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Question Paper Code : 20421

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.

Fifth Semester

CS 8592 — OBJECT ORIENTED ANALYSIS AND DESIGN

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

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is UML?
2. State any two Agile principles.
3. List any two kinds of actors.
4. What is the rule of Conformance to Superclass Definition?
5. Define a component.
6. What is the purpose of Deployment Diagrams?
7. What is GRASP?
8. Justify the need for use case realization.
9. When should the test cases be designed?
10. State any two objectives of use case.

PART B — (5 × 13 = 65 marks)

11. (a) (i) With a neat diagram enumerate the stages of Iterative and Evolutionary Development?
 (ii) State the benefits of Iterative Development. (9+4)

Or

- (b) What is Inception? List any five Inception artifacts.

12. (a) (i) "Conceptual subclass and Super classes are related in terms of set membership" - Justify.
 (ii) List any three motivations to partition a conceptual class into subclasses with suitable examples. (4+9)

Or

- (b) (i) Differentiate aggregation and composition.
 (ii) What are the guidelines for identifying composition — explain with suitable example. (5+8)

13. (a) Enumerate the guidelines to create and write contracts?

Or

- (b) Differentiate events, states and transitions with suitable examples.

14. (a) Define visibility. With suitable illustrations differentiate local visibility and Global visibility.

Or

- (b) Write notes on the following GRASP Patterns with suitable examples :
 - Controller
 - High Cohesion
 - Low Coupling.

15. (a) Compare and contrast Unit Testing and integration testing and list any two challenges in these types of testing.

Or

- (b) List out the key areas of Software quality assurance and two issues in providing software quality in the domain of OOAD.

PART C — (1 × 15 = 15 marks)

16. (a) For the given scenario, draw the state transition diagram and explain the process.

Using a mobile phone, a user can set an alarm. The alarm will start ringing at the time set by that user. When the alarm starts ringing, the user can silence the alarm. Otherwise, the user can snooze the alarm for next 5 mins. Then again, the alarm will ring.

Note : The user can snooze to a maximum of three times.

Alarm will be disabled when the phone is in flight mode.

Alarm will ring in when the phone is in normal mode but will vibrate if the phone is in vibrator mode or silence mode.

Or

- (b) Given below is the use case diagram for an online food ordering system. Generate the activity diagram. List the suitable assumptions made.

