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| logo.png | **GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR** |
| **(GIET UNIVERSITY)** |
| **(Established Vide Odisha Act 23 of 2018, Included by UGC, New Delhi,**  **and Approved by AICTE, ICAR, INC, DSIR, New Delhi)** |
|  | **Gunupur - 765022, Dist.- Rayagada, Odisha, India** |
|  | **www.giet.edu** |

**SCHOOL OF ………………………………….**

**DEPARTMENT OF ……………………………………**

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**COURSE PLAN**

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| **Name of the faculty** | | **MS. NIRUPAMA DORA** | | | | **B.Tech. 2ND Yr. IV Sem. Sec.: AIML A** | | | |
| **Designation** | | **LECTURER** | | | | **Internal Marks:** | **40** | **% weightage for CO Attainment** |  |
| **External Marks:** | **60** |  |
| **Course Name/ Course Code** | | **IML** | | | | **Credit** | **L: T: P:** | | |
| **Date of Commencement** | | **0** | | **Closing Date** |  | **Number of Assignments: 5**  **Number of Class Tests: 2**  **Number of Cycle Tests: 2** | | | |
|  | | | | | | | | | |
| **Week No.** | **No. of Classes** | **Lecture No.** | **Hr(s)** | **Detail Description of Topics/Subtopics** | | | **Mode of Teaching** | **CO** | **BTL** |
| Unit - I | | | | | | | | | |
|  | 4 | Lecture- 01 | 01 | **Introduction to machine learning,Applications of ML** | | | Power Point Presentation/ Chalk & Board/ | CO1/CO2/CO3/  CO4/CO5/CO6 | K1, K2, K3, K4, K5, K6 |
| Lecture- 02 | 01 | **Components of learning , Learning vs Design** | | | Power Point Presentation/ Chalk & Board/ | CO1/CO2/CO3/  CO4/CO5/CO6 | K1, K2, K3, K4, K5, K6 |
| Lecture- 03 | 01/02 | **Types of Learning Models: Supervised, Unsupervised** | | | Power Point Presentation/ Chalk & Board/ | CO1/CO2/CO3/  CO4/CO5/CO6 | K1, K2, K3, K4, K5, K6 |
| Lecture- 04 | 01/02 | **Semi-Supervised ,Reinforcement Learning Model** | | | Power Point Presentation/ Chalk & Board/ | CO1/CO2/CO3/  CO4/CO5/CO6 | K1, K2, K3, K4, K5, K6 |
|  | 4 | Lecture- 05 | 01/02 | **Steps of ML,Training vs Testing** | | | Power Point Presentation/ Chalk & Board/ | CO1/CO2/CO3/  CO4/CO5/CO6 | K1, K2, K3, K4, K5, K6 |
| Lecture- 06 | 01/02 | **Generalization Bound,OverFitting,Underfitting** | | | Power Point Presentation/ Chalk & Board/ | CO1/CO2/CO3/  CO4/CO5/CO6 | K1, K2, K3, K4, K5, K6 |
| Lecture- 07 | 01/02 | **Bias, Variance and Learning curve** | | | Power Point Presentation/ Chalk & Board/ | CO1/CO2/CO3/  CO4/CO5/CO6 | K1, K2, K3, K4, K5, K6 |
| Unit - II | | | | | | | | | |
| 3 | 4 | Lecture-08 | 01 | **Introduction to Regression,Regression vs Classification** | | |  |  |  |
| Lecture- 09 | 01 | **Linear Regresssion , Regularization(L1,L2,Elastic Net)** | | | Power Point Presentation/ Chalk & Board/ | CO1/CO2/CO3/  CO4/CO5/CO6 | K1, K2, K3, K4, K5, K6 |
| Lecture- 10 | 02 | **Multi Varirate Regression, PolyNomial Regression** | | | Power Point Presentation/ Chalk & Board/ | CO1/CO2/CO3/  CO4/CO5/CO6 | K1, K2, K3, K4, K5, K6 |
| Lecture- 11 | 02 | **Mean Squared Error, Root Mean squared Error ,Mean Absolute Error, R-squared, Adjusted R-Squared** | | | Power Point Presentation/ Chalk & Board/ | CO1/CO2/CO3/  CO4/CO5/CO6 | K1, K2, K3, K4, K5, K6 |
| 4 | 4 | Lecture- 12 | 02 | **Logistic Regression,K-Nearest Neighbour** | | | Power Point Presentation/ Chalk & Board |  |  |
| Lecture-13 | 01 | **Multi Colinearity , Naïve Bayes Classifier** | | | Power Point Presentation/ Chalk & Board |  |  |
| Lecture-14 | 02 | **Confusion Matrix, Accuracy**  **Metrics,Precision,Recall,F1 Score** | | | Power Point Presentation/ Chalk & Board |  |  |
| Lecturer-15 | 01 | **Roc Curve, Case Study On**  **Various Classification Applications** | | | Power Point Presentation/ Chalk & Board |  |  |
| Unit - III | | | | | | | | | |
| 5 | 4 | Lecutre-16 | 01 | **Introduction to Decision Tree,ID3** | | | Power Point Presentation/ Chalk & Board |  |  |
| Lecture-17 | 01 | **C4.5,Cart** | | | Power Point Presentation/ Chalk & Board |  |  |
| Lecture-18 | 02 | **Truncation And Pruning** | | | Power Point Presentation/ Chalk & Board |  |  |
| Lecturer-19 | 01 | **Linear,Non linear SVM Classification** | | | Power Point Presentation/ Chalk & Board |  |  |
| 6 | 5 | Lecture-20 | 01 | **Svm regression, Cross validation** | | | Power Point Presentation/ Chalk & Board |  |  |
| Unit - IV | | | | | | | | | |
|  |  | Lecture-21 | 01 | **Introduction to Clustering,K-Means Clustering** | | | Power Point Presentation/ Chalk & Board |  |  |
| Lecture-22 | 02 | **Hierachical Clustering , Silhouettes ,K-d Trees** | | | Power Point Presentation/ Chalk & Board |  |  |
| Lecture-23 | 01 | **Case Study On Various Clustering Application** | | | Power Point Presentation/ Chalk & Board |  |  |
| Lecture-24 | 01 | **Dimensionality Reduction and it’s approaches** | | | Power Point Presentation/ Chalk & Board |  |  |
| 7 | 5 | Lecture-25 | 01 | **Curse of Dimensionality,SCIKIT-Learner** | | | Power Point Presentation/ Chalk & Board |  |  |
|  |  | Lecture-26 | 01 | **Pca,Randomized Pca,Kernel Pca** | | | Power Point Presentation/ Chalk & Board |  |  |
| Unit - V | | | | | | | | | |
|  |  | Lecture-27 | 01 | **Bagging, Stacking** | | | Power Point Presentation/ Chalk & Board |  |  |
|  |  | Lecture-28 | 01 | **Boosting-Gradient,Adaptive** | | | Power Point Presentation/ Chalk & Board |  |  |
|  |  | Lecture-29 | 02 | **Random Forests,Multi-class Classification** | | | Power Point Presentation/ Chalk & Board |  |  |

Signature:

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| **Course Faculty** | **Course Coordinator**  (If Applicable) | **HoD** | **Dean of School** |