**Lesson Plan**

**Name of Faculty : Arushi Bansal, AP, CSE**

**Discipline : Computer Science and Engineering**

**Semester : 8th**

**Subject : Data Mining Techniques (CSE-403T)**

**Lesson Plan Duration : 15 weeks (from March 2023to August-2023)**

**Work Load (Lecture) per week (in hours): Lectures-03 hours,**

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| **Week** | **Theory** | | **Topic Covered Date and Remarks** | | | |
| **Lecture Day** | **Topic (Including Assignment/Test)** | **Date** | | **HOD** | **Director- Principal** |
| 1st | 1 | Introduction to Data Mining: Kind of data to be mined |  | |  |  |
| 2 | Data Mining Functionalities |  | |  |  |
| 3 | Technologies used in Data Mining |  | |  |  |
| 2nd | 4 | Major Issues in Data Mining |  | |  |  |
| 5 | Applications of data Mining |  | |  |  |
| 6 | Need for preprocessing |  | |  |  |
| 3rd | 7 | Statistical description of data |  | |  |  |
| 8 | Data Objects and Attribute types |  | |  |  |
| 9 | Data Visualization |  | |  |  |
| 4th | 10 | Measuring similarity and dissimilarity of data |  | |  |  |
| 11 | Data Cleaning ,Data Integration |  | |  |  |
| 12 | Data Reduction |  | |  |  |
| 5th | 13 | Data Transformation and Data Discretization |  | |  |  |
| 14 | Introduction, Data Warehouse and Database Systems |  | |  |  |
| 15 | Data Warehouse Architecture, Data Warehouse Models |  | |  |  |
| 6th | 16 | Data Cube and OLAP |  | |  |  |
| 17 | Multidimensional data Model |  | |  |  |
| 18 | Concept Hierarchies |  | |  |  |
| 7th |  | **1st Minor Test** | | | |  |
| 8th | 19 | OLAP operations |  |  | |  |
| 20 | Data Warehouse Implementation |  |  | |  |
| 21 | Mining Frequent Patterns |  |  | |  |
| 9th | 22 | Associations and Correlations |  |  | |  |
| 23 | Frequent Itemset Mining using Apriori Algorithm |  |  | |  |
| 24 | Generating Association Rules from Frequent Itemsets |  |  | |  |
| 10th | 25 | Improving efficiency of Apriori |  |  | |  |
| 26 | Pattern Growth Approach for Mining Frequent Itemsets |  |  | |  |
| 27 | Pattern evaluation Methods |  |  | |  |
| 11th | 28 | Pattern Mining in Multilevel and Multidimensional Space |  |  | |  |
| 29 | Constraint-Based Frequent Pattern Mining |  |  | |  |
| 30 | Introduction, Classification using Decision Tree Induction |  |  | |  |
| 12th | 31 | Bayesian Classification Methods |  |  | |  |
| 32 | Rule Based Classification |  |  | |  |
| 33 | Model Evaluation and Selection |  |  | |  |
| 13th | 34 | Techniques to Improve Classification Accuracy |  |  | |  |
| 35 | Classification by Backpropagation |  |  | |  |
| 36 | Support Vector Machines and Lazy Learners |  |  | |  |
| 14th |  | **2nd Minor Test** | | | |  |
| 15th | 37 | Introduction, Basic Clustering Methods |  |  | |  |
| 38 | Partitioning Methods, Hierarchical Methods |  |  | |  |
| 39 | Evaluation of Clustering |  |  | |  |