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# P.E.S. College of Engineering, Mandya - 571 401

*(An Autonomous Institution affiliated to VTU, Belagavi)*

**Sixth Semester, B.E. - Computer Science and Engineering**

**Semester End Examination; August - 2023**

**Data Analytics**

*Time: 3 hrs* *Max. Marks: 100*

***Course Outcomes***

*The Students will be able to:*

*CO1: Analyze data sets using Descriptive Statistics.*
*CO2: Apply data pre-processing methods on raw data set.*
*CO3: Apply unsupervised algorithms for the give problem.*
*CO4: Apply supervised algorithms for the give problem.*
*CO5: Design and Implement real time applications in data analytics*

***Note: I) PART - A** is compulsory. **Two** marks for each question.*

***II) PART - B**: Answer any **Two** sub questions (from a, b, c) for a Maximum of **18 marks** from each unit.*

| Q. No. | Questions | Marks | BLs | COs | POs |
|---|---|---|---|---|---|
| | **I : PART - A** | **10** | | | |
| 1 a. | Define Descriptive Univariate Analysis. | 2 | L1 | CO1 | PO1,2,5 |
| b. | Classify inconsistent and redundant data. | 2 | L2 | CO2 | PO1,2,5 |
| c. | List the values of common attribute types. | 2 | L1 | CO3 | PO1,2,3,5 |
| d. | Describe linear regression. | 2 | L2 | CO4 | PO1,2,3,5 |
| e. | Explain Support Vector Machine in brief. | 2 | L2 | CO5 | PO1,2,3,5 |
| | **II : PART - B** | **90** | | | |
| | **UNIT - I** | **18** | | | |
| 2 a. | Discuss the advantages and disadvantages of the KDD process. | 9 | L2 | CO1 | PO1,2,5 |
| b. | Interpret Location Multivariate Statistics with suitable example. | 9 | L3 | CO1 | PO1,2,5 |
| c. | Explain the importance of Insolvency Data with suitable example. | 9 | L2 | CO1 | PO1,2,5 |
| | **UNIT - II** | **18** | | | |
| 3 a. | Explain the conversion from Nominal to Relative with suitable example. | 9 | L2 | CO2 | PO1,2,5 |
| b. | Discuss the steps involved in principal component analysis. | 9 | L2 | CO2 | PO1,2,5 |
| c. | Analyse the key steps followed in Exploratory Data Analysis. | 9 | L4 | CO2 | PO1,2,5 |
| | **UNIT - III** | **18** | | | |
| 4 a. | Compare Distance Measures for Objects with Quantitative Attributes with Distance Measures for Non-conventional Attributes. | 9 | L4 | CO3 | PO1,2,3,5 |
| b. | Demonstrate FP-growth with an example. | 9 | L3 | CO3 | PO1,2,3,5 |
| c. | Explain Density-based spatial clustering with an example. | 9 | L2 | CO3 | PO1,2,3,5 |

Contd…2

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| | **UNIT - IV** | **18** | | | |
| 5 a. | Illustrate Naive Bayes algorithm with an example. | 9 | L3 | CO4 | PO1,2,3,5 |
| b. | Explain how parameters are found for a model and model validation is done? | 9 | L2 | CO4 | PO1,2,3,5 |
| c. | Discuss Predictive Performance Measures for Classification with suitable example. | 9 | L2 | CO4 | PO1,2,3,5 |
| | **UNIT - V** | **18** | | | |
| 6 a. | Discuss in detail about Back propagation. | 9 | L2 | CO5 | PO1,2,3,5 |
| b. | Discuss how decision trees can be used for regression with an example. | 9 | L2 | CO5 | PO1,2,3,5 |
| c. | Explain Recommender Systems with a suitable example. | 9 | L2 | CO5 | PO1,2,3,5 |

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