B.Tech. DEGREE EXAMINATION, MAY 2017

Third / Fourth Semester

15SE203 – OBJECT ORIENTED ANALYSIS AND DESIGN

(For the candidates admitted during the academic year 2015 - 2016 onwards)

Note:

(i) **Part - A** should be answered in OMR sheet within first 45 minutes and OMR sheet should be handed over to hall invigilator at the end of 45th minute.

(ii) **Part - B** and **Part - C** should be answered in answer booklet.

Time: Three Hours

Max. Marks: 100

PART – A (20 × 1 = 20 Marks)

Answer ALL Questions

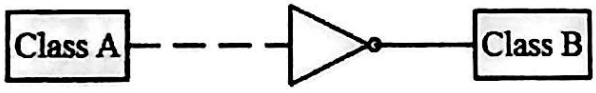
1. Object does not have
   (A) State
   (B) Behavior
   (C) Identify
   (D) Structure

2. Language for addressing each model
   (A) Process
   (B) Tools
   (C) Notation
   (D) Design

3. Which of these is not a tangible thing?
   (A) Concurrency
   (B) Persistence
   (C) Abstraction
   (D) Hierarchy

4. Grouping of model elements is called
   (A) Package
   (B) Stereotype
   (C) Use case
   (D) Constraint

5. _____ can be viewed as a snapsot of system's is parameters at rest
   (A) Static
   (B) Dynamic
   (C) Use case
   (D) Test model

6. 

represents
   (A) Association
   (B) Multiplicity
   (C) Association role
   (D) Hierarchy

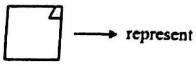
7. Association used when you have a use case that is similar to another use case but does a bit more
   (A) Extends
   (B) Includes
   (C) General
   (D) Dependency

8. Pascal and simula falls into
   (A) 1st generation
   (B) 2nd generation
   (C) 3rd generation
   (D) 4th generation

9. Which among these is not categorization of methods?
(A) Top down (B) Data driven
(C) Procedural (D) Object oriented

10. The configuration of run time processing elements and software components, processes is shown in
(A) Package (B) Components
(C) Meta model (D) Deployment

11. Lifeline represent's the object existence during _____
(A) Composition (B) Interaction
(C) Rest (D) Both B and C

12.  represent
(A) Note (B) Meta model
(C) Stereotype (D) Constraint

13. Satellite based navigation is an example of
(A) System architecture (B) Control system
(C) Artificial intelligence (D) Web application

14. Property of an object through which its existence transcends time
(A) Persistence (B) Concurrency
(C) Static typing (D) Dynamic typing

15. This object doesn't operate on other objects. It is only operated on by other objects
(A) Controller (B) Server
(C) Proxy (D) Class

16. How difficult does implement refers to?
(A) Reusability (B) Complexity
(C) Applicability (D) Implementation

17. Choosing relationships between classes and objects does not have
(A) Law of Demeter (B) Mechanisms
(C) Representation (D) Visibility

18. A conceptual class does not have
(A) Symbol (B) Intension
(C) Extension (D) Data

19. _____are used to restrict a message from being sent based on evaluation of an expression.
(A) Guard (B) Exception
(C) Fork (D) Join

20. This pattern helps in creating an interface to create related or dependent family of objects without specification of classes
(A) Abstract factory (B) Prototype
(C) Builder (D) Bridge

PART – B (5 x 4 = 20 Marks)
Answer **ANY FIVE** Questions

21. Distinguish between "Stated" and "implied" needs and how they add to the complexity of a system with practical examples.

22. Give the template for use case description. A teacher is conducting an interview with a student. In the course of that, teacher always has to grade the student. Model the situation using use case diagram.

23. Define plausible abstraction for a look from the point of view of a reader, publisher and a bookstore.

24. Draw a sequence diagram to construct a scenario of telephone call.

25. Define component. Explain parts of component diagram with examples.

26. Distinguish between decision node and fork, merge node and join in activity diagram.

27. List the seven principles underlying the object model.

PART – C (5 x 12 = 60 Marks)
Answer **ALL** Questions

28. a. List out the major and minor elements of object oriented model. Describe with suitable examples.

(OR)

b. Describe the general approaches to classification.

29. a. Develop use case and class diagram for the following scenario:
The pizza ordering system allows the user of a web browser to order pizza 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 a delivery address. If not paying with cash, the shopper also provides credit card information. The system has an option for shoppers to register with the pizza 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 use case and class diagram for the following scenario. A customer service technician receives a telephone call, email or other communication from a customer about a problem. The technician verifies that the problem and real and not just perceived. The technician will also ensure that enough information about the problem is obtained from customer. This information generally includes the environment of the customer, when and how the issue occurs and all other relevant circumstances. The technician creates the issues in the system entering all relevant data, as provided by the customer. As work is done on that

issue, the system is updated with new data by the technician. Any attempt at fixing the problem should be noted in the issues system. Ticket status most likely will be changed from open to pending. After the issue has been fully addressed, it is marked as resolved in the issues tracking system. If the problem is not fully resolved, the ticket will be reopened once the technician receives new information from the customer.

30. a. Draw sequence diagram with alternative scenarios for a student enrolling to a courses.

(OR)

b. Develop state chart diagram for any process involved in ATM transaction.

31. a. Describe factory pattern and its types with examples.

(OR)

b. Describe behavioral patterns with examples.

32. a. Summarize the inception and elaboration phase of a "control system".

(OR)

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

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