JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS-2022

B.Tech- VI Semester (ECE)

COURSE CODE: 19B1WEC636   MAX. MARKS: 25

COURSE NAME: Machine Learning for Data Analysis

COURSE CREDITS: 03   MAX. TIME: 1 Hour 30 Min

Note: *All questions are compulsory. Marks are indicated against each question in square brackets.*

Q1 What is the significance to compute the information gain and gini index? Find the information gain and gini index for the following data.   [CO3]   [1+1+2+2=6 Marks]

Attribute (A)	Attribute (B)	Class Label
T	F	#
T	T	#
T	T	#
T	F	%
T	T	#
F	F	%
F	F	%
F	F	%
T	T	%
T	F	%

Q.2 Draw the decision tree for the given Boolean functions   [CO3]   [4 Marks]

a) $AB + \bar{C}$

b) $\overline{X\bar{Z}} + W$

Q.3 What are the issue comes in decision tree? How we can avoid the over fitting in decision tree? Explain with suitable examples.   [CO3,CO4]   [5 Marks]

Q.4 Explain, data cleaning and data integration process with the help of suitable examples.   [CO1]   [5 Marks]

Q. 5 Answer the following questions

   a) Explain, hyper-plane, marginal line and marginal distance in SVM with the help of suitable diagram.
   b) What is the difference between logistic regression and SVM?
   c) Why we keep the marginal distance is high?
   d) What is SVM kennel?
   e) How SVM kernel is useful to classify the nonlinearly separable points?

[CO1,CO2]   [5 Marks]