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**Department of Artificial Intelligence and Machine Learning**

**Evaluation plan with CO Mapping and rubrics**

**Symbiosis Institute of Technology, Pune**

Evaluation Plan

**Department:**  AIML Batch: 2023-27

**Course name:** Unsupervised Learning Lab               Credit:   01

**Year / Sem:** Sem-4 (2023-27)

**Name of the faculty member:** - Dr. Anupkumar Bongale/Dr. Anjali Dalvi /

Dr. Gargi Bhide

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| **Sr. No.** | **Component** | **CO** | **Max marks (25)** | **Weightage (%)** | **Tentative date** |
| 1 | Component I – Lab Assignment+ Viva | CO1, CO2, CO3, CO4 | 10 | 40 | Regular lab sessions |
| 2 | Component II – Lab Exam ESE | CO1, CO2, CO3, CO4 | 15 | 60 | 28th Apr. 2025 to 4th Apr. 2025 |

Dr. Anupkumar Bongale

Dr. Anjali Dalvi

Dr. Gargi Bhide

Dr. Shruti Patil

Sign of the faculty member:  Head of Department

**Continuous evaluation along with CO mapping:**

**Component I – Lab Experiments**

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| --- | --- | --- | --- | --- |
| **Q. No** | **Lab Experiments** | **Marks** | **CO Map to question** | **BL** |
| 1 | Implement dimensionality reduction techniques and compare their outcomes (PCA, LDA, t-SNE, MDS, SVD) | 5 | CO1 | L3 |
| 2 | Execute various unsupervised clustering algorithms using multiple distance measures and datasets to produce comparative analysis. | 2 | CO2 | L3 |
| 3 | Implementation of incremental clustering algorithms DBSCAN, COBWEB, EM, etc., and perform comparative analysis to recommend the best suitable algorithm for the dataset from a specific domain. | 2 | CO3 | L3 |
| 4 | Simple implementation of autoencoder. | 1 | CO4 | L3 |

**Evaluation Rubrics (Internal):**

1. **Implement dimensionality reduction techniques and compare their outcomes (PCA, LDA, t-SNE, MDS, SVD)**

* 0: No submission
* 1: Only one dimensionality reduction technique implemented.
* 2 to 3.5: Partial dimensionality reduction implemented with comparative analysis and punctual submission.
* 4 to 4.5: All dimensionality reduction successfully implemented with weak comparative analysis and punctual submission.
* 5:  All dimensionality reduction successfully implemented with comparative analysis and punctual submission.

1. **Execute various unsupervised clustering algorithms using multiple distance measures and datasets to produce comparative analysis.**

* 0: No submission
* 1-1.5: Partial clustering algorithm implementation and punctual submission.
* 2: All clustering algorithm implementation and punctual submission.

1. **Implementation of incremental clustering algorithms DBSCAN, COBWEB, EM, etc., and perform comparative analysis to recommend the best suitable algorithm for the dataset from a specific domain.**

* 0: No submission
* 1-1.5: Partial clustering algorithm implementation and punctual submission.
* 2: All clustering algorithm implementation and punctual submission.

1. **Simple implementation of autoencoder.**

* 0: No submission
* 0.5: Partial completion
* 1: Full implementation