**LESSON PLANNING:**

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| **Parul University – Faculty of Engineering & Technology At & Po. Limda, Ta Waghodia, Dist. Vadodara**  **Information Technology Department** | | | | | | | | |
| **Lesson Plan** | | | | | | | | |
| **Academic Year: 2024 – 2025** | | | **Sem.: 7th** | | | | | |
| **Name of Teacher: Karnavi Desai, Dheeraj Singh, Dr. Jaiprakash Dwivedi, Roni Das** | | | **Name of Department: IT** | | | | | |
| **Subject: DMDV LECTURE (203108361)** | | | **Hrs./Week: 3** | | | | | |
| **Theory/Practical: Theory** | | | **Days: Mon, Tue, Wed, Thu, Fri, Sat** | | | | | |
| **Sr. No** | **Name of Unit/Topics** | **Hrs. Allotted** | **Division A** | **Division B** | **Division C** | **Division D** | **Division E** | **Division F** |
| **1** | **Introduction to Data Mining (DM):** | **9** |  |  |  |  |  |  |
| 1 | Importance of Data Mining | 1 | 10/06/24 | 10/06/24 | 10/06/24 | 11/6/24 | 12/06/24 | 11/06/24 |
| 2 | Data Mining- Definition and Functionalities | 1 | 10/06/24 | 13/06/24 | 11/06/24 | 14/6/24 | 12/06/24 | 12/06/24 |
| 3 | Classification of Data Mining Systems | 1 | 15/06/24 | 15/06/24 | 15/06/24 | 15/6/24 | 15/06/24 | 13/06/24 |
| **4** | Data Mining Architecture | 1 | 17/06/24 | 17/06/24 | 17/06/24 | 18/6/24 | 19/06/24 | 18/06/24 |
| 5 | KDD | 1 | 17/06/24 | 20/06/24 | 18/06/24 | 21/6/24 | 19/06/24 | 19/06/24 |
| 6 | DM Task Primitives | 1 | 22/06/24 | 22/06/24 | 22/06/24 | 22/6/24 | 22/06/24 | 20/06/24 |
| 7 | Major issues in Data Mining | 1 | 24/06/24 | 24/06/24 | 24/06/24 | 25/6/24 | 26/06/24 | 26/06/24 |
| 8 | Data Mining technologies | 1 | 24/06/24 | 27/06/24 | 25/06/24 | 28/6/24 | 26/06/24 | 26/06/24 |
| 9 | Applications of Data Mining | 1 | 29/06/24 | 29/06/24 | 29/06/24 | 29/6/24 | 29/06/24 | 27/06/24 |
| **2** | **Data Pre-processing:** | **7** |  |  |  |  |  |  |
| 10 | Tasks in data pre-processing | 1 | 01/07/24 | 01/07/24 | 01/07/24 | 02/07/24 | 03/07/24 | 02/07/24 |
| 11 | Reasons of missing values and noisy data | 1 | 01/07/24 | 04/07/24 | 02/07/24 | 05/07/24 | 03/07/24 | 03/07/24 |
| 12 | Cleaning | 1 | 06/07/24 | 06/07/24 | 08/07/24 | 06/07/24 | 06/07/24 | 04/07/24 |
| 13 | Integration | 1 | 08/07/24 | 08/07/24 | 09/07/24 | 09/07/24 | 10/07/24 | 09/07/24 |
| 14 | Reduction | 1 | 08/07/24 | 11/07/24 | 13/07/24 | 12/07/24 | 10/07/24 | 10/07/24 |
| 15 | Transformation and Discretization | 1 | 13/07/24 | 13/07/24 | 15/07/24 | 13/07/24 | 13/07/24 | 11/07/24 |
| 16 | Concept Hierarchy Generation | 1 | 15/07/24 | 15/07/24 | 16/07/24 | 16/07/24 | 17/07/24 | 16/07/24 |
| **3** | **Mining frequent patterns:** | **7** |  |  |  |  |  |  |
| 17 | Efficient and scalable frequent itemset mining methods | 1 | 15/07/24 | 18/07/24 | 20/07/24 | 19/07/24 | 17/07/24 | 17/07/24 |
