

Code: EEPC1T6A

PVP 12

**I M.Tech-I Semester-Regular Examinations-April 2013**

**AI TECHNIQUES  
(POWER SYSTEM CONTROL & AUTOMATION)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

- 1 (a) Explain about neural network architecture? 8 M  
(b) Describe models of an artificial neuron ? 6 M
- 2 (a) Describe perception convergence theorem ? 7 M  
(b) Explain the perception models? 7 M
- 3 (a) Describe variations of standard back propagation? 8 M  
(b) Explain the back propagation algorithm? 6 M
- 4 (a) Explain about fitness function with example? 7 M  
(b) What is genetic algorithm and describe its basic concepts? 7 M

- 5 (a) Explain about CROSS OVER operators? 10 M
- (b) Describe mutation? 4 M
- 6 (a) What is fuzzy sets? Explain the membership functions with diagram? 8 M
- (b) Explain the properties of fuzzy sets? 6 M
- 7 (a) What is defuzzification? Describe various methods with example? 8 M
- (b) Explain the fuzzy inference? 6 M
- 8 (a) Explain how AI technique is used to load forecasting? 7M
- (b) Differentiate between frequency control, reactive power control, speed control of DC and AC motors? 7 M