Code No.: AI614OE | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–II–Semester End Examinations (Supply) - January- 2024
DATA ANALYTICS AND VISUALIZATION
(CSC)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1. a) What is Big Data? [2M]
   b) List out Enterprise Requirements? [2M]
   c) What is missing imputation? [2M]
   d) List various tools used for Data Analytics? [2M]
   e) What is Regression? [2M]
   f) State BLUE property assumptions? [2M]
   g) What are the decision trees? [2M]
   h) Elaborate Arima method? [2M]
   i) Specify the dimensionality of Chernoff faces? [2M]
   j) List out Hierarchical Visualization techniques. [2M]

PART-B **(50 Marks)**

2. a) Explain the sources of Primary Data? [5M]
   b) Demonstrate Data Pre-Processing techniques in detail. [5M]

OR

3. Explain Survey methods and Experimental methods used in data collection? [10M]

4. Explain databases and types of data and variables involved in Data Analytics? [10M]

OR

5. a) Explain how and where missing imputations are involved in real world scenario. [5M]
   b) Explain with example the need for Business Modeling? [5M]

6. a) Discuss about Variable Rationalization? [5M]
   b) Summarize how does Least Square Estimation (LSE) work? [5M]

OR

7. Explain about model fit statistics used for regression with an example and also discuss about model construction? [10M]

8. a) Demonstrate Linear Regression with suitable example. [5M]
   b) Outline major steps of decision tree classification with a suitable example. [5M]

OR

9. a) Explain in detail about Tree Building. [5M]
   b) Generate a model to measure Forecast Accuracy. [5M]

10. Explain Icon Based Visualization Techniques in detail. [10M]

OR

11. Write a brief note on the following.
    a) Circle Segment Technique. [5M]
    b) Space Filling Curves. [5M]

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