R20

Malla Reddy College of Engineering & Technology
B. Tech II Year I Semester Examinations
Introduction to Data Science
(Computer Science and Engineering-Data Science)
M O D E L   Q U E S T I O N   P A P E R

Time: 3 hours   **Max Marks: 70**

Note: This question paper contains of 5 sections. Answer five questions, choosing one question from each section and each question carries equal marks. Each question may or may not have a, b as sub-questions.

Section - I
Q.No.1.a) List and illustrate the Fundamental Libraries available for data science applications
b) Explain with example for each for manipulating of data in python.

OR

Q.No. 2.a) Describe the role of IDEs and list various IDEs available for Data Science
b) Explain with example of following
 i) Read excel and csv   ii) Select and filtering iii) Sorting and Grouping   iv) plotting

Section – II
Q.No. 3.a) Write about Method in Descriptive Statistics and Explain the role of inferential statistics for Analysis for various datasets.
b) Explain the following
 i) Hypothesis Testing   ii) p-Value

OR

Q.No. 4.Describe Exploratory Data Analysis and its role in data science

Section - III
Q.No.5.a) What is Supervised Learning. List supervised learning algorithms.
b) Explain the purpose of Support Vector Machine in supervised learning technique

OR

Q.No. 6.a) Write about purpose of confusion matrix with any example
b) Explain random forest technique with functionality

Section - IV
Q.No.7. Explain Regression Analysis and types of Regression Analysis in detail

OR

Q.No. 8.Explain the role of clustering in data science and write about types of clustering in detail.

Section - V
Q.No.9 a) Explain about Network Analysis
b) Write about Social Network Analysis

OR

Q.No.10 a) Describe Centrality with its types
b) Explain Community Detection and its importance with any example.

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Section - I

Q.No.1.a) What is Data Science and Explain its Life Cycle in detail.?
   b) Explain the following terms with suitable examples
      i) Reading and Displaying of dataset   ii) Rearranging and Ranking of data.

OR

Q.No. 2a) What are the various Classification of Analytics
   b) Explain various classification of digital data.?

Section – II

Q.No. 3.a) Describe the step to be taken for data selection and preparation.
   b) Analyse the role of frequentist approach in Statistical Inference

OR

Q.No. 4.Discuss how to do estimate mean, median and mode and measure of the spread with any example

Section - III

Q.No.5 a) Is role of Training, Validation and Testing of data is required in Machine Learning, Justify
   b) write a short notes on "learning curves"

OR

Q.No. 6.a) Explain various measuring factors available in Machine Learning
   b) How decision tree approach is used for analysis and prediction of data

Section - IV

Q.No.7. Explain Multiple Linear Regression Analysis with advantages and dis-advantages

OR

Q.No. 8.Explain Sparse Model and why Sparse modelling is required for data processing.

Section - V

Q.No.9 a) Describe the role of graphs in data processing. Why Graph Analytics is required.
   b) Explain NetworkX in python in detail

OR

Q.No.10 Write about the following in detail
   i) PageRank and how it function
   ii) Ego-Networks.

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