67214

MCA 5th Semester (New) for full subject candidates Examination– December, 2013

SOFT COMPUTING

Paper MCA-504

Time : 3 hours   **Max. Marks : 80**

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

UNIT - I

1. (a) What is soft computing ? How is it useful and used ? Discuss with examples.   8

    (b) Discuss uses and advantages of fuzzy sets with examples.   8

2. Explain the following briefly with suitable examples. **8**

(i) Fuzzy logic systems

(ii) Genetic algorithms and their uses in problem solving **8**

UNIT - II

3. (a) What are artificial neural networks ? How are these useful and used ? Explain with suitable example. **8**

(b) Discuss neural network applications in control systems with examples. **8**

4. Describe the following with examples :

(i) Learning in artificial neural netrworks **8**

(ii) Neural network models **8**

UNIT - III

5. (a) What are fuzzy interface systems ? How are these useful and used ? Explain with suitable example. **8**

(b) Discuss fuzzy clustering with suitable examples. **8**

6. Explain the following with examples :

$$8 \times 2 = 16$$

   (i) Neuro fuzzy modeling

   (ii) Applications of fuzzy systems

UNIT - IV

7. (a) What is image processing ? How is it useful and used ? Discuss with examples.   10

    (b) Explain biological sequence alignment with an example.   6

8. Explain the following with examples :

   (i) Natural language processing   8

   (ii) Pattern recognitions   8