

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2021****Subject Code:3151604****Date:01/01/2022****Subject Name:Object Oriented Analysis and Design****Time:02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) What is object-orientation? Why model is required in analysis and Design?	03
	(b) Define the purpose of following terms with suitable example (i) Aggregation (ii) Multiplicity	04
	(c) Which different purposes are served by Models? Explain all three models which are required to describe the complete system.	07
Q.2	(a) What is a qualified association?	03
	(b) Explain constraints in details.	04
	(c) Define Terms: (1) Abstract class (2) Association class (3) Multiple inheritance (4) Polymorphism (5) Metadata (6) Derived data (7) Package	07
OR		
(c)	Prepare a use case diagram for an online railway reservation system.	07
Q.3	(a) Explain Concurrency within object.	03
	(b) List and explain different types of events.	04
	(c) Explain ordered, bags, sequences in class diagram with example each.	07
OR		
Q.3	(a) Explain Link and Association Concepts.	03
	(b) Define the purpose of following terms with its notations. i) state ii) transition iii) event iv) guard condition	04
	(c) Prepare sequence diagram for booking a train ticket on line. Also Prepare sequence diagram for booking a train ticket on line that fails.	07
Q.4	(a) Explain process development stages.	03
	(b) How synchronization of concurrent activities can be done in state modeling?	04
	(c) Which steps are required to construct an “Application Interaction Model”? Discuss in detail.	07
OR		
Q.4	(a) Explain Domain state model.	03
	(b) Give me the steps for preparing a problem statement	04
	(c) Explain how to choose a Software Control Strategy	07
Q.5	(a) How to breaking a system into subsystems.	03
	(b) Define the purpose of following terms with its notations. i) swimlane ii) use case generalization iii) activity i) effect	04
	(c) Explain how to choose a Software Control Strategy	07
OR		
Q.5	(a) Explain how to prepare a reuse plan	03
	(b) Differentiate between System design vs. Class design.	04
	(c) Explain Architecture of the ATM system.	07