P438

[6003]-542

T.E. (Artificial Intelligence and Data Science)
DATA SCIENCE
(2019 Pattern) (Semester - II) (317529)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

1) *Solve 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 Data Analytics life cycle with the help of diagram.   **[10]**

b) List different phases in data analytics life cycle and explain Model Building phase in detail.   **[8]**

OR

Q2) a) What are different phases in data analytics life cycle? Explain Operationalize phase in detail.   **[10]**

b) Explain Model building phase with its challenges.   **[8]**

Q3) a) Explain association rules with example.   **[4]**

b) Explain Python Libraries for Data Processing, Modeling and Data Visualization.   **[10]**

c) Explain predictive, Descriptive, and Prescriptive data analysis. And also mention their difference.   **[4]**

OR

Q4) a) Write a short notes on Global Innovation Social Network and Analysis.   **[5]**

b) Explain the use of logistic function in logistic regression in detail. List and explain the Types of Logistic regression.   **[10]**

c) Wirte short notes on ASM.   **[3]**

P.T.O.

Q5) a) What is clustering? With suitable example explain the steps involved in k-means algorithm. **[7]**

b) Discuss Holdout method and Random Sampling methods. **[6]**

c) Wirte short note on **[4]**
    i) Confusion matrix
    ii) AVC- ROC curve

OR

Q6) a) What do you mean by text analysis? Why text analysis need to be done? Explain the following text analysis steps with suitable examples **[11]**
    i) Part of speech (POS) tagging
    ii) Lemmatization
    iii) Stemming

b) Wirte short note on **[6]**
    i) Time series Analysis
    ii) TF- IDF.

Q7) a) What is data visualization? What are the different methods of data visualization explain in detail. **[6]**

b) Explain in detail the Hadoop Ecosystem with suitable diagram. **[11]**

OR

Q8) a) Describe the Data visualization tool "Tableau". Explain its applications in brief. **[6]**

b) With a suitable example explain and draw a Box plot and explain its usages. **[6]**

c) With a suitable example explain Histogram and explain its usages. **[5]**

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