

Total No. of Questions : 8]

SEAT No. :

PC2633

[6354]-782

[Total No. of Pages : 2

**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 in detail design choices in data visualization. **[8]**

b) Explain data handling for data visualization. **[9]**

OR

Q2) a) Write a short note on Role of Computational Statistics in data visualization. **[8]**

b) Explain the different types of Data visualization. **[9]**

Q3) a) Explain the Force-directed Techniques and Multidimensional Scaling in detail. **[9]**

b) Explain importance of reshaping and pivoting in data visualization. **[8]**

OR

Q4) a) Write a short note on Pulling Under Constraints Model. **[8]**

b) Explain the process of data wrangling in detail. **[9]**

P.T.O.

- Q5)** a) Explain Data aggregation with suitable example. [9]
b) Explain in detail cross tabulation 67 Time Series. [9]

OR

- Q6)** a) Explain Group by Mechanics techniques in data modeling and visualization. [9]
b) Write a short note on. [9]
i) Pivot Tables
ii) Periods and Periods Arithmetic

- Q7)** a) Explain PET Images and its applications in data modeling and visualization. [9]
b) Explain the various data reconstruction techniques used to assist data modeling and visualization. [9]

OR

- Q8)** a) Write a short note on :- [9]
i) Ultrasound Images
ii) Magnetic Resonance Images
b) Explain ER/Studio with its applications. [9]

