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PRESIDENCY UNIVERSITY BENGALURU

Department of Research & Development

Mid - Term Examinations - AUGUST 2024

Odd Semester: Ph.D. Course Work

Date: 13/08/2024

Course Code: MGT914

Time: 09:30am – 12:30pm

Course Name: Python for Business Data Analysis

Max Marks: 50

Department: School of Management

Weightage: 25%

Instructions:

- (i) Read the all questions carefully and answer accordingly.
- (ii) Do not write any matter on the question paper other than roll number.

PART A (THOUGHT PROVOKING)

Answer all the Questions. Each question carries 5 marks.

(4Qx 5M= 20M)

1. Compare the effectiveness of supervised and unsupervised learning techniques in business data sources such as CRM and ERP. (CO:01 BL:Evaluate)
2. Evaluate the role of feature engineering in improving the accuracy of machine learning models in business contexts. (CO:02 BL:Evaluate)
3. Critique the use of decision trees compared to logistic regression in churn prediction for customer analytics. (CO:02 BL:Evaluate)
4. Defend the importance of ethical considerations in deploying machine learning models for customer analytics and personalization. (CO:02 BL:Evaluate)

PART B (PROBLEM SOLVING)

Answer all the Questions. Each question carries 10 marks.

(3Qx 10M= 30M)

5. Apply logistic regression to build a model for predicting customer churn in a telecommunications company. Describe the data preparation, model building, and evaluation steps. (CO:01 BL:Apply)
6. Demonstrate how to use K-means clustering to segment customers based on their purchasing behavior. Include data preprocessing, algorithm execution, and interpretation of results. (CO:02 BL:Apply)
7. Solve a Harvest case using segmentation to predict customer lifetime value (CLV). Discuss the steps involved in model construction, evaluation, and business implications. (CO:02 BL:Apply)