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PRESIDENCY UNIVERSITY BENGALURU

 SCHOOL OF CSE & IS

 MAKE UP EXAMINATION - JULY 2024

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| **Semester : 5th**  | **Date :1 July 2024** |
| **Course Code: CSE3087** | **Time: 9:30 AM to 12:30PM** |
| **Course Name: Applied Machine Learning** | **Max Marks :100** |
| **Program: B.Tech** | **Weightage :50%** |

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Question paper consists of 3 parts.*
3. *Scientific and non-programmable calculator are permitted.*
4. *Do not write any information on the question paper other than Roll Number.*

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| **PART A** |
|  **ANSWER ANY 4 QUESTIONS 4Q X 5M=20M** |
| 1 | Differentiate between supervised learning and unsupervised learning with examples.  | (CO 1) | [Remember] |
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| 2 | How are the decision tree concepts used in Machine Learning?  | (CO 2) | [Remember] |
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| 3 | Define a single-layer perceptron model.  | (CO 3) | [Remember] |
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| 4 | Define agglomerative clustering.  | (CO 4) | [Remember] |
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| 5 | Differentiate between Mean Squared Error and Mean Absolute Error. | (CO 1) | [Remember] |
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| 6 | What is the purpose of kernel trick? | (CO 2) | [Remember] |
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| **PART B** |
|  **ANSWER ANY 5 QUESTIONS 5Q X 10M=50M** |
| 7 | Explain the K-means clustering algorithm.  | (C.O.No.4)  | [Understanding] |
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| 8 | Summarize the steps to update the centroids incrementally. | (C.O.No.4)  | [Understanding] |
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| 9 | Differentiate between Bagging and Pasting with basic coding steps. | (C.O.No.3)  | [Understanding] |
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| 10 | Explain Perceptron Training Rule with diagram and algorithm.  | (C.O.No.1)  | [Understanding] |
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| 11 | What are the steps used to calculate Euclidean Distance by KNN Algorithm. | (C.O.No.1)  | [Understanding] |
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| 12 | Explain about mean imputation with an example.  | (C.O.No.2)  | [Understanding] |
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| 13 | Demonstrate the support vector machine with a diagrammatic representation. | (C.O.No.2)  | [Understanding] |
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| **PART C** |
|  **ANSWER ANY 2 QUESTIONS 2Q X 15M=30M** |
| 14 | Show the logical computations with perceptrons and create logical gates such as the AND gate. The data is given as W1 =1.2, W2 = 0.6, threshold = 1, and learning rate n = 0.5. | (C.O.No.3)  | [Apply] |
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| 15 | Use perceptrons to solve logical equations and build logical gates like the OR gate. The information provided is as follows: learning rate n = 0.5, threshold = 1, W1 = 0.6, and W2 = 0.6. | (C.O.No.3)  | [Apply] |
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| 16 | How to find the optimal number of clusters using Elbow method with suitable examples. | (C.O.No.4)  | [Apply] |
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