**MINOR-2 EXAMINATION**

M.Tech – **CSE ( 1st-SEMESTER):** SESSION **2022-23**

|  |  |
| --- | --- |
| Course Code: **MMLC-202** | Duration: **60 Min.** |
| Course Name: **Foundation of Machine Learning** | Maximum Marks: **20** |

***Instructions:***

1. *Attempt any* ***four*** *questions.*
2. *Clearly state assumptions wherever necessary.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Questions** | **MM** | **CO** | **BL** |
| **1** | Why is scaling performed on the features before training in ML? For a given dataset apply suitable scaling and plot.   |  |  |  | | --- | --- | --- | | **S.No** | ***Age*** | ***Income*** | | 1 | *20* | *10000* | | 2 | *25* | *20000* | | 3 | *30* | *30000* | | 4 | *50* | *40000* | | ***5*** | *CO3* | *L3* |
| **2** | Define accuracy, precision, recall, and confusion matrix with an example? | ***5*** | *CO2* | *L3* |
| **3** | Define information, entropy, and gini index ?  Calculate the entropy and gini index for a bag containing 4 red and 1 white ball? | ***5*** | *CO3* | *L4* |
| **4** | A ML algorithm it trained to select apples from mix of apples and oranges. The model is tested with a mix of 7 apples and 5 oranges, The model select (5 apples and 1 orange) ? Draw the confusion matrix and Determine its F-score or F1-score? | ***5*** | *CO2* | *L2* |
| **5** | Draw the decision tree for given dataset?   |  |  |  |  | | --- | --- | --- | --- | | **Temp** | **Humidity** | **Windy** | **PlayGolf** | | *Hot* | *High* | *TRUE* | *Yes* | | *Hot* | *High* | *FALSE* | *Yes* | | *Mild* | *Normal* | *FALSE* | *Yes* | | *Mild* | *Normal* | *TRUE* | *No* | | *Cool* | *Normal* | *FALSE* | *No* | | *Cool* | *Normal* | *TRUE* | *No* | | ***5*** | *CO3* | *L3* |
| **6** | What are the advantages and disadvantages of decision tree? | ***5*** | *CO1* | *L1* |