



THIRD-YEAR DIPLOMA INFORMATION TECHNOLOGY ENGINEERING SYLLABUS
Semester: 6TH

Course Code: 002204676

Type of Course: PEC-LC-3

Course Name: Fundamental of AI-Lab

Course Prerequisites: The Basic Knowledge Of Artificial Intelligence Is Solve Real World Problems.

COURSE OBJECTIVE(S):

Artificial Intelligence (AI) and Machine Learning (ML) technologies have immense growth potential and are expected to shape the future of various fields. Understanding AI and ML gives learners a competitive edge in today's era. This course provides the foundation concepts of AI and ML. It covers topics such as Fundamentals of AI, Types of machine learning, Artificial Neural Networks (ANN) and Natural Language Processing (NLP). ANN and NLP is an integral part of the broader field of Artificial Intelligence (AI). This helps students to develop basic models of neural network to solve real world problems.

TEACHING & EXAMINATION SCHEME:

Teaching Scheme (Hrs/Week)				Examination Scheme				
Theory	Tutorial	Practical	Credit	SEE		CA		
				Th	Pr	MSE	PLE	LA
0	0	2	1	00	25	00	00	25
				Total				
				50				

Th: Theory; Pr: Practical; FA: Final Assessment; CAT: Continuous Assessment Theory; CAP: Continuous Assessment Practical;

*TOTAL Practical Hours: No. of Practical Hrs/Week*15 = 60*

LIST OF PRACTICALS: (sample for 2 hrs/week)*15 weeks

Sr. No.	Content	Unit No.	Time Duration
1	Study about NumPy library of Python.	1	1
2	Study about Scikit library of Python	1	1
3	Study about Panda library of Python	1	1
4	Develop a program that read rules from the rules file and acts accordingly for given user input. For this, create a text file of five rules of any situation and ask the user to give input and according to the rules give the response	2	2
5	Read data from a CSV file using panda library.	2	2
6	Write a python program to generate Calendar for the given month and year?	2	2
7	Write a python program to implement Breadth First Search Traversal?	2	2
8	Write a program to implement Tic-Tac-Toe game using python.	2	2
9	Perform math functions using NumPy library.	3	2
10	Identify the missing values from given CSV file.	3	2
11	Write a program to identify the noisy value of the age data set.	3	2
12	Write a python program to implement simple Chatbot	3	2
13	Write a python program to remove stop words for a given passage from a text file using NLTK?	4	2



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14	Write a python program to for Text Classification for the givesentence using NLTK?	4	2
15	Study about how to asking ChatGPT to Write Complex Algorithms	5	2
16	Study about Movie recommendation based on emotion in Python	5	2
		TOTAL	30

Text Book(s):

Title of the Book	Author(s)	Publication
Fundamental of AI		Atul prakashan

Reference Book(s):

Title of the Book	Author(s)	Publication
Machine Learning_ Step-by-Step Guide To Implement Machine Learning Algorithms with Python.	Rudolph Russell	Rudolph Russell Publications
Machine Learning	Saikat Dull, S.Chjandramouli	Das, Pearson
Speech and Language Processing	Daniel Jurafsky & James H. Martin.	<i>Second Edition, Prentice Hall, 2008.</i>

Web Material Link(s):

- a) <https://www.geeksforgeeks.org/machine-learning/>
- b) <https://www.geeksforgeeks.org/natural-language-processing-nlp-tutorial/>
- c) https://www.tutorialspoint.com/machine_learning_with_python/index.htm
- d) https://onlinecourses.nptel.ac.in/noc19_cs56/preview
- e) https://onlinecourses.nptel.ac.in/noc20_cs29/preview

Equivalent/Corresponding Course on NPTEL (SWAYAM):

NPTEL course on
https://onlinecourses.nptel.ac.in/noc24_ge47/preview

PRACTICAL EVALUATION:

Sr. No.	Activity	Marks	Weightage
1	Semester End Examination (External Practical)	30	60%
2	Continuous Assessment Practical (CAP)	20	40%
	Semester End Examination (External Practical)		
1(a)	Lab Experiment/Exercise		30%



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1(b)	Viva-voce		20%
1(c)	Certified Record		10%
	Continuous Assessment Practical (CAP)		
2(a)	Day to day Laboratory Work & Attendance		15%
2(b)	Submission of Laboratory Work/Journal		10%
2(c)	Exam		15%

* For 4 Credit Subjects

1 Credit = 25 Marks

Theory: 3 Credits = 75 Marks

Practicals: 1 Credit = 25 Marks

SEE Evaluation will be of 100 marks and converted to 50 Marks (75 Th + 25 Pr)

CA Evaluation will be of 100 Marks and converted to 50 Marks. (75 Th + 25 Pr)

Distribution of Marks for Theory Evaluation as per Bloom's Taxonomy Level:

Level	Remember	Understand	Apply	Analyse	Evaluate	Create
% Weightage	20%	30%	20%	10%	10%	10%

COURSE OUTCOMES:

CO1	Understand fundamental principles of Artificial Intelligence.
CO2	Compare types of machine learning.
CO3	Build a simple Neural Network model to solve real world problem.
CO4	Apply data preprocessing on text/paragraph using NLTK library.
CO5	Demonstrate word embedding techniques to develop real world NLP applications.