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

(An Autonomous Institution affiliated to VTU, Belagavi)

Seventh Semester, B.E. - Computer Science and Engineering

Semester End Examination; Jan. / Feb. - 2021

Machine Learning

Time: 3 hrs *Max. Marks: 100*

***Note**: Answer **FIVE** full questions, selecting **ONE** full question from each unit.*

UNIT - I

1 a. Define machine learning. Considering the related charts, discuss in detail the difference between supervised, unsupervised and reinforcement learning. 10

b. Define neighborhood. Discuss in detail about *K*-nearest neighbors. 10

2 a. Discuss the different approaches to find an optimal *K*. 10

b. Discuss in detail about Distance, Triangle inequality, Geometrical distance, Cosine similarity and Computational distances. 10

UNIT - II

3 a. Discuss Bayes's theorem to find fraudulent orders considering conditional probabilities, probability symbols and inverse conditional probability. 10

b. Explain the chain rule Naivete in Bayesian reasoning pseudo count in Naïve Bayesian classifier. 10

4 a. Discuss the process of spam filter with suitable code. 10

b. Discuss the process of spam trainer with suitable code. 10

UNIT - III

5 a. Describe Pruning Trees and Ensemble learning in detail. 10

b. Describe in detail the process for identify an optimal switch point by taking into account the common metrics used to split data into sub categories. 10

6 a. Discuss in detail about Tracking user behavior using state machines and observations of underlying states. 10

b. Explain the process of evaluating in Forward-Backward algorithm. 10

UNIT - IV

7 a. Discuss in detail about decision boundary and maximizing boundaries. 10

b. Describe the Aggregating sentiment and Mapping sentiment to bottom line. 10

8 a. Considering sentiment analyzer, explain code for class which is a collection of multiple corpora that each have a sentiment attached to it. 10

b. Discuss in detail about Kernel trick and optimizing with stack. 10

UNIT - V

9 a. Discuss in detail Neural network, Boolean logic and Perceptrons. 10

b. Describe Hidden Layer and Activation function. 10

10a. Describe Back propagations, Quick pro and R pro. 10

b. Explain how do we build Neural network? 10

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