

Total No. of Questions : 8]

SEAT No. :

P-7863

[Total No. of Pages : 2

[6181]-405

B.E. (Artificial Intelligence and Data Science)

DATA MODELING AND VISUALIZATION

(2019 Pattern) (Semester - VII) (417522)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates :

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right side indicate full marks.
- 4) Assume suitable data if necessary.

Q1) a) Explain need of Graphics and computing in data visualization. How exploratory graphics is useful in visualization. [10]

b) Write a short note on Statistical Historiography in data visualization.[8]

OR

Q2) a) Explain data handling in data modeling and visualization. [10]

b) Explain the types of Data Visualization with suitable example. [8]

Q3) a) Discuss various functions available in matplotlib. [7]

b) Explain effective graph layout techniques in data visualization. [6]

c) Differentiate Force-directed Techniques and Multidimensional Scaling.[4]

OR

Q4) a) Explain in detail force-directed techniques in multidimensional Scaling.[7]

b) Explain Bipartite Graph and its applications. [6]

c) Describe the key steps involved in the process of data wrangling. [4]

P.T.O.

- Q5)** a) Describe in detail data aggregation with its importance for group operations. [8]
b) Explain Group by Mechanics technique in data modeling and visualization. [6]
c) Explain the steps involved in Split Apply Combine strategy. [4]

OR

- Q6)** a) Explain Cross Tabulation and its uses with suitable example. [8]
b) Write a short note on (Any Two) [10]
i) Data Aggregation
ii) Pivot Tables
iii) Periods and Periods Arithmetic

- Q7)** a) Discuss Data Reconstruction and its types in data modeling and visualization. [7]
b) Explain ultrasound images and its applications in data modeling and visualization. [6]
c) Explain Dbschema Pro Modeler in data modeling and visualization. [4]

OR

- Q8)** a) Write a short note on :- [7]
i) PET Images
ii) Magnetic Resonance Images
b) Explain ER/Studio with its applications. [6]
c) Explain SQL Database Modeler in data modeling and visualization. [4]

