Seat No.: _____                                    Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY
## MBA – SEMESTER –III-EXAMINATION – WINTER-2022

**Subject Code: 4539251**                                    **Date:30/01/2023**
**Subject Name: Data Warehousing and Data Mining**
**Time:10:30 AM to 1:30 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.NO | | | |
|---|---|---|---|
| Q.1 | (a) | Data Extraction | 14 |
| | (b) | Outlier | |
| | (c) | Data Manipulation Language | |
| | (d) | Meta Data | |
| | (e) | Lazy learner | |
| | (f) | Web Mining | |
| | (g) | Data mart | |
| Q.2 | (a) | Explain Boyce-Codd Normal Form (BCNF) with proper Example. | 07 |
| | (b) | Explain various features SQL. | 07 |
| | | **OR** | |
| | (b) | Explain Reporting and Query tools in detail. | 07 |
| Q.3 | (a) | Discuss Bayesian classification | 07 |
| Q.3 | (b) | Discuss the data warehouse design process in detail. | 07 |
| | | **OR** | |
| | (a) | Discuss Support Vector Machines. | 07 |
| | (b) | Discuss in detail about Data mining methods and how it can be apply with appropriate example. | 07 |
| Q.4 | (a) | Write K-means clustering algorithm. | 07 |
| | (b) | Discuss in detail Grid based clustering method. | 07 |
| | | **OR** | |
| | (a) | What is web mining? Explain with related example. | 07 |
| | (b) | Define Clustering? Explain about Types of Data in Cluster Analysis? | 07 |

**Q.5** **CASE STUDY**

In maruti Suzuki , market analysis technique that give the careful study of purchases of vehicle done by customer, this concept identify the pattern of purchase of vehicle by customers. This kind of the Analysis can be help to promote newly launch vehicle and existing vehicle  by the companies of Maruti Suzuki   and the data mining technique help to achieve this task this collected  huge amounts of data on day to day basis, will help sales and marketing to provide better customer. But this is a manual process and is error prone and time consuming due to large volume of transactional and historical data. Interesting patterns and knowledge can be mined from this huge volume of data that in turn can be used for this decision making process.

**Q.5** **(a)** Explain the possible Data mining technique that can be applied in Maruti Suzuki.  **07**

**Q.5** **(b)** Describe the convectional decision making process and decision making with data mining with reference to Maruti Suzuki.  **07**

<center>**OR**</center>

**Q.5** **(a)** Discuss the application area of data mining in Maruti Suzuki.  **07**

**Q.5** **(b)** Discuss the grouping of data for Maruti Suzuki.  **07**

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