

GUJARAT TECHNOLOGICAL UNIVERSITY**MBA SEMESTER-2- EXAMINATION – SUMMER 2020****Subject Code: 4529201****Date:04/11/2020****Subject Name: Business Analytics (BA)****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.

- Q.1** Definitions / terms / explanations / short questions based on concepts of theory/practical **14**
- (a) What is Data Science?
(b) Enlist four main characteristics of a Data Warehouse.
(c) What do you mean by Visual Analytics?
(d) Give one example of real life Big Data.
(e) What is a Dashboard?
(f) Give sources of unstructured data.
(g) What do you measure in Social Sentiment Analyses?
- Q.2** (a) What is Business Intelligence and its objectives? How Business Intelligence differs from Business Analytics? **07**
- (b) Give practical examples of Business Analytics Components describing the Business Context, the Technology and the Data Science techniques used in each example. **07**
- OR**
- (b) Make a list of transactions that will be recorded by an OLTP system in a large hospital. Also enlist types of analytical data used by OLAP system of the hospital. State who will be the users of OLAP in that hospital. **07**
- Q.3** (a) What is Text Mining? Explain the steps involved in the process of Text Mining. **07**
- (b) What are the practical challenges faced while storing Unstructured Data? **07**
- OR**
- Q.3** (a) Explain Data Visualization. Which different types of charts are used for qualitative data, quantitative data as well as data visualization for text data? **07**
- (b) Explain some applications of Data Mining. **07**
- Q.4** (a) What is Big Data? Explain characteristics of Big data. **07**
- (b) You are the HR Manager of a company. Make a list of Key Performance Indicators (KPIs) that you would like to track and their purpose. **07**
- OR**
- Q.4** (a) Explain Business Performance Management Cycle with relevant examples. **07**

- (b) As a General Manager you would like to use Web Analytics. Explain what metrics can be analyzed by Web Analytics and the use of it. **07**

Q.5

CASE STUDY:

Data analytics applications have practically expanded to all spectrums of individual lives. But this time it has outperformed itself and is literally saving our lives. So, its success is not something we need to debate upon.

Amidst the COVID-19 scare, data analytics applications are our guiding beacon. Currently, there are so many dashboards and statistics around the Coronavirus spread available all over the internet. Critical information like Total confirmed cases over time till date, No. of new cases, Deaths over time, case comparisons across continents, Daily cases across continents, Corona situation by Country, territory, area, Penetration rate across regions, Recovery rate across regions, No. of quarantine regions available with no. of beds, etc. Also the Dashboard includes lot of visualization like region wise heat map of affected density, region wise deaths, and The date wise cases and trends graphs and so on. It also provides expert opinions, to see different nations adopting different strategies, from complete lockdown to social distancing to herd immunity is provided.

Also Data mining and machine learning applications are applied by researchers for building predictive models for spread of infection, the no. of cases worldwide and correlation between region, gender, age, chronic diseases, types of persons who may fall victims, type of persons who may have high chances of death. Also the trend in which the virus acts can be known.

Indian government has also provided an all India COVID-19 Dashboard at mygov.in. The health departments, the PM as well as CMs of states are constantly monitoring Corona virus spread to see whether their controls are effective or not.

- Q.5** (a) Discuss the critical metrics that are displayed on COVID-19 Dashboard. What kind of analysis and visualization is provided by this dashboards to disseminate various information? **07**

- (b) The data collected can be used for predictive and prescriptive analytics by the government. Justify this statement. **07**

OR

- Q.5** (a) Make a list of Key Performance Indicators (KPIs) which are measured by the government to measure the success or failure of their steps to control the Corona Virus spread. **07**

- (b) Data mining and machine learning algorithms on COVID-19 datasets of the world will help us to understand the pattern of spread of virus. Justify the statement. **07**
