Bansilal Ramnath Agarwal Charitable Trust's

Vishwakarma Institute of Information Technology

Department of Computer Engineering

Academic Year – Sem I (2015-16)

Class : ME (Computer Engineering)

610103D : Elective – III (Soft Computing)

Marks : 50

Time : 3 Hrs.

Date :

Instructions for the students

1. **Any THREE questions have to be attempted from Q1 to Q6**
2. **Q7 and Q8 are compulsory**
3. **Each question carry 10 marks**

Q1.

a. Discuss different premises and guideline principles of Hard Computing [4]

b. What are Implications of Soft Computing? and also write Unique Property of it. [4]

c. Write a short note hybrid systems. [2]

Q2.

a. Draw architecture of a Simple Perceptron Network and List the developments from the simple perceptron [4 Mks]

b. Explain with diagram, how to training MLP Networks. [4 Mks]

c. What is Radial Basis function Networks?[2 Mks]

Q3.

a. What is fuzzy logic? Discuss fuzzy logic representation with examples.? [5]

b. With suitable flow diagram explain benefits of using fuzzy login in control system. [5]

Q4.

a. What is mean by crossover in Genetic Algorithm, discuss in details? [5]

b. Write psudo code of General Algorithm for Genetic Algorithm(GA)[5 Mks]

Q5.

a. What do you mean by learning by evolution in EC? Also discuss issues involved in learning by artificial evolution[8]

b. Define evolutionary computing(EC) and write uses of it. [2]

Q6.

a. Write and discuss Applications of Soft Computing in Consumer Appliances along with Soft computing components. [4]

b. How soft computing is used for fraud detection in banking applications [3]

c. List all SC component from Application of Process Engineering [3]

Q7.

a. Write simple procedure in Evolutionary Programming for population and explain each step of it. [5]

b. Write and discuss Applications of Soft Computing in Manufacturing Automation and Robotics along with characteristics and Soft computing components [5]

Q8.

a Explain swarm algorithm in details with suitable example[5 Mks]

b. Write and discuss biological inspirations of evolutionary computing [5 Mks]

***** **All The Best** *****