JHARKHAND Rai University
UGC RECOGNISED UNIVERSITY
ACCREDITED BY NAAC

Lesson Plan & Tracking

Programe : MCA	Session : 2021-2023	Year : IInd	Sem: III

Course: Basics of Machine Learning (3CITE304)

Name of the Faculty:Anuradha Sharma	Commencement Date: 29.8.2022	Date of Closure:30.12.2022

Lecture No.	Week	Unit	Topics to be Covered	Blended Mode			Date	Duration	Tracking of Lectures	Related Course Outcome	Signature of Faculty	Signature of HoD	Remarks (if any)
				ICT Tool/Platform/ LMS	Resources	Activity							
1	1	UNIT - I	Introduction to Machine Learning ,Course Objective,course outcome										
2		UNIT - I	Machine Learning – what and why?										
3		UNIT - I	Supervised learning										
4		UNIT - I	unsupervised learning										
5	2	UNIT - I	Basics of Linear Algebra matrices and vectors										
6		UNIT - I	Basics of Linear Algebra matrices and vectors										
7		UNIT - I	Eigen value decomposition										
8		UNIT - I	Principal component analysis										
9	3	UNIT - I	Supervised Learning										
10		UNIT - II	Linear Regression with one variable										
11		UNIT - II	cost function, gradient descent for linear regression										
12		UNIT - II	Linear regression with multiple variables,normal equation										
13		UNIT - II	gradient descent. Logistic regression										

14	4	UNIT - II	cost function, gradient descent.										
15		UNIT - II	Regularization - the problem of over fitting										
16		UNIT - II	regularization in linear regression and logistic regression.										
17	5	UNIT - III	Dimensionality reduction- Principal components										
18		UNIT - III	Decision Tree										
19		UNIT - III	Over fitting and Pruning										
20		UNIT - III	Support Vector Machine										
21	6	UNIT - III	Kernel; Noise, bias-variance trade-off										
22		UNIT - III	under-fitting and over-fitting concepts.										
23		UNIT - III	Neural Networks representations										
24		UNIT - III	forward propagation										
25	7	UNIT - IV	multi class classification										
26		UNIT - IV	neural networks cost function, backpropagation algorithm										
27		UNIT - IV	neural networks cost function, backpropagation algorithm										
28		UNIT - IV	Regularization and bias/ variance										
29	8	UNIT - IV	Regularization and bias/ variance										
30		UNIT - IV	Recurrent networks.										
31		UNIT - IV	Recurrent networks.										
32		UNIT - IV	Test										
33		UNIT - V	Clustering - K-means partitional clustering										

34	9	UNIT - V	choosing the number of clusters										
35		UNIT - V	Hierarchical Agglomerative Clustering										
36		UNIT - V	Hierarchical Agglomerative Clustering										
37	10	UNIT - V	Expectation maximization (EM) for soft clustering										
38		UNIT - V	Semi-supervised learning with EM using labeled and unlabeled data										
39		UNIT - V	Brief introduction to ML applications in computer vision,										
40		UNIT - V	speech and natural language processing										
41	11		Revision										
42			Model Paper Discussion										