Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA – SEMESTER 4 • EXAMINATION – SUMMER 2019

Subject Code: 3549253   **Date:08/05/2019**
Subject Name: Data Warehousing & Data Mining
Time: 10:30 AM To 01:30 PM   **Total Marks: 70**

Instructions:
1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1	**Define following terms briefly:**	**14**

  (a) Meta Data
  (b) Interval scale variable
  (c) Decision Tree
  (d) OLAP
  (e) Datamart
  (f) STING
  (g) RDBMS

Q.2 (a) "In today's business scenario Data is more precious than any other entity for business". Justify. And also discuss need of "Data warehouse" in business community.   **07**

(b) What is "Cluster Analysis"? Why it is required in business world? Discuss.   **07**

OR

(b) What do you mean by "Operational Data"? How it differs from "Informational Data". Discuss.   **07**

Q.3 (a) Write down short note on following classification in Data mining: **07**
    1. Bayesian Classification
    2. Rule Based Classification

(b) What is "Data Warehouse"? Discuss various components of any data warehouse structure.   **07**

OR

Q.3 (a) What is "Data Mining"? Discuss various issues related to Data Mining.   **07**
(b) Write down short note on following cluster methods: **07**
    1. Hierarchical clustering
    2. K-Means clustering

Q.4 (a) Write down difference between: OLAP & OLTP   **07**
(b) Explain various kinds of "Data Mining" in detail.   **07**

OR

Q.4 (a) What kind of various data can be incorporated in Cluster Analysis? Discuss each one of them in detail.   **07**
(b) Write down short note on: DWH Life Cycle   **07**

Q.5   **Discuss the given case study with answers of following questions.**   **14**

ALUMNI DATABASE

The Dean - Mr. Stephen Jacob of the "FutureX" business school wishes to create a "family" consisting of its graduates and corporations that have been staunch supporters of the School of Management. Finding the existing database inadequate in terms of providing him with the information he needs to achieve his goal, he wishes to develop a new alumni database for the college. He wants the new database to capture all relevant information on alumni of the college and the corporate supporters of the college. To build a long-term relationship with alumni, he wishes to keep track of all alumni from each functional area (e.g., Acctg, Fin, Mkt, etc.) of the college, where they work (or have worked in the past), and any donations that they have made to the college. Similarly, for corporate supporters, the database must capture all relevant information on donations made by each corporation.

Upon further interviews with the Dean, he has indicated the following specific requirements for designing of database:

- A report that displays alumni information for a specified area for a particular year (e.g., 2009 graduates). The report should list, for the specified area and year of graduation, each alumnus's name, e-mail address, the degree earned (e.g., BBA, PGDBM, MBA, Ph.D., etc.), work phone number, and home phone number. Note that a similar report could be required for any area and any graduating year.
- For a specified city (e.g., Houston), a report listing all alumni who live in that city. The report will display the name of the city, and for each alumnus in that city, their name, home address, email address, work phone, and home phone.
- A report listing all corporate donors who have donated a total amount greater than $25,000. The report will be sorted in descending order of the total donated amount.
- A report that displays all donations made to a particular G/L (General Ledger) account. The ID of the donor, as well as the date and amount of the donation must be displayed.
- A report listing all alumni working for a particular company (e.g., NORTEL). This report must also display the date an individual joined the company, as well as, their job title and salary.
- A report that displays the employment history for a particular alumnus. The report must show, for each employer that alumnus has worked for, the employer name, the most recent job title the alumnus had with that employer company (e.g., Vice-President), the date the alumnus joined the company, and the date the alumnus left the company (if applicable).

Questions:
(a) According to you what benefits business school will get after implementation of new improved version of "Alumni Database"?
(b) What security factors you will consider while designing & implementing this kind of database?

OR

Q.5   **Questions:**   **14**

(a) If you were the administrator of college, what other features you want to add to "Alumni Database"?
(b) "Maintaining Database is always better than maintaining manual excel sheet"- Are you agree with this or not? Justify your stand.

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