AI TOOLS

(Commonto All Branches)

CourseCode	19ES1301	**Year**	II	**Semester**	I
CourseCategory	Engineering Sciences	**Branch**	ECE	**CourseType**	Theory
Credits	2	**L-T-P**	2-0-0	**Prerequisites**	-
Continuous InternalEvaluation	30	**Semester End Evaluation**	70	**TotalMarks**	100

CourseOutcomes	
Upon successfulcompletion ofthe course, the student will be able to	
CO1	Understand the Fundamentals of Artificial Intelligence and its Applications.
CO2	Summarize variousmachinelearningmethods.
CO3	Identifydifferent machine learningapplications.
CO4	Compare MachineLearning&DeepLearningand outline basicDeepLearningAlgorithm.
CO5	Makeuse ofDeepLearningConcepts forvarious Applications.

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3-High, 2: Medium, 1:Low)

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	2												1	2
CO2	2	2											2	2
CO3	2	2		2									2	3
CO4	2	2											2	2
CO5	2	2	2	2		1						2	2	3

Syllabus		
Unit No	**Contents**	**Mapped CO**
I	**IntroductiontoArtificialIntelligence:**WhatisAI,FoundationsofAI,Goals of AI,and Applications of AI.	**CO1**
II	**MachineLearning:Definition,LearningMethods:**SupervisedLearning,UnsupervisedLearning,Semi-SupervisedLearning,ReinforcementLearning.	**CO2**

III	**Machine LearningApplications:** Computer vision, Speech Recognition, Natural Language Processing, Decision Making process.	**CO3**
IV	**DeepLearning:**BasicsofDeepLearning,MachineLearningVsDeepLearning,FundamentalDeepLearningAlgorithm-ConvolutionNeuralNetwork (CNN).	**CO4**
V	**DeepLearning Applications:** Computer vision, Speech Recognition, Natural Language Processing, Decision Making process.	**CO5**

LearningResources
Text Books
1. ArtificialIntelligence: AModernApproach, Stuart Russell and Norvig, Third Edition,2015, Pearson Education. **(Unit-1)** 2. MachineLearning: A Probabilistic Perspective,Kevin P. Murphy, 2012,MIT Press **(Unit-2&3)** 3. DeepLearning(AdaptiveComputationandMachineLearningseries),IanGoodfellow, YoshuaBengio,AaronCourville, FrancisBach, 2017, MIT Press.**(Unit-4&5)**
e-Resources& otherdigital material
1. https://swayam.gov.in/nd1_noc19_cs52/preview 2. https://swayam.gov.in/nd1_noc19_cs85/preview 3. https://emerj.com/ai-sector-overviews/machine-learning-healthcare-applications/