

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA-SEMESTER-II-EXAMINATION- SUMMER-2024

Subject Code: 1529601

Date: 06/06/2024

Subject Name: Business Analytics

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.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

Q.1 Define the following terms: **14**
a) Business Analytics
b) Predictive Analytics
c) Data Lake
d) Text mining
e) Data visualization
f) Dashboard
g) KPI

Q.2(a) Describe all three types of business analytics with necessary examples **07**

(b) Elaborate on the characteristics of structured data and the advantages of having structured data in an organization. **07**

OR

(b) Elaborate on the advantage of OLAP **07**

Q.3(a) Elaborate on Big data and its characteristics. **07**

(b) Differentiate between the advantages and disadvantages of web analytics **07**

OR

Q.3(a) Summarize the advantages of text mining by giving suitable industry examples. **07**

(b) Discuss the successful use of web analytics and social media analytics for better customer engagement for an online footwear store. **07**

Q.4(a) Think and mention the Key Performance Indicators that you will monitor for call centers **07**

(b) Discuss the different types of analytics used in the banking sector **07**

OR

Q.4(a) What are the benefits of a successful dashboard? **07**

(b) Elaborate on business performance management with necessary examples. **07**

The different routes that can get a driver from point A to point B are overwhelming. What determines the best course to take? Is it the one with less traffic, the least number of stoplights, the highest speed limit, or the least amount of physical distance to travel? For many, the most efficient route isn't a major concern, but minimizing driving time is crucial for companies like UPS. For this reason, UPS engineers sought to devise a plan for route optimization. They used a system called Orion, short for On-Road Integrated Optimization and Navigation. This algorithm used 1,000 pages of code to analyze 200,000 possibilities for each route in real-time. By using this big data, they were able to understand how vehicles performed during different routes and could easily see ways where deliveries could be improved. One of their major findings was the inefficiency of left turns. By essentially going against the flow of traffic, UPS vehicles were wasting time and gas money from idling. This led them to make one simple rule—to minimize, or if possible, eliminate left turns.

Even though this meant drivers would often travel a greater distance, results showed that more packages could be delivered in less time with reduced emissions by driving in a series of right-hand loops.

As a result, between 2004 and 2012, UPS saved 10 million gallons of gas, and carbon emissions were reduced by 100,000 metric tons (the equivalent of pulling 5,300 cars off the road annually). It also saved the company 98 million idle minutes or about \$25 million worth of labor costs each year. In other words, this one simple change increased profits, met customer demands, improved safety, and positively affected the environment.

- (a) What is your understanding of business analytics? How has it improved the functioning of any industry? Relate your answers to the above-given situation **07**
- (b) List the types of structured, semi-structured, and unstructured data in the above-given situation. **07**

OR

- (a) Is big data analytics really necessary for the growth and survival of any industry? **07**
- (b) Identify the descriptive, predictive, and prescriptive analytical situations in the above description **07**
