

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA– SEMESTER -III-EXAMINATION – WINTER-2023

Subject Code:2539303**Date: 07/12/2023****Subject Name: Business Intelligence & Analytics****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.	Question Text and Description	Marks
Q.1	Explain the terms. (a) Star & Snowflake Schema (b) ETL (c) Visual Analytics (d) Web Mining (e) Key Performance Indicator (f) Clustering vs. Classification (g) Balanced Scorecard	14
Q.2	(a) How can BI be used by businesses for enhancing customer experience and business performance?	07
	(b) What is Data Warehouse? Explain its characteristics in detail.	07
OR		
	(b) Differentiate between OLTP and OLAP. Which day-to-day operational transactions of HR department are efficiently handled by OLTP systems?	07
Q.3	(a) Define Business Analytics. Explain components of BA with relevant examples.	07
	(b) What is big data? Discuss the characteristics and life cycle of big data.	07
OR		
	(a) Define digital data. What types of challenges organizations face while storing unstructured data and what can be the solution for the same.	07
	(b) What is data mining? Describe CRISP DM process with neat diagram.	07
Q.4	(a) Write about text analytics. Highlight the major difference between data mining and text mining. Elaborate the use of text mining in marketing of any product of your choice.	07
	(b) Define BPM. Explain the concept and distinguishing features of KPI and dashboards.	07
OR		
	(a) Define sentiment analysis and describe its process with reference to hospitality industry.	07
	(b) Discuss potential privacy challenges associated with the acquisition and storage of customer data for the purpose of data-driven decision making.	07

Q.5 CASE STUDY:

Sparkle, the world's largest and fastest growing beauty studio has more than 6,000 studios throughout Asia. Sparkle franchise success depends on a growth strategy that is driven by rapidly opening new stores in the right locations and markets. The company needed to analyze the locations based on the requirements for a potential customer base, demographic needs and sales impact on existing franchisees in the target locations. Choosing a good site is of utmost importance. The current processes took a long time to analyze a single site and a great deal of labor requiring intensive analyst resources was needed to manually assess the data from multiple data sources. With thousands of locations analyzed each year, the delay was risking the loss of prime sites to competitors and was proving expensive. Sparkle employed external contractors to cope with the delay. Sparkle created a site selection workflow application to evaluate the new studio site locations by using the geospatial analytical capabilities of Alteryx. A new site location was evaluated by its drive time proximity and convenience for serving all the existing customers of the Sparkle network in the area. The Alteryx based solution also enabled evaluation of each new location based on demographics and consumer behavior data, aligning with existing Sparkle customer profiles and the potential impact of new site revenue on the existing sites. As a result of using location based analytic techniques Sparkle was able to reduce the time to assess new locations by nearly 95 percent. The labor intensive analysis as automated and developed into a data collection analysis, mapping and reporting application that could be easily used the non-technical real estate managers. Furthermore, it enabled the company to implement proactive predictive analytics for a new franchise location because the whole process now took just a few minutes.

- (a)** How is geospatial analytics employed at Sparkle? **07**
- (b)** What criteria should a company consider in evaluating sites for future locations? **07**

OR

- (a)** What were the limitations of the old method of site selection of Sparkle? **07**
- (b)** Can you think of other applications where such geospatial data might be useful? **07**