| 18 | Association rules | 2 | 20/07/24 | 20/07/24 | 22/07/24 | 20/07/24 | 20/07/24 | 18/07/24 |
| 19 | Multi-dimensional and multi-level association rules | 1 | 22/07/24 | 25/07/24 | 23/07/24 | 23/07/24 | 24/07/24 | 23/07/24 |
| 20 | Generating association rules from frequent item set | 2 | 27/07/24 | 27/07/24 | 27/07/24 | 26/07/24 | 24/07/24 | 24/07/24 |
| 21 | Interesting pattern evaluation methods | 1 | 29/07/24 | 01/08/24 | 29/07/24 | 27/07/24 | 27/07/24 | 25/07/24 |
| **4** | **Classification and Clustering** | **9** |  |  |  |  |  |  |
| 22 | Classification vs. Prediction | 1 | 03/08/24 | 03/08/24 | 30/07/24 | 30/07/24 | 31/07/24 | 30/07/24 |
| 23 | Supervised Learning | 1 | 12/08/24 | 12/08/24 | 3/08/24 | 02/08/24 | 31/07/24 | 31/07/24 |
| 24 | Approach to Classification: Decision Tree Induction | 1 | 12/08/24 | 17/08/24 | 12/08/24 | 03/08/24 | 03/08/24 | 01/08/24 |
| 25 | Unsupervised learning | 1 | 17/08/24 | 22/08/24 | 13/08/24 | 13/08/24 | 14/08/24 | 13/08/24 |
| 26 | Cluster Analysis: Partitioning methods | 1 | 24/08/24 | 24/08/24 | 17/08/24 | 16/08/24 | 14/08/24 | 14/08/24 |
| 27 | Hierarchical methods | 1 | 31/08/24 | 29/08/24 | 20/08/24 | 17/08/24 | 17/08/24 | 20/08/24 |
| 28 | Density based methods | 1 | 02/09/24 | 31/08/24 | 24/08/24 | 20/08/24 | 21/08/24 | 21/08/24 |
| 29 | Evaluation of Clustering | 1 | 02/09/24 | 02/09/24 | 27/08/24 | 23/08/24 | 21/08/24 | 22/08/24 |
| 30 | Outlier Detection | 1 | 09/09/24 | 05/09/24 | 31/08/24 | 24/08/24 | 24/08/24 | 27/08/24 |
| **5** | **Statistical Representation of Data** | **6** |  |  |  |  |  |  |
| 31 | Data Quality | 1 | 09/09/24 | 05/09/24 | 2/09/24 | 27/08/24 | 28/08/24 | 28/08/24 |
| 32 | Data objects and attribute types | 1 | 14/09/24 | 05/09/24 | 03/09/24 | 30/08/24 | 28/08/24 | 29/08/24 |
| 33 | Basic statistical description of data | 1 | 16/09/24 | 09/09/24 | 09/09/24 | 31/08/24 | 31/08/24 | 03/09/24 |
| 34 | Histogram Analysis | 1 | 16/09/24 | 12/09/24 | 10/09/24 | 03/09/24 | 04/09/24 | 04/09/24 |
| **6** | **Fundamentals of Data Visualization** | **7** |  |  |  |  |  |  |
| 35 | Introduction to data analytics and visualization | 2 | 21/09/24 | 16/09/24 | 14/09/24 | 06/09/24 | 04/09/24 | 05/09/24 |
| 36 | Info-graphic representation of terminologies | 1 | 23/09/24 | 21/09/24 | 16/09/24 | 10/09/24 | 11/09/24 | 10/09/24 |
| 37 | DIKW ((Data, Information, knowledge, Wisdom) | 1 | 28/09/24 | 23/09/24 | 17/09/24 | 13/09/24 | 11/09/24 | 11/09/24 |
| 38 | Difference between analysis and analytics | 1 | 30/10/24 | 26/09/24 | 21/09/24 | 14/09/24 | 14/09/24 | 12/09/24 |
| 39 | Applications of data visualization | 1 | 05/10/24 | 28/09/24 | 23/09/24 | 17/09/24 | 18/09/24 | 17/09/24 |
| 40 | Applications data analytics | 1 | 07/10/24 | 30/09/24 | 24/09/24 | 20/09/24 | 18/09/24 | 18/09/24 |