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PRESIDENCY UNIVERSITY BENGALURU

Department of Research & Development

Mid - Term Examinations - AUGUST 2024

Odd Semester: Ph.D. Course Work

Date: 12/08/2024

Course Code: MGT912

Time: 09:30am – 12:30pm

Course Name: Business Applications of Machine Learning

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 handling business data sources like CRM and ERP. (CO:01 BL:Comprehension)
2. Evaluate the ethical considerations of using machine learning for customer segmentation and personalization strategies (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 data preprocessing and cleaning techniques in improving machine learning model accuracy. (CO:02 BL:Evaluate)

PART B (PROBLEM SOLVING)

Answer all the Questions. Each question carries 10 marks.

(3Qx 10M= 30M)

5. Apply k-means clustering to segment customers based on their purchasing behavior. Explain the steps and outcomes. (CO:02 BL:Apply)
6. Demonstrate how logistic regression can be used to predict customer churn in a subscription-based business. Include model evaluation metrics. (CO:02 BL:Apply)
7. Solve the Harvest Market case where decision trees are used for customer lifetime value modeling. Detail the model construction and evaluation. (CO:02 BL:Apply)