Registration No :

Total Number of Pages : 01

M.Tech
PPPE102

1st Semester Back Examination 2019-20
SOFT COMPUTING
BRANCH : POWER ELECTRO AND ELECTRICAL DRIVES, POWER ELECTRO AND POWER SYSTEMS
Time : 3 Hours
Max Marks : 70
Q.CODE : HB870
Answer Question No.1 which is compulsory and any FIVE from the rest.
The figures in the right hand margin indicate marks.

Q1   **Answer the following questions :**   **(2 x 10)**
   a) Differentiate between Soft computing and hard computing.
   b) Difference between Traditional Algorithms and Genetic Algorithm.
   c) Draw a 3-3-2 back propagation MLP Diagram.
   d) What is fitness function?
   e) What are the applications of Neural Network.?
   f) What is Inverse Learning?
   g) What is Defuzzyfication?
   h) What is CANFIS.
   i) Differentiate fuzzy and crisp sets.
   j) Draw The Block Diagram of LSP for Parameter Identification.

Q2   Differentiate fuzzy and crisp sets   and   Explain Fuzzy Inference Systems   **(2+8)**

Q3   **a)** Explain model of an artificial neuron.   **(5)**
   b) Explain Fuzzy Rule based system.   **(5)**

Q4   **a)** Briefly Describe Mamdani fuzzy models.   **(5)**
   b) What are the Difference Between Derivative free and Derivative Based Optimization?   **(5)**

Q5   **a)** Describe Membership Function.   **(5)**
   b) Explain why an MLP does not learn if the initial weights and biases are all zeros. **(5)**

Q6   **a)** What are different types of encoding,selection,crossover and mutation of GA? Explain with suitable Examples.   **(5)**
   b) Write applications for Adaptive Systems   **(5)**

Q7   Explain back propagation algorithm.   **(10)**

Q8   **Write short Notes on any TWO :**   **(5 x 2)**
   a) ANFIS
   b) ADALINE
   c) RBFN
   d) Q-Learning.