

B.Sc. Second Year (Data Science) NEP Semester-IV
BSCDS041 - Machine Learning

P. Pages : 1

Time : Three Hours



GUG/S/25/16831

Max. Marks : 80

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1. a) Explain the relationship between Artificial Intelligence and Machine Learning. **8**
b) Differences between Supervised and Unsupervised Learning. **8**
OR
c) What are perceptron's? Explain their role in deep learning. **8**
d) List and explain some of the popular ML programming languages. **8**
2. a) Describe Linear Regression and how it is used in machine learning. **8**
b) What is the Apriori Algorithm? **8**
OR
c) Describe the process of classification and prediction in machine learning. **8**
d) Explain the role of correlation analysis in association rule mining. **8**
3. a) What are the major issues in classification? **8**
b) Explain Decision Tree Induction in classification with an example. **8**
OR
c) Describe Bayesian Classification and its working principle. **8**
d) How does Rule-Based Classification work? **8**
4. a) What are the Accuracy and Error Measures in prediction models? **8**
b) Define Clustering and explain its importance in machine learning. **8**
OR
c) What are the methods used to evaluate clustering performance? **8**
d) Describe Issues Regarding Prediction in machine learning. **8**
5. Write **any two** of the following questions.
a) Explain the concept of "tidy data". Describe different steps involved in making data tidy. **8**
b) What is Data Pre-processing? Explain the various steps. **8**
c) Explain the Holdout Method and Random Subsampling. **8**
d) Describe the role of feature selection in classification models. **8**
