MERI College of Engineering & Technology
(MERI-CET)

Session: 2020-2021
Department: CSE
Subject code: CSE-407-F

Course- CSE
Semester: 7th
Faculty Name : Ms. PREETI

Lesson plan

Name if the faculty : Ms.PREETI

Discipline : Computer Science Engineering

Semester : 7th

Subject : Neural Networks

Lesson Plan Duration : 14 weeks (From August, 2020 to November 2020)

Work Load (Lecture/ Practical) per week (in hours): Lecture-03, Practical-02

Week	Theory		Practical	
	Lecture day	Topic(Including assignment/test)	Practical Day	Topic
1st	1st	Overview of biological neurons	1st	How the weights and bias values affect the output of a neuron.
	2nd	Structure of biological neurons relevant to ANNs		
	3rd	Structure of biological neurons relevant to ANNs, Fundamental concepts of Artificial Neural Networks,		
2nd	1st	Models of ANNs	2nd	How the weights and bias values affect the output of a neuron.
	2nd	Models of ANNs, Feedforward & feedback networks		
	3rd	learning rules		
3rd	1st	Hebbian learning rule	3rd	How the choice of activation function (or transfer function) affects the output of a neuron
	2nd	perception learning rule		
	3rd	Delta learning rule, Widrow-Hoff learning rule		
4th	1st	correction learning rule	4th	Experiment with the following functions: identity (purelin)
	2nd	Winner –lake all elarning rule, etc, Winner –lake all elarning rule, etc		

	3rd	Revision of 1st unit with test		
5th	1st	Single layer Perception Classifier	5th	Experiment with the following functions: binary threshold (hardlim, hardlims)
	2nd	Classification model, Features & Decision regions		
	3rd	training & classification using discrete perceptron		
6th	1st	algorithm	6th	Experiment with the following functions:
	2nd	single layer continuous perceptron networks for linearly seperable classifications		

	3rd	single layer continuous perceptron networks for linearly seperable classifications		sigmoid (logsig, tansig).
7th	1st	Revision of 2nd unit with test	7th	How the weights and bias values are able to represent a decision boundary in the feature space
	2nd	Multi-layer Feed forward Networks		
	3rd	linearly non-seperable pattern classification, Delta learning rule for multi-perceptron layer		
8th	1st	generalized delta learning rule	8th	How this decision boundary changes during training with the perceptron learning rule
	2nd	Error back propagation training		
	3rd	learning factors, Examples		
9th	1st	Single layer feed back Networks	9th	How the perceptron learning rule works for linearly separable problems
	2nd	Basic Concepts		
	3rd 4th	Hopfield networks, Training & Examples		
10th	1st	Revision of 3rd unit with test	10th	How the perceptron learning rule works for linearly separable problems
	2nd	Associative memories		
	3rd	Linear Association, Basic Concepts of recurrent Auto associative memory		
11th	1st	retrieval algorithm	11th	How the perceptron learning rule works for non-linearly separable problems
	2nd	storage algorithm		
	3rd	by directional associative memory		
12th	1st	Architecture	12th	How the perceptron learning rule works for non-linearly separable problems
	2nd	Association encoding & decoding		
	3rd	Stability, Self organizing networks		
13th	1st	UN supervised learning of clusters	13th	Revision of Practicals
	2nd	winner-take-all learning		
	3rd	Recall mode, Initialization of weights Initialization of weights Initialization of weights Initialization of weights Initialization of weights.		
14th	1st	seperability limitations	14th	Revision of Practicals
	2nd	Revision of 4th unit with test		