

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Winter 2019 - 20 Examination

Semester: 3**Subject Code: 203105207****Subject Name: Object Oriented Concept and UML****Date: 02/12/2019****Time: 2:00 pm to 4:30 pm****Total Marks: 60****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions - Part 1 to 5 is MCQ, Part 6 to 10 is Fill in the blanks and Part 11 to 15 is (15) one-word answer (All are compulsory) (Each of one mark)

1. Inheritance is an example of which type of hierarchy
A). Class Structure B). Object Structure C). Both D). None of the mentioned
2. Which of the following property is associated with objects?
A). State B). Behavior C). Identity D). All of the mentioned
3. The time-oriented diagram include
A). Classes B). Sequence C). Activity D). None of these
4. Which of the following is a technique for hiding the internal implementation detail of an object.
A). Abstraction B). Encapsulation C). Inheritance D). Polymorphism
5. Which of the following UML Diagram has a static view.
A). Activity B). State Chart C). Collaboration D). Use Case
6. During analysis an architect is concern about _____
7. A tagged value extend the _____ of a UML building block.
8. MVC full form is _____
9. The human cope with the complexity in a fundamental way using _____
10. If the objects focus on the problem domain, then we are concerned with _____.
11. Association may also correspond to relation between instances of three or more classes.
True / False
12. Weak entities are represented in UML diagrams by using aggregations called?
13. The feature of the object-oriented paradigm which helps code reuse is called?
14. Software design is a process to transform user requirements into some suitable form, that helps the programmer in software coding and implementation.
True / False
15. Refinement is actually a process of elaboration.
True / False

Q.2 Answer the following questions. (Attempt any three) (15)

- A) Draw a sequence diagram for issuing a book and renewing a book in online library management system
- B) Explain following characteristics and themes of object-oriented systems: Classification, identity, inheritance, encapsulation, polymorphism.
- C) Prepare a Use Case diagram for Hospital Management System.

D) Explain Multiplicity and Cardinality with example using UML notations.

Q.3 A) “Iterative development life cycle is better than the waterfall development life cycle.” Explain with Example. (07)

B) Briefly describe the steps for constructing a domain Class model. (08)

OR

B) What tasks are involved in design optimization? (08)

Q.4 A) A customer decides to upgrade her PC and purchase a DVD player. She begins by calling the sales department of the PC vendor and they tell her to talk to customer support. She then calls customer support and they put her on hold while talking to engineering. Finally, customer support tells the customer about several supported DVD options. The customer chooses a DVD and it is shipped by the mail department. The customer receives the DVD, installs it satisfactorily and then mails her payment to accounting. (07)

Construct an activity diagram for this process. Use swim lanes to show the various interactions.

OR

A) What is the purpose of class modeling? Explain following concept with example. (07)
(i) Aggregation versus Association (ii) Aggregation versus Composition

B) Explain Object Oriented Model, Dynamic Model, Functional Model and Interaction Model & Relation among these models. (08)