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**Question Paper Code : 31323**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Seventh Semester

Instrumentation and Control Engineering

CS 2461/ CS 812/ 10133 IC 704 — APPLIED SOFT COMPUTING

(Common to Eighth Semester Electronics and Instrumentation Engineering)

(Regulation 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention the three types of parameters that used to define ANN.
2. Write the two modes of Learning supported by back propagation system.
3. Define feed back networks.
4. What is meant by Hopfield networks?
5. List the various operations on classical sets.
6. What is meant by fuzzy proposition?
7. What is fuzzy logic connectivity?
8. What are fuzzy linguistic variables?
9. Write the disadvantages of gradient search method.
10. What is meant by evolutionary programming?

PART B — (5 × 16 = 80 marks)

11. (a) Describe the neurons modeling and learning paradigms in ANN.

Or

- (b) Describe the architecture of multi layer feed forward neural network. Write the disadvantages of back propagation neural network system.

12. (a) Discuss the transient response of continuous time networks in detail.

Or

- (b) Describe the neuro controller for inverted pendulum using ANN.

13. (a) Explain the concept, properties and operations on fuzzy relations.

Or

- (b) Discuss the various methods of defuzzification techniques in detail.

14. (a) Explain the membership function and decision making logic in fuzzy control for Home heating system in detail.

Or

- (b) Discuss the concepts of cooperative and concurrent neuro fuzzy systems in detail.

15. (a) Describe the operators and genetic algorithm in search.

Or

- (b) Explain briefly about the optimization techniques in gradient and non-gradient search.