



Course Title: Intelligent System Design + Machine Intelligence
Course No: (630423+640424)
Lecturer: Dr. Mohammed Mahdi

Date: 21/11/2013
Time Allowed: 1 Hour
No. of Pages: 1

Question 1:

(10 Marks)

Objectives: This question is about the basic concepts of expert systems and Fuzzy Logic.

Explain the following briefly along with simple example: -

1. Defuzzifier calculates a non-fuzzy value which represents the resultant of an n-element fuzzy action vector. (2 Marks)
2. What are the Main advantage and the main disadvantage of using Fuzzy Logic in control systems? (2 Marks)
3. What is the function of each member in Expert system development team? (2 Marks)
4. Backward chaining rule technique is better but slower than forward one. (2 Marks)
5. Fuzzy production rules matrix is not necessarily be square and not always has a switching line. (2 Marks)

Question 2:

(10 Marks)

Objectives: This question is about the design of FLC.

- A) What are the parameters one must put into consideration in choosing the best value of distribution parameter (θ) in designing the triangular fuzzifier, show that with simple example. (5 Marks)
- B) Write down the scientific reasons of using rate of change of error along with error in designing Fuzzy logic control system showing the overall system block diagram. (5 Marks)