H   Roll No. ....

TCS–834

B. Tech. (CSE) (EIGHTH SEMESTER)
MID SEMESTER EXAMINATION, 2021
MACHINE LEARNING
Time : 1½ Hours
Maximum Marks : 50

Note : (i) Answer all the questions by choosing any *one* of the sub-questions.

(ii) Each question carries 10 marks.

1. (a) What do you mean by the term Machine Learning ? Explain the impact of various Machine Learning Techniques in today's world.   10 Marks (CO1)

OR

(b) Explain the following terms with respect to Machine Learning (Give examples) :

10 Marks (CO1)

(i) Mean

(ii) Mode

(iii) Median

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2. (a) What do you mean by Standard Deviation ? Calculate the standard deviation for the following data sequence {1, 3, 3, 3, 5}.   10 Marks (CO1, CO2)

OR

(b) What are the different approaches and algorithms that are used in Classification ? Explain each of them in detail.

10 Marks (CO1, CO2)

3. (a) Explain the term Outlier with respect to datasets. Explain the effects of outliers in the calculation of Mean and Median. Give examples also.   10 Marks (CO1, CO2)

OR

(b) What do you understand by Supervised, Unsupervised and Reinforcement Machine Learning ? Explain the real time scenarios with examples where all these types of Machine Learning can be implemented.

10 Marks (CO1, CO2)

4. (a) Write short notes one the following :

10 Marks (CO1, CO2)

   (i) Regression

   (ii) Classification

(b) What do you understand by Dataset, Training set and Testing dataset ? Explain the term Data Preprocessing and its benefits.   10 Marks (CO1, CO2)

5. (a) Explain the term Decision Trees with respect to Machine Learning. What are the strengths and weaknesses of Decision Tree algorithm ?   10 Marks (CO1, CO2)

OR

(b) What do you understand by the term Data Analytics ? Explain the term Descriptive Analytics, Diagnostic Analytics, Predictive Analytics and Prescriptive Analytics with the help of examples.

     10 Marks (CO1, CO2)