CS-801 (N)

B. E. (Eighth Semester) EXAMINATION, June, 2011 (Computer Science & Engg. Branch)

SOFT COMPUTING

TIME Three Hours Maximum Marks : 100 Minimum Pass Marks : 35

Note : Attempt any one question from each Unit. All questions carry equal marks.

Unit -I

1. (a) Explain soft computing. How does it differ from hard computing ? In what kind of problems soft computing is a better choiee over other traditional computing methodologies ? Justify your answer with some real world examples. 10

(b) Define artificial intelligence. How AI programming paradigm is different from procedural programming paradigm ? Explain and illustrate AI production system. 10

Or

2. (a) Assume the following facts : (i) Steve only likes easy courses.

(b) What do you understand by associative memory ? Also mention characteristics and applications cf the same. 8

Or

6. (a) Explain ART under the following headings : 16

(i) Architecture (ii) Working (iii) Training (iv) Implementation

(b) Explain Boltzmann machine. How does it differ from Hopfield net ? 4 Unit-IV

7. What do you understand by Fuzzy Logic/Fuzzy Set theory ? Differentiate fuzzy and crisp under the following headings : 20 http://www.rgpvonline.com/

(i) Sets (ii) Relations/Properties (iii) Logic

Or

8. Explain Fuzzy Propositions. Solve the following propositions, under the mentioned connectives. Propositions : 20

(a) P : Mary is efficient, T (P) = 0-8

(b) Q : Ram is efficient, T (Q) = 0-55 Connective statements :

(i) P : Mary is not efficient.

(ii) P A Q : Mary is efficient and so is Ram.

(iii) P v Q : Either Mary or Ram is efficient.

(iv) P => Q : If Mary is efficient then so is Ram.

Unit-V

9. (a) What do you understand by evolutionary algorithms ? What is the significance of genetic algorithms in the present scenario ? 4

(b) Mention the basic operators of genetic algorithm. Discuss in detail the low level operators. 16

Or

10. (a) Mention the various applications of genetic algorithm. Discuss at least one in detail. 10

(b) Under the reproduction phase of genetic algorithm, what are the various selection techniques, andaccording to you which one is the most efficient of the rest ? 10