Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058, India

(Autonomous College Affiliated to University of Mumbai)

Mid Semester Examination
Mar 2019

Max. Marks: 20

Class: M.Tech.

Course Code: CEE924

Name of the Course: Machine Learning Synoptic

Duration: 60 Mins.

Semester: II

Branch: Computer Engineering

Instruction:
(1) All questions are compulsory
(2) Draw neat diagrams
(3) Assume suitable data if necessary

Q No.		Max. Marks	CO
Q.1	Outline the key tasks or key jobs of machine learning. Answer: Describing job to predict, in classification 01 Mark Describing job to predict, in regression 01 Mark Interpreting supervised learning 0.5 mark Giving 2 example of Supervised learning 0.5 Mark Interpreting unsupervised learning 0.5 mark Giving 2 example of Supervised learning 0.5 Mark Describing density estimation/clustering 01 Mark	05	CO1
Q.2	What are the different steps in ID3 algorithms? Answer: each steps of Algorithm 01 Mark OR what is linear Regression? Explain with examples. Differentiate between Linear and Logistic Regression. Answer: linear Regression with example 03 Marks Differentiate between Linear and Logistic Regression at least 04 Points 02 Marks	05	CO2

Q.3	Let's consider the dataset in the table below and draw a decision tree using gini index.						10	CO3

INDEX	A	B	C	D	E
1	4.8	3.4	1.9	0.2	Positive
2	5	3	1.6	1.2	Positive
3	5	3.4	1.6	0.2	Positive
4	5.2	3.5	1.5	0.2	Positive
5	5.2	3.4	1.4	0.2	Positive
6	4.7	3.2	1.6	0.2	Positive
7	4.8	3.1	1.6	0.2	Positive
8	5.4	3.4	1.5	0.4	Positive
9	7	3.2	4.7	1.4	Negative
10	6.4	3.2	4.7	1.5	Negative
11	6.9	3.1	4.9	1.5	Negative
12	5.5	2.3	4	1.3	Negative
13	6.5	2.8	4.6	1.5	Negative
14	5.7	2.8	4.5	1.3	Negative
15	6.3	3.3	4.7	1.6	Negative
16	4.9	2.4	3.3	1	Negative

Answer: Calculating each part A/B/C/D 02 marks each.
Final Decision Tree   02 Marks