – if positive – confirms the sale. The order is then sent to the orders department and when the book becomes available, it is shipped to the customer.

Also, the order department charges the customer's credit card by informing the bank of the amount. Draw a sequence diagram that models this process. Make sure that the model has all relevant actors and the interactions between them. Do show explicitly the time intervals when different actors actively participate in the modelling process.
