Total No. of Questions : 12]

SEAT No. :

P6578

[Total No. of Pages : 2

[5872]-411
M.E. (Computer Engineering)
BASICS OF DATA SCIENCE
(2017 Pattern) (Semester - I) (510302)

Time : 3 Hours] *[Max. Marks : 50*

Instructions to the candidates:

1) ***Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10, Q11 or Q12.***
2) ***Neat diagrams must be drawn whenever necessary.***
3) ***Figures to right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) What is the role of a Data Scientist in the industry? **[5]**

b) Explain the following data types with examples **[4]**

i) Structured and Unstructured Data

ii) Quantitative and Categorical Data

OR

Q2) What is data science? Explain the data science process. **[9]**

Q3) What is Spearman's rank correlation? Calculate the Spearman's rank correlation for the following data and discuss the relationship between sub1 and sub2. **[8]**

Roll no	Sub 1	Sub 2
1	35	24
2	20	35
3	49	39
4	44	48
5	30	45

OR

Q4) Define exploratory data analysis. Explain with an example. **[8]**

P.T.O.

Q5) What is simple linear regression? Explain with example. **[8]**

OR

Q6) Write K-nearest Neighbours algorithm. Explain with an example. **[8]**

Q7) a) What is visual encoding in data? Why is it important? **[4]**

b) Explain types of Data Visualisation. **[5]**

OR

Q8) Explain following bivariate data visualization techniques. **[9]**

a) Line plot

b) Bar plot

c) Scatter plot

Q9) What is recommender system? Explain any one type of recommender system with example. **[8]**

OR

Q10) Explain following similarity with example. **[8]**

a) Jaccard similarity

b) Pearson similarity

Q11) Explain Girvan-Newman Algorithm with example. **[8]**

OR

Q12) Calculate the credit of each edge in Girvan-Newman Algorithm for following graph. Start with vertex E. **[8]**