

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Mid Semester Examination - September 2019

Course: T.Y. B. Tech (CSE)

Subject Name: Machine Learning

Max Marks: 20

Date: - 25/09/2019

Sem: I

Subject Code: BTCOC503

Duration:- 1 Hr.

Instructions to the Students:

- Check that you have received a correct Question paper.
- Assume suitable data if necessary and mention it clearly
- . Draw NEAT labeled diagrams wherever necessary

Q.1. Attempt any Six Questions

(1*6 = 6 Marks)

Define Hypothesis Space

What is information gain?

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- What is difference between supervised and unsupervised learning
- What is cross validation?
- Write Bays theorem.
- . Define confusion matrix with suitable example
- What is SVM?
- Q. 2. Attempt any Two of the following

(2*3 =6 Marks

- Explain problem of overfitting in ML?
- Differentiate Linear Vs Logistic regression. Give suitable example of each.
- Apply KNN for following dataset and predict class of test example (A1 = 3, A2 = 7). Assume K = 3

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Q.3. Attempt any One of the following

(1*8 = 8 Marks)

population have this cancer. Find P(cancer | +) and $P(\neg cancer | +)$ Explain Bayesian Learning and Naïve Bayes Classifier. Solve the following example result in only 97% of the cases in which the disease is not present. Furthermore, .008 of the en A patient takes a lab test and the result comes back positive. The test returns a correct positiv result in only 98% of the cases in which the disease is actually present, and a correct negative

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Illustrate the operation of ID3 for the following training example. Consider Information Gain as Attribute Selection Measure.

PlayTennis: training examples

Day Outlook Temperature Humidity Wind PlayTennis D1 Sunmy Hot High Weak No D2 Sunmy Hot High Weak Yes D3 Overcast Hot High Weak Yes D4 Rain Mild High Weak Yes D5 Rain Cool Normal Strong No D6 Rain Cool Normal Strong No D7 Overcast Cool Normal Strong Yes D8 Sunny Mild High Weak Yes D10 Rain Mild Normal Weak Yes D11 Sunny Mild Normal Strong Yes D12 Overcast Mild Normal Strong Yes D13 Overcast Hot Normal Weak Yes D14 Rain							·								<u> </u>	1
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