Code: 13A02605 **R13**

B.Tech III Year II Semester (R13) Regular & Supplementary Examinations May/June 2017

NEURAL NETWORKS & FUZZY LOGIC

(Electrical and Electronics Engineering)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) Define artificial intelligence.
(b) Mention the goals of artificial intelligence.
(c) Define the term 'axon'.
(d) Name two learning rules.
(e) Define pattern recognition.
(f) List out any two applications of neural networks used for controlling.
(g) Define fuzziness.
(h) Define power set.
(i) State two assumptions in fuzzy control system design.
(j) Define image and pixel.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 Discuss in detail about expert system characteristics, capabilities and components.

OR

3 Write about various approaches of artificial intelligence.

UNIT – II

4 Explain briefly the operation of biological neural network with a simple sketch.

OR

5 Describe McCulloch-Pitts neuron model in detail.

UNIT – III

6 Draw the block diagram and structure of pattern recognition procedure with proper explanation.

OR

7 Write the importance of neural networks in control systems with example.

UNIT – IV

8 Explain the operation of fuzzy sets with a suitable example.

OR

9 Define defuzzification and explain the different defuzzification methods.

UNIT – V

10 Explain in detail about anyone application of neuro fuzzy techniques in power systems.

OR

11 What do you mean by neuro fuzzy controller? Explain in detail.

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