

Total No. of Questions : 4]

SEAT No. :

PE-323

[Total No. of Pages : 1

[6580]-694

B.E. (AI & DS) (Insem.)

**DATA MODELLING & VISUALIZATION**  
**(2019 Pattern) (Semester - VII) (417522)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates :*

- 1) *Answer Q.1 or Q.2 and Q.3 or Q.4.*
- 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 Positive, negative and zero covariance with appropriate graphs. [5]  
b) Explain Central Limit Theorem with example. [5]  
c) Explain in Data Modeling Process. [5]

**OR**

- Q2)** a) Differentiate between Descriptive Statistics and Graphical Statistics. [5]  
b) Explain model historical data in details. [5]  
c) List discrete distributions and explain two discrete distributions. [5]  
**Q3)** a) Define Poisson process. Explain Poisson distribution with example. [5]  
b) Differentiate between Z-Test and T-Test. [5]  
c) Explain the Bayesian Network with example. [5]

**OR**

- Q4)** a) Explain Autoregressive Moving Average (ARMA) Processes. [5]  
b) Explain the Markov Model in Hidden States. [5]  
c) Explanation of the Queuing system an illustration of Little's Law with a neat graph. [5]

