

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MBA– SEMESTER –IV-EXAMINATION – WINTER-2023**

**Subject Code:1549302****Date: 01-12-2023****Subject Name: Business Analytics****Time:02:30 PM TO 05:30 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 Explain the following terms: 14**
1. Data warehouse
  2. Word frequency
  3. Data lake
  4. KPI
  5. Business Intelligence V/s Business Analytics
  6. Web mining
  7. Gant Chart
- Q.2 (a) KDD (Knowledge Discovery in Databases) is a process that involves the extraction of useful, previously unknown, and potentially valuable information from large datasets. Discuss this process with reference to any one industry of your choice. 07**
- Q.2 (b) Data dashboards are a summary of different, but related data sets, presented in a way that makes the related information easier to understand. Considering yourself as the HR manager of any reputed organization, you are required to design a Dashboard for Employee Payroll. Discuss each component of dashboard with appropriate justification. 07**
- OR**
- Q.2 (b) The Star Schema data model is the simplest type of Data Warehouse schema. Considering yourself as the operation manager of any reputed manufacturing firm, design the structure with appropriate details. 07**
- Q.3 (a) The future of business data analytics is very bright, with several trends and predictions set to shape the industry. Discuss the descriptive, predictive and prescriptive analytics in brief. 07**
- Q.3 (b) Discuss the importance of OLTP and OLAP with respect to banking industry in brief. 07**
- OR**
- Q.3 (a) Discuss the characteristics of Semi-Structured Data and differentiate with unstructured data 07**
- Q.3 (b) What do you mean by Data visualization? Discuss any three specialized charts with appropriate example of each. 07**
- Q.4 (a) “Business Performance Management (BPM) is a real-time system that alerts managers to potential opportunities” Discuss the statement in the light of key components of BPM. 07**
- Q.4 (b) What is Text mining? Discuss text mining for the industry of your choice with appropriate example. 07**

**OR**

- Q.4 (a)** Differentiate Star Schema Vs Snowflake Schema in detail. **07**
- Q.4 (b)** Discuss the challenges of Natural Language Processing (NLP) in brief. **07**

**Q.5** Siemens is a German company headquartered in Berlin, Germany. It is one of the world's largest companies focusing on the areas of electrification, automation, and digitalization. It has an annual revenue of 76 billion euros.

The visual analytics group of Siemens is tasked with end-to-end reporting solutions and consulting for all of Siemens internal BI needs. This group was facing the challenge of providing reporting solutions to the entire Siemens organization across different departments while maintaining a balance between governance and self-service capabilities. Siemens needed a platform that could analyse their multiple cases of customer satisfaction surveys, logistic processes, and financial reporting. This platform should be easy to use for their employees so that they can use this data for analysis and decision making. In addition, the platform should be easily integrated with existing Siemens systems and give employees a seamless user experience.

They started using Dundas BI, a leading global provider of BI and data visualization solutions. It allowed Siemens to create highly interactive dashboards that enabled Siemens to detect issues early and thus save a significant amount of money. The dashboards developed by Dundas BI helped Siemens global logistics organization answer questions like how different supply rates at different locations affect the operation, thus helping them to reduce cycle time by 12% and scrap cost by 25%.

- Q.5 (a)** What challenges were faced by Siemens visual analytics group? **07**
- Q.5 (b)** Describe the future perspective of Data visualization in mobile service industry. **07**

**OR**

- Q.5 (a)** Describe the future perspective of Data visualization in sports industry. **07**
- Q.5 (b)** How did the data visualization tool Dundas BI help Siemens in reducing cost? **07**

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