BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)

CLASS: BTECH **SEMESTER: V**
BRANCH: EEE **SESSION: MO/2022**

SUBJECT: EE449 ARTIFICIAL INTELLIGENCE FOR ELECTRICAL ENGINEERING

TIME: 2 HOURS **FULL MARKS: 25**

INSTRUCTIONS:
1. The total marks of the questions are 25.
2. Candidates attempt for all 25 marks.
3. Before attempting the question paper, be sure that you have got the correct question paper.
4. The missing data, if any, may be assumed suitably.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

				CO	BL
Q1	(a)	Compare biological neural network and artificial neural network. Explain basic models of ANN.	[3]	CO1	L1
	(b)	Explain an adaptive system? Differentiate between fixed, adaptive and intelligent system.	[2]	CO1	L2
Q2	(a)	Explain linearly and non-linearly separable problems. Write MATLAB codes to implement AND function using single layer neural network.	[3]	CO2	L3
	(b)	Explain Single layer, multi-layer and functional link artificial neural network with suitable diagram.	[2]	CO3	L3
Q3	(a)	Write short notes on (i) Unsupervised learning (ii) Activation function.	[2]	CO1	L1
	(b)	Define the basic terminology used in multiobjective optimization. Explain the procedure to solve any multiobjective optimization problem.	[3]	CO2	L2
Q4	(a)	With suitable block diagram and example explain noise cancellation and system identification.	[3]	CO4	L4
	(b)	Write MATLAB code for prediction of any time series data.	[2]	CO4	L$
Q5	(a)	With suitable example differentiate between crisp set and fuzzy set.	[2]	CO3	L2
	(b)	Explain (i) linguistic variable and linguistic value. (ii) crossover point. (iii) Fuzzy single tone.	[3]	CO3	L3

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