

SRM University
Department of Information Technology
15SE203- OBJECT ORIENTED ANALYSIS AND DESIGN
CYCLE TEST-II
Part-A (MCQ- 20 Marks)

1. In the following diagram, which diagram the objects can be placed anywhere and illustrate the interaction in network format
 - a) Interaction Diagram
 - b) State chart diagram
 - c) Activity Diagram
 - d) Collaboration Diagram
2. Which element in the sequence diagram shows the top down message flow of objects?
 - a) Feedback arrow
 - b) lifeline
 - c) message arrow
 - d) message numbering
3. Each layer only calls upon services of the layer directly below it.
 - a) state Layer architecture
 - b) Visual layer architecture
 - c) strict layer architecture
 - d) Collaboration Diagram
4. What are the two method to control transition in state machine diagram
 - a) Initializing , Duration
 - b) Condition, Effects
 - c) Timer, Duration
 - d) Flow, Merge
5. If you see the expression "[if i=5]" along a line in a state diagram, it would represent the following:
 - a) Textual Description
 - b) Messages
 - c) Guard/Condition Statement
 - d) Event
6. Which among these are the common notations for deployment diagrams?
 - a) Artifacts and nodes
 - b) Stereotypes
 - c) Components
 - d) All of the mentioned
7. Which design pattern abstract the instantiation process?
 - a) Structural Pattern
 - b) Creational Pattern
 - c) Behavioural Pattern
 - d) Instantiation Pattern
8. Adaptor Pattern also known as
 - a) Adjacent Pattern
 - b) Wrapper Pattern
 - c) Creational Pattern
 - d) Factory Adaptor pattern
9. Which concept is used to bind an Adapter and an Adaptee in Adaptor pattern?
 - a) Delegation
 - b) Interface
 - b) Inheritance
 - d) All of the above
10. Which pattern is used to represent a part-whole relationship in a tree structure?
 - a) Adaptor
 - b) Factory
 - c) Composite
 - d) Bridge
11. Object Identifiers are used to link
 - a) objects and records
 - b) keys and values
 - c) Forms and items
 - d) data and datatypes
12. Class that is responsible for materialization, dematerialization, and object caching
 - a) Database Mapper
 - b) Database broker
 - c) Both a and b
 - d) Cache Mapper
13. Creation of an associative table with keys of both objects is used to create
 - a) One to one
 - b) One to many
 - c) many to many
 - d) Does not create any relationship
14. Satellite based navigation is an example of
 - a) Artificial Intelligence
 - b) Web Application
 - c) Control system
 - d) System Architecture
15. How many types of structural patterns are there?
 - a) 5
 - b) 6
 - c) 7— flyweight which is not in our ppt
 - d) 8
16. GoF consists of
 - a) Grady Booch, Jacobson, Erich Gamma, Ralph Johnson
 - b) Grady Booch, Jacobson, Rumbaugh, Cohen
 - c) Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides
 - d) Richard Helm, Rumbaugh, John Vlissides, Erich Gamma
 - e)
17. A persistence service must translate objects into records and save them in a database, and translate objects when retrieving from a database
 - a) Persistence database
 - b) O-R mapping
 - c) Mapper factory
 - d) Lazy Materialization

18. Models are products of ...

A. Analysis

B. Design

C. Suggestion

D. Prototype

19. _____ object that holds the root of a stack of execution

(A) Active Object

(B) Passive Object

(C) Activity

20. _____ is used to differentiate kind of resources in UML

(A) Tagged Value

(B) Constraint's

(C) Stereo Type

(D) Event

(D) Association

Part-B (Answer Any Five—Four Marks Each)

21. What are the main difference between Collaboration and sequence diagram?
22. What is the main goal of model view separation principle?
23. What are state activities explain it with an example
24. What are the different nodes in activity diagram explain it with a diagram
25. What are the Differences of Component diagram and Deployment Diagram?
26. What is the role of lazy materialization with virtual proxy?
27. What are the key Ideas of using Persistence Database?

Part-C (5*12=60 Marks)

28. a. Develop interaction diagram for the following scenario:

The online gift shopping system allows the user to order gifts for home delivery. To place an order, a shopper searches to find items, to purchase adds items one at a time to a shopping cart, and possibly searches again for more items' when all items have been chosen, the shopper provides delivery address. If not paying with cash, the shopper also provides credit information. The system has an option for shoppers to register with the gift shop. They can then save their name and address information, so that they do not have to enter this information every time that they place an order.

(OR)

b. Develop activity diagram for the following scenario:

The online examination is web based application. It can be used by institute for conducting online exams. Admin enters the question and their respective answers that he wants in the exam. These questions are displayed randomly to the students registered to the particular test. The answers given by the students are automatically updated by the system and mark is generated. The marks are viewed by students and detailed report is generated and accessed by the institute to evaluate the student's performance.

29. a. What are the key elements of component and deployment diagram explain the concepts for online feedback entry portal used by college department to collect feedbacks from individual students about the various aspects of department like faculties, courses, department facilities etc.

(OR)

b. Online Book store is an online web application where the customer can purchase books online. Through a web browser a customer can, create, sign in to his account, place items into a shopping cart and purchase using his credit card details. The customers can also search for a book by its title or author; later can add to the shopping cart and finally purchase using credit card transaction. The user can login using his account details or new customers can set up an account very quickly. They should give the details of their name, contact number and shipping address. The user can also give feedback to a book by giving ratings on a score of five. The Administrator will have additional functionalities when compared to the common user. He can add, delete and update the book details, book categories, member information and also confirm a placed order.

Develop state chart diagram for the above scenario:

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a.

- i) Give the hierarchy of GOF design pattern classification. (4)
- ii) Explain Factory and abstract factory pattern with example (8)

(OR)

b. Explain any 4 structural pattern in detail with example

31. a. Summarize the construction and post transition phases of vacation tracking system.

(OR)

b. Differentiate the functional and non-functional requirement and give the above two requirements for satellite navigation system with use case diagram.

32. a. Give the difference between static and dynamic diagram. Develop any two dynamic diagrams for weather monitoring system

(OR)

b. Summarize the inception and elaboration phase of a Vacation tracking system.