PVP 14

Code: CS5T4

III B.Tech - I Semester – Regular/Supplementary Examinations
October 2018

SOFT COMPUTING
(COMPUTER SCIENCE AND ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11x 2 = 22 M

1.

a) State the rule of inclusion and exclusion.

b) How Fuzzy Cartesian product can be defined?

c) Explain GMT.

d) Demonstrate fuzzy implication.

e) Give perceptron model sketch.

f) What is Leaning rate and how it influence in BPN?

g) Sketch the recognition layer of ART1.

h) Distinguish between ART1 and ART2.

i) Discuss about Cross over rate.

j) Sketch GA cycle.

k) How GA differences with traditional methods of optimization?

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Demonstrate MAX-MIN composition with an example. 8 M

b) Find UNION, MINUS, INTERSECTION also verify De Morgan's law for the two fuzzy sets given as 8 M

A = {(F,0.4),(E,0.3),(X,0.1),(Y,0.1),(I,0.9),(T,0.8)}

B = {(F,0.99),(E,0.8),(X,0.1),(Y,0.2),(I,0.5),(T,0.5)}

3. a) Discuss various Defuzzification methods. 8 M

b) Explain Greg Viot's Fuzzy Cruise controller. 8 M

4. a) Derive formula for error estimation of Gradient Descent algorithm. 8 M

b) Demonstrate BPN with case study of Soil classification. 8 M

5.a) Write Wang Multiple training encoding strategy algorithm. 8 M

b) Explain Architecture of ART2. 8 M

6. a) Discuss about Reproduction in detail. 8 M

b) What is Mutation rate? How it can be used in Mutation process. 8 M