


| Name: | |  | |
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| Enrolment No: | | | |
| UPES Supplementary Examination, December 2023 | | | |
| Course: Machine Learning - Using Data Program: MCA (All branches) Course Code: CSAI8002P | | Semester: III Time : 03 hrs. Max. Marks: 100 | |
| Instructions: Attempt every questions. | | | |
| SECTION A (5Qx4M=20Marks) | | | |
| S. No. | | Marks | CO |
| Q 1 | Discuss an overview of the evolution of artificial intelligence, highlighting significant innovations and developments that have led to the creation of products identified as AI-based? | 4 | CO1 |
| Q 2 | Discuss the Difference between deep learning and machine learning. | 4 | CO2 |
| Q 3 | Define unsupervised learning. Discuss it with any example. | 4 | CO3 |
| Q 4 | Discuss the difference between classification and regression. | 4 | CO1 |
| Q 5 | What are the metrics for the evaluation for the classification method. | 4 | CO4 |
| SECTION B (4Qx10M= 40 Marks) | | | |
| Q 6 | Discuss the importance of machine learning. Describe the general step of machine learning which is applied to problem. | 10 | CO4 |
| Q 7 | Discuss Ensemble learning with appropriate example. | 10 | CO5 |
| Q 8 | Discuss the importance of Decision Tree. Explain it with proper example. | 10 | CO4 |
| Q 9 | Discuss the difference between logistic regression and support vector machine. Justify the difference with an appropriate example. Or Plot the hyperplane for the following points in SVM. The points are (1,1), (2,1), (1,-1),(2,-1),(4,0),(5,1),(5,-1),(6,0). | 10 | CO3 |
| SECTION-C (2Qx20M=40 Marks) | | | |
| Q 10 | Discuss in detail: (a) Undirected Graphical Models. (b) Hidden Markov Model. Or (a) Gradient Boosting. (b) Density Based Clustering. | 20 | CO5 |

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| Q11 | Discuss: (a) AI in Health Care Sector. (b) Perceptron Learning. OR (a) AI in Banking Sector (b) Linear Discriminant Analysis | 20 | CO2 |