

GUJARAT TECHNOLOGICAL UNIVERSITY**MCA (INTEGRATED) - SEMESTER-III EXAMINATION – WINTER 2020****Subject Code:2638603****Date:11/02/2021****Subject Name:Structured and Object Oriented Analysis and Design****Methodology****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.

- Q.1 (a) Fill In The Blanks: 07**
- (1) OLAP stands for _____
 - (2) Purpose of DFD can be _____
 - (3) _____ means data about the data in the file or database.
 - (4) Explain Reification and Bipolar questions.
 - (5) JAD, TPS give full form.
 - (6) KWS Stands for _____
 - (7) Number of instances of class may have _____.
- (b) Do As Directed 07**
- (1) List out the basic symbols used in Data Flow Diagrams with their meanings and example. **03**
 - (2)What is AAS, PASS & SAAS ? **01**
 - (3) List different types of relationships in UML with symbol. **01**
 - (4) Define: widgets. **01**
 - (5) Explain Reification and Bipolar questions. **01**
- Q.2 (a) Explain SDLC (System Development Life cycle) with all phases in detail. 07**
- (b) Explain the five steps in interview preparation. 07**
- Q.3 (a) Explain Structured English and Decision Tree with suitable example 07**
- (b) Draw DFD on School Management System 07**
- Q.4 (a) Write Short Note on DATA DICTIONRY. 07**
- (b) List different steps for developing DFD. Prepare context flow and level – 0 diagram for Purchase system. It is involving entities like inventory department, receiving department and supplier. Make assumption about the processes involved in purchasing items from supplier and providing to receiving department. 07**
- Q.5 (a) Discuss Generalization, Association, and Composition in UML with example. 07**
- (b) Define State. Describe State Transition and Conditions with example. Draw one shot State diagram. 07**
- Q.6 (a) Explain all components of Activity diagram giving example. 07**
- (b) Draw State diagram for phone line activities with various states such as (idle, dial tone, dialing, connecting, ringing, connected, disconnected, busy tone, warning, timeout, etc.). 07**
- Q.7 (a) What is Class? How will you Draw class diagram? Give suitable example. 07**

(b) What is Use Case diagram? Compare include and extend relationship of Use Case diagram with suitable example. **07**

Q.8 (a) What is Interaction diagram? Explain Structured Controls in Sequence diagram. **07**

(b) What is Use Case in UML? List down actors and use cases for the following systems. **07**

i. Library Management System.

ii. Online Train Reservation System.
