

No Preview  
Available

Total No. of Question : [4]

Registration No. : 

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**Programme Name : Computer Science & Engineering(DS)**  
**Regular T.Y.B.Tech. ESE (A.Y. 2023-24) Sem.V Nov.2023**  
**V SEMESTER ( 2021 BATCH)**  
**201DSL303-Introduction to Machine Learning(TH)**

Duration : [ 11:00 AM - 01:00 PM ]

Date : 24 Nov, 2023

Day : Friday

Marks : 50

**Instructions :**

(Q1) **Attempt all questions** [20.0]

(a) With a block diagram explain machine learning life cycle [7.0]

**CO :- 1**

**Blooms Taxonomy :- Understand**

(b) Explain logistic regression with hypothesis and cost function [7.0]

**CO :- 1**

**Blooms Taxonomy :- Understand**

(c) Explain overfitting and under fitting conditions in machine learning [6.0]

**CO :- 2**

**Blooms Taxonomy :- Understand**

(Q2) **Question a is compulsory and choose any one from question b and c** [10.0]

(a) Explain Bayesian Belief Network with suitable example [6.0]

**CO :- 2**

**Blooms Taxonomy :- Understand**

(b) Write a short note on Navie Bayes classifier [4.0]

**CO :- 2**

**Blooms Taxonomy :- Understand**

**OR [ b / c ]**

(c) With a state transition diagram explain Hidden Markovs Model [4.0]

**CO :- 3**

**Blooms Taxonomy :- Understand**

(Q3) Question a is compulsory and choose any one from question b and c [10.0]

(a) Explain support vector machine (SVM ) algorithm [6.0]

CO :- 3

Blooms Taxonomy :- Understand

(b) Explain the concept of entropy in the context of decision trees. How is entropy used to make decisions in a decision tree? [4.0]

CO :- 3

Blooms Taxonomy :- Understand

**OR [ b / c ]**

(c) Given a dataset with 1000 instances, where 600 instances are labeled as "Yes" and 400 as "No," calculate the entropy of the target variable before any split [4.0]

CO :- 4

Blooms Taxonomy :- Understand

(Q4) Attempt any two questions [10.0]

(a) Explain K-mean clustering algorithm [5.0]

CO :- 4

Blooms Taxonomy :- Understand

(b) Explain Agglomerative hierarchical clustering with suitable example [5.0]

CO :- 4

Blooms Taxonomy :- Understand

(c) Write a note on text mining methods and techniques [5.0]

CO :- 4

Blooms Taxonomy :- Understand

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