Total No. of Questions : 8]

SEAT No. : [ ]

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[Total No. of Pages : 2

[6180]-313
T.E. (Computer Engg.) (Honors)
DATA SCIENCE AND VISUALIZATION
(2019 Pattern) (Semester-I) (310501)

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) ***Figures to the right indicate full marks.***
3) ***Neat diagrams must be drawn whenever necessary.***
4) ***Assume Suitable data if necessary.***

Q1) a) Explain random forest algorithm with appropriate example. **[6]**

b) Explain Apriori Algorithm used in machine learning with valid example. **[6]**

c) Write a note on **[6]**

i) Partitioning Clustering

ii) Density-Based Clustering

OR

Q2) a) What is clustering? Explain K-means clustering algorithm. **[6]**

b) State and explain how Naive Bays classifier can be used to solve the classification problems? **[6]**

c) Illustrate how you will evaluate association rules. **[6]**

Q3) a) State and explain the different constituents of the decision tree. **[9]**

b) Write a note on **[8]**

i) Entropy

ii) Gini index

OR

Q4) a) When do you use Backpropagation in Neural Networks? Explain by taking a suitable example. **[9]**

b) What is entropy? How entropy is calculated explain with a suitable example. **[8]**

P.T.O.

Q5) a) Define the term Dashboard along with its evolution and steps to design the dashboard. **[9]**

b) Write a note On: **[9]**

i) Histograms

ii) Bar garphs

iii) Scatterplots

OR

Q6) a) Explain the terms Network hierarchies and reports associated with data visualization. **[6]**

b) Write a note on advanced visualization techniques and explain anyone of them. **[6]**

c) Write a note on 'display media for Dashboard'. **[6]**

Q7) a) What are different types of data model explain in brief. **[6]**

b) List the advantages of multi-dimensional data model? **[6]**

c) Discuss the challenges of clustering High-dimensional data. **[5]**

OR

Q8) a) Explain the need of data modelling. **[6]**

b) Explain multidimensional data model with one example. **[6]**

c) Explain Principal Component Analysis (PCA) with appropriate example. **[5]**

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