

Enrolment No. /Seat No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA – SEMESTER V- EXAMINATION –WINTER-2024

Subject Code: 4659303

Date: 28/11/2024

Subject Name: Software Engineering

Time:10:30 AM TO 01:00 PM

Total Marks: 70

Instructions:

- 1. Attempt all questions.**
- 2. Make Suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**
- 4. Use of simple calculators and non-programmable scientific calculators are permitted.**

- Q.1** (a) Explain the Waterfall and Incremental process models in brief? **07**
(b) Provide a detailed explanation of a specific evolutionary process model used in software development **07**
- Q.2** (a) (I) Adaptive Software Development **03**
(II) Scrum **04**
(b) What is requirement engineering, and outline the seven specific tasks involved in it? **07**
- OR**
- (b) Define Agile methodology and outline its core principles. **07**
- Q.3** (a) Define Architectural Styles and elaborate on two specific types: Data-Centered Architecture and Data Flow Architecture, providing detailed explanations for each **07**
(b) What are the golden rules of Interface Design, and how do they influence design? **07**
- OR**
- Q.3** (a) Write a note on Coupling and Cohesion **07**
(b) What is black box testing explain it in detail **07**
- Q.4** (a) Explain acceptance testing and its various types? **07**
(b) What is white box testing explain it in detail **07**
- OR**
- Q.4** (a) Define system testing and elaborate on its different types **07**
(b) (I) Boundary value analysis **03**
(II) Equivalence partitioning **04**
- Q.5** (a) Generate an activity diagram and a sequence diagram illustrating the functionality of an ATM system. **07**
(b) Prepare Test Cases for Online Shopping Application **07**

OR

- Q.5** (a) Consider a book store in a shopping mall. The customer selects the books from racks to purchase. Prepare a Data Flow Diagram (0 Level) and Class diagram for bookstore checkout system. The customer brings selected books to cashier. The cashier scans each item with checkout system to prepare an order **07**
- (b) Create a use case diagram representing the core functionality of the WhatsApp application based on assumptions you make. **07**
