EXPERIMENT – 6 (D)

import numpy as np

import pandas as pd

# Importing the dataset

dataset = pd.read\_csv("/content/IRIS.csv ")

X = dataset.iloc[:, :-1].values

y = dataset.iloc[:, -1].values

# Splitting the dataset into the Training set and Test set

from sklearn.model\_selection import train\_test\_split

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size = 0.25, random\_state = 8)

# Feature Scaling

from sklearn.preprocessing import StandardScaler

sc = StandardScaler()

X\_train = sc.fit\_transform(X\_train)

X\_test = sc.transform(X\_test)

# Training the Decision Tree Classification model on the Training set

from sklearn.tree import DecisionTreeClassifier

classifier = DecisionTreeClassifier(criterion = 'entropy', random\_state = 5)

classifier.fit(X\_train, y\_train)

# Display the Decision Tree

from sklearn.tree import plot\_tree

import matplotlib.pyplot as plt

plt.figure(figsize=(20,10))

plot\_tree(classifier, filled=True, rounded=True, feature\_names=dataset.columns[:-1])

plt.show()

# Predicting the Test set results

y\_pred = classifier.predict(X\_test)

# Display the results (confusion matrix and accuracy)

from sklearn.metrics import confusion\_matrix, accuracy\_score

cm = confusion\_matrix(y\_test, y\_pred)

print(cm)

accuracy\_score(y\_test, y\_pred)

