Subject Code: G4308/R13

M. Tech – I Semester Regular/Supplementary Examinations, April, 2015

ARTIFICIAL INTELLIGENCE TECHNILQUES

(Common to PE, P&ID, PE&ED, PE&D, EM&D and PE&PS)

Time: 3 Hours **Max Marks: 60**

Answer any FIVE questions

All questions carry EQUAL marks

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1. (a)What is artificial neural network? Explain with one example
   (b) Explain about Artificial intelligence systems

2. (a) Explain about the McCulloch-Pitts neuron model
   (b) Enlist the characteristics of basic mathematical model of artificial neural network system

3. (a) Differentiate Hopfield network and recurrent network
   (b) Explain the difference between Fourier transformation and wavelet transformations

4. (a) write the Genetic algorithm steps in detail
   (b) Write the solution of typical control problems using genetic algorithm

5. Explain the terms
   (a) Crisp sets and fuzzy sets
   (b) Membership function
   (c) Inference system

6. (a) Explain about fuzzy relations and defuzzication methods
   (b) Discuss about fuzzy modeling and control schemes for non linear systems

7. Design a Fuzzy PI controller for speed control of DC motor

8. Write a short notes on
   (a) PWM controller
   (b) Speed estimation and flux estimation of induction motor

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