2023

COMPUTER SCIENCE

(Practical)

Paper : CSMP-305

(Artificial Intelligence)

Full Marks : 20

Instruction :

I. *Candidates have to perform two experiments.*

II. *All the codes should be written in Python.*

III. *Programs should be properly documented.*

IV. *Program name should follow the following format:*

CSMP305-AI-LAB-ROLL.PY

V. *INPUT and OUTPUT filenames should follow the same naming format as program file name.*

VI. *Comments and discussions will be in output file.*

1. Apply ID3 algorithm on Iris data set and draw the decision tree.

2. Apply k-means algorithm on Boston Housing dataset and visualize the clusters.

3. Apply Hierarchical clustering (AGNES) on MTCARS dataset and visualize the clusters.

4. Apply CART algorithm on Golf play data set and draw the decision tree.

5. Apply multilayer perceptron with back-propagation on Iris dataset and draw the trained neural network.

6. Create a data frame and apply linear regression and visualize the regression line.

7. Classify and predict the unknown samples of Buys Computer dataset using Naïve Bayesian Classifier.

8. Apply perceptron learning to realize the logic gates, e.g., AND, OR.

9. Apply Fuzzy C-means on MTCARS dataset and visualize the clusters.

10. Create a data frame for two functions of a travel,viz., Cost and Time; We have to minimize both; Apply NSGA II (Genetic Algorithm) on the dataset and visualize the pareto-optimal fronts.

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