

Dr. Babasaheb Ambedkar Open University
Term end Examination July - 2016

Course	: BCA	
Subject Code	: BCA-601 / 2	Max. Marks : 70
Subject Name	: Object Oriented Analysis and Design	Duration : 03 hours
Date	:	Time :

Section A

Answer the following (any three) (30)

1. Explain the software development process or software life cycle.
2. What the key features are of object oriented methods. Discuss three types of object oriented methodology (OMT, OPM and RUP).
3. What is UML? Explain sequence diagrams and class diagrams for issuing book in library system.
4. Define collaboration diagrams. Discuss six different types of messages elements in sequence diagrams with example.
5. What is a state transition diagram? Draw the state transition diagram for booking ticket and collaboration diagram for a user to recharge his account throw third party side.

Section B

Answer the following (any four) (20)

1. Define domain model and discuss the four principles of modeling.
2. Discuss the importance of business data modeling.
3. Draw an activity diagram of withdraws money from a bank account through an ATM.
4. Define the following with example.
 - I. Aggregation
 - II. Cardinality
 - III. State
 - IV. Swim lanes
 - V. Packages

5. Draw the UML diagrams for library management system
6. What are components? What are the benefits of software components and COM?

Section C

A. MCQ (2x5)

(10)

1. Constraints can be represented in UML by:
- a. [text string] b. {text string} c. Notes d. Constraint
2. Structure diagrams emphasize the things that must be present in the system being modeled.
- a. True b. False
3. A query operation on an object.
- a. has side effect b. has no side effect c. changes the state of an object d. is not allowed
4. What is collection of model elements called?
- a. Box b. Dependency c. UML packages d. package members
5. Components can be represented by which of the following?
- a. Component symbol b. Stereotypes c. Rectangular boxes d. a and b
6. Which of the following are composite state?
- a. A sequential composite state b. A concurrent composite state
c. All of the mentioned d. None of the mentioned
7. What is a physical element that exists at run time in UML?
- a. A node b. an interface c. an activity d. None of the mentioned
8. Which diagram in UML emphasizes the time-ordering of messages?
- a. Activity b. Sequence c. Collaboration d. Class
9. Which of the following UML diagrams has a static view?
- a. Collaboration b. Use case c. State chart d. Activity
10. Interaction diagram is a combined term for
- a. Sequence diagram + Collaboration Diagram b. Activity diagram + State chart diagram
c. Deployment diagram + Collaboration diagram d. None of the mentioned

B. True or False/ Fill in the blanks/ one sentence answer.

(10)

1. In object oriented system one class may affect the semantics of another because object of one class use instance of another it is called _____.
 2. We build molds so that we can better understand the system that we are developing:
 - a. True
 - b. False
 3. Components can be encapsulated and extendable:
 - a. True
 - b. False
 4. Full form of OPM is _____.
 5. The change of state within an object is called transition:
 - a. True
 - b. False
 6. Activity diagrams can be used to explore/discover parallel activities:
 - a. True
 - b. False
 7. Activity diagram is time oriented:
 - a. Yes
 - b. No
 8. _____an relationship means that a use Case includes the behavior describe in another Use case.
 9. _____refers to the value associated with a specific attribute of an object and to any actions or side?
 10. Define: Actor
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