No. of Printed Pages : 2

MINI-045

M.Tech. IN ADVANCED INFORMATION TECHNOLOGY – INTELLIGENT SYSTEMS AND ROBOTICS (MTECHSR)

Term-End Examination

00264

December, 2014

MINI-045 : APPLIED ARTIFICIAL INTELLIGENCE

Time : 3 hours *Maximum Marks : 100*

Note :

(i) *Section I is* ***compulsory****.*

(ii) *In Section II, attempt any* ***five*** *questions.*

(iii) *Assume suitable data wherever required.*

(iv) *Draw suitable sketches wherever required.*

(v) *Italicized figures to the right indicate maximum marks.*

SECTION I

1. Explain the differences between crisp logic and fuzzy logic on the basis of algorithms, problem solving approach and applications where they can be applied. *10+10+10*

SECTION II

2. (a) Draw and explain the working of biological neuron. *7*

(b) What are different types of learning ? *7*

3. (a) Explain what kind of applications can be benefited by applying neural network. *7*

(b) What are the different A.I. techniques ? *7*

4. (a) What are the shortcomings of single layer perceptron ? *7*

(b) Explain how fuzzy logic is used in control systems. *7*

5. Explain the various steps in applying fuzzy logic with the help of a suitable example. *14*

6. Explain backpropagation algorithm. *14*

7. (a) What are heuristics ? Explain with a suitable example. *7*

(b) What are self-organizing maps ? Where are they used ? *7*

8. (a) To solve a particular problem, genetic algorithms will be used. What is the importance of chromosome in problem representation ? *7*

(b) Explain how Genetic Algorithms can be used to find solutions to mathematical problems where classical approach will be very complicated. *7*