Total No. of Printed Pages:2

SUBJECT CODE NO: E-82

FACULTY OF ENGINEERING AND TECHNOLOGY

B.E.(CSE) Examination Nov/Dec 2017

Soft Computing

(REVISED)

[Time: 3:00 Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
i. Question.No.1 and Question. No.6 are compulsory.
ii. Attempt any two questions from each section from remaining.
iii. Assume suitable data if necessary and state it clearly.

Section A

Q.1 Answer the following: (Any two) 10

i. Define soft computing. Differentiate soft computing and hard computing.

ii. What is linearly separable and linearly non separable problem? Explain it with example.

iii. Explain auto associative memory network and hetero-associative memory network.

Q.2 a) Explain mcculloch pitts model. 07

b) Explain different pattern recognition tasks performed by basic functional units of ANN. 08

Q.3 a) Explain the perception learning algorithm for pattern classification. 08

b) Which are the different factors that affect the performance of back propagation learning algorithm explain. 07

Q.4 a) Explain auto association and hetero association. 07

b) Explain hopfield network with example. 08

Q.5 a) Explain learning vector Quantization. 07

b) Explain self organizing map. 08

Section-B

Q.6 Answer the following. (any two) 10

a) Explain pattern clustering and feature mapping with example.

b) Explain properties of fuzzy set.

c) Explain applications of self organizing map.

Q.7 a) Explain how competition is performed using neural network? Give applications of competitive learning neural network. 07

b) Explain fuzzification and defuzzification to crisp set with example. 08

Q.8 a) Explain following operations in fuzzy relational algebra with example. 08

i) Join
ii) Union
iii) Projection
iv) Selection

b) What is the difference between similarity and possibility based approaches of fuzzy databases. 07

Q.9 a) Explain fuzzy object oriented databases with example. 07

b) Explain working principle of genetic algorithm. 08

Q.10 Write short notes on. (any three) 15

i) Applications of genetic algorithm.
ii) Properties of membership functions.
iii) Fuzzy object oriented databases.
iv) Learning vector quantization.
v) Applications of fuzzy control.