Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
Sixth Semester B.Tech Degree Regular and Supplementary Examination July 2021

Course Code: EE368
Course Name: SOFT COMPUTING

Max. Marks: 100   Duration: 3 Hours

PART A
Answer all questions, each carries 5 marks.   Marks

1	Illustrate how an Artificial neuron is related to a biological neuron.	(5)
2	Compare and contrast the different learning methods used in Neural Networks.	(5)
3	Describe the general structure of a fuzzy inference system with a neat block diagram.	(5)
4	Extract the rule base structure identification in a fuzzy control system.	(5)
5	List out the main features of Genetic Algorithm.	(5)
6	Describe how neural nets can be utilized in Machine learning.	(5)
7	List out any five applications of SVM.	(5)
8	Interpret the efficacy of machine learning algorithm over manual approach in knowledge acquisition.	(5)

PART B
Answer any two full questions, each carries 10 marks.

9	a)	Discuss the various Soft computing constituents.	(4)
	b)	What is perceptron? Explain the delta rule for training the perceptron.	(6)
10	a)	List out any four properties of fuzzy sets.	(4)
	b)	Discuss the different feedforward networks with diagrams.	(6)
11		Describe the different steps in back propagation algorithm with a flow chart and relevant equations.	(10)

PART C
Answer any two full questions, each carries 10 marks.

12	Sketch the structure of an ANFIS model with two inputs and four fuzzy rules. Describe each layer in detail.	(10)
13	Describe K means clustering with a suitable example.	(10)

14		Discuss in brief (i) CANFIS, (ii) Distance measure in clustering and (iii) input space partitioning	(10)

PART D

Answer any two full questions, each carries 10 marks.

15	a)	Analyse how genetic diversity can be implemented in GA with an example.	(6)
	b)	Describe how GA can be applied in Machine learning.	(4)
16	a)	Explain the concept of Linear learning machine.	(4)
	b)	Assess the importance of Support vector regression and Classification in machine learning.	(6)
17		Illustrate with an example how Genetic Algorithm can be used to solve an optimization problem.	(10)

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