



**C20-CAI-405**

**7521**

**BOARD DIPLOMA EXAMINATION, (C-20)  
OCTOBER/NOVEMBER—2023**

**DCAI – FOURTH SEMESTER EXAMINATION**

**INTRODUCTION TO MACHINE LEARNING**

*Time : 3 Hours ]*

*[ Total Marks : 80*

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**PART—A**

**3×10=30**

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Write five applications of machine learning.
2. Define decision list.
3. Mention any three types of machine learning.
4. State the importance of multiclass classification.
5. What is the purpose of decision trees?
6. Define a neural network.
7. Mention any three drawbacks of decision tree approach.
8. Define NMF.
9. Write the types of unsupervised learning.
10. List the advantages of clustering.

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **eight** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

**11.** (a) Explain about CNF functions.

**(OR)**

(b) Explain about version graphs.

**12.** (a) Write about K-neighbors classification.

**(OR)**

(b) Write about linear models for classification.

**13.** (a) Explain the process of building decision trees.

**(OR)**

(b) Explain the Widrow-Hoff procedure.

**14.** (a) Explain the effect of pre-processing on supervised learning.

**(OR)**

(b) Explain eigenfaces for feature extraction.

**15.** (a) Explain K-means clustering.

**(OR)**

(b) Explain hierarchical clustering.

**PART—C**

10×1=10

- Instructions :** (1) Answer the following question.  
(2) The question carries **ten** marks.  
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 16.** Distinguish between classification and regression with advantages and disadvantages.

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