

[M19 PS1106]

**I M. Tech I Semester (R19) Regular Examinations
 ARTIFICIAL INTELLIGENCE TECHNIQUES
 (ELECTRICAL & ELECTRONICS ENGINEERING)
 MODEL QUESTION PAPER**

TIME: 3 Hrs.

Max. Marks: 75 M

Answer **ONE Question** from **EACH UNIT**

All questions carry equal marks

			CO	KL	M
		UNIT - I			
1.	a).	Explain the need of Artificial intelligent systems in electrical engineering	4	K1	6
	b).	Explain different operations on fuzzy sets	1	K1	8
		OR			
2.	a).	Differentiate knowledge based learning from Statistical learning	4	K2	5
	b).	Discuss composition relation of Fuzzy sets with suitable example	1	K2	9
		UNIT - II			
3.	a).	Discuss varis membership functions in Fuzzy theory	1	K2	7
	b).	Explain in detail abt varis Fuzzy set relations.	1	K2	7
		OR			
4.		Analyse how fuzzy logic is implemented for classification problem with suitable example	1	K3	14
		UNIT - III			
5.		Explain the training and classification process using discrete perceptron classifier	2	K2	14
		OR			
6.		Obtain tput equations and weight update equations for a 3-layer feed forward neural network using Back propagation algorithm and also discuss abt the limitations of Back propagation algorithm	2	K2	14
		UNIT - IV			
7.	a).	What is the basic principle involved in the operation of Genetic Algorithm	3	K2	7
	b).	Discuss in detail abt varis methods involved in the reproduction operation	3	K3	7
		OR			
8.	a).	With the help of flow chart explain the computational process of GA	3	K2	7
	b).	Write short notes on Single point cross over, Multi point cross over and uniform cross over.	3	K2	7
		UNIT - V			
9.		Design Fuzzy PID controller for Load frequency problem	4	K4	14
		OR			
10.	a).	Analyse how AI is applicable for speed control problem of DC motor	4	K4	10
	b).	List varis emerging topics where AI techniques are useful	4	K1	4