

Total No. of Printed Pages:2

**SUBJECT CODE NO:- H-185**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.E. (CSE)**  
**Soft Computing**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks: 80]

Please check whether you have got the right question paper.

- N.B
- i) Q.No.1 from section A and Q.No.6 from section B are compulsory.
  - ii) Attempt any two questions from the remaining.
  - iii) Assume suitable data if necessary. And state it Clearly.

**Section A**

- |     |   |          |
|-----|---|----------|
| Q.1 | a) Differentiate soft computing and hard computing.<br>b) Explain characteristics of neural networks.                             | 05<br>05 |
| Q.2 | a) Explain Adaline model in detail.<br>b) Explain pattern recognition problem.  | 07<br>08 |
| Q.3 | a) Explain single layer and multilayer perceptron in detail.<br>b) Explain error correction and gradient decent rules in details. | 07<br>08 |
| Q.4 | a) Explain back propagation learning algorithm in details.<br>b) Explain pattern classification with example.                     | 07<br>08 |
| Q.5 | a) Explain architecture of FBNN.<br>b) Explain associative memory.  | 07<br>08 |

**Section B**

- |     |   |          |
|-----|---|----------|
| Q.6 | a) Explain pattern clustering in details<br>b) Explain self-organization map. | 05<br>05 |
| Q.7 | a) Explain learning vector quantization.<br>b) Explain fuzzy sets.            | 07<br>08 |

- Q.8 a) Explain fuzzification and defuzzification to crisp sets. 07  
b) Explain fuzzy relational data models in details. 08
  
- Q.9 a) Explain properties of membership function. 07  
b) Explain competitive learning. 08
  
- Q.10 a) Explain working principle of genetic algorithm. 07  
b) Explain application of fuzzy control. 08