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B. E. (Seventh Semester) Examination, Nov.-Dec. 2021

(New Scheme)

(Et&T Engg. Branch)

NEURAL NETWORK and FUZZY LOGIC

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *Attempt all questions. Part (a) of each questions is compulsory. Attempt any* ***two*** *parts from (b), (c) and (d) of each question.*

Unit-I

1. (a) What is artificial neural network? 2

(b) Differentiate between single layered and multi layered feed forward network. 7

(c) Explain the basic architecture of neural network. How does neuron is modeled? 7

(d) "Neural network is helpful in achieving the goal of artificial intelligence." Justify this statement with proper examples. 7

Unit-II

2. (a) What is memory based learning? 2

(b) What is the basic difference between superised and un supersised learning? Give examples. 7

(c) What is self organizing map? Explain the Kohonen self organizaing maps. 7

(d) What is synaptic dynamics? Explain the hebbian method of teaming. 7

Unit-III

3. (a) List the limitations of perceptrons. 2

(b) Explain the back propagation algorithm of multi layered perceptron. 7

(c) Explain the delta learning rule. 7

(d) What is Adalines and Madalens algorithm give its application also. 7

Unit-IV

4. (a) What is phonetic type writer? 2

(b) Explain the application of neural network in speech recognition. 7

(c) Explain the hard written character recognition of neural network. 7

(d) How one can recognize a specific pattern using neural network? Explain. 7

Unit-V

5. (a) Explain Fuzzy graph with an example. 2

(b) What is the necessity of de-fuzzification process and how it is done? 7

(c) Explain the operation of the Fuzzy logic control with process interference block. 7

(d) Write short notes on : 7

(i) Adaptive neuro fuzzy information system

(ii) Fuzzy associative memories