

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2020****Subject Code:3151604****Date:27/01/2021****Subject Name:Object Oriented Analysis and Design****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

| | | MARKS |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Q.1 | (a) What is the purpose of design optimization? | 03 |
| | (b) Discuss the difference between multiplicity and cardinality? | 04 |
| | (c) Explain Object Oriented Model, Dynamic Model, Functional Model and Interaction Model & Relation among these models. | 07 |
| Q.2 | (a) What is an event? Explain types of events. | 03 |
| | (b) What is the purpose of class modeling? Explain aggregation versus association example. | 04 |
| | (c) List all kinds of control information represented by Dynamic model. Prepare State chart diagram for Two Party Phone Call. | 07 |
| Q.3 | (a) What is concurrency? Explain aggregation concurrency. | 03 |
| | (b) Prepare a class diagram for group of classes. Sink, freezer, refrigerator, table, light, switch, window, smoke alarm, burglar alarm, cabinet, bread, cheese, ice, door, kitchen. | 04 |
| | (c) What is software development process? Enlist steps of software development process? Differentiate iterative process model from waterfall model. | 07 |
| Q.4 | (a) Define Model. Briefly discuss its purposes. | 03 |
| | (b) How does Object-Oriented Software Development achieve and improve reusability? | 04 |
| | (c) Briefly explain following characteristics and themes of object oriented systems: Classification, identity, inheritance, encapsulation, polymorphism, sharing, synergy. | 07 |
| Q.5 | (a) Discuss data storage management in system design | 03 |
| | (b) What does one shot diagram represent? Show one shot diagram for chess game. | 04 |
| | (c) Prepare sequence diagram for booking a train ticket on-line. | 07 |
| Q.6 | (a) Explain refactoring with respect to class design. | 03 |
| | (b) Explain methods of breaking system into subsystems to system design. | 04 |
| | (c) Describe the criteria for discarding unnecessary and incorrect classes. Give example to justify the answer. | 07 |
| Q.7 | (a) Explain nested states with appropriate diagram. | 03 |
| | (b) Explain sequence diagram with suitable diagram. | 04 |
| | (c) List out the decisions you make during system design and briefly explain the objectives of following: i) frame works ii) patterns iii) libraries ii) layers iii) partition | 07 |



- Q.8 (a) Differentiate active, passive and transient object in sequence diagram. **03**
- (b) Explain 'concurrency within an object' represented by state model with suitable example. **04**
- (c) "Iterative development life cycle is better than the waterfall development life cycle." Explain with Example. **07**

firstranker.com
www.FirstRanker.com