BE Summer Comp Exam

06/06/16

NNFL

QP Code : **31592**

(3 Hours) |Total Marks :80

N.B. 1) **Question** No. 1 is **compulsory.**
2) **Solve any three** questions out of remaining **five** questions.
3) **Draw** neat labeled **diagram** wherever **necessary.**
4) Answers to each new question to be started on a fresh page.

Q1: Solve any **four** (5x4)

a) Explain unsupervised neural networks with block diagram
b) Draw and explain neural networks based AND and OR functions
c) What are the important properties of activation function used in neural networks?
d) Explain Radial Basis function neuron with the help of diagram
e) In which type of applications fuzzy logic is used? Explain with an example.

Q.2 A) Explain with diagram and training algorithm the Kohonen's Self Organized Feature Map neural network and its applications (10)

Q.2 B) Explain the working of Radial Basis Function neural network as function approximation. Write any four basic advantages of radial basis function neural networks (10)

Q.3A) i) What is fuzzification? Explain with an example (5)

ii) Describe max-min composition and max-product composition with a numerical example (5)

Q.3 B) Explain perceptron learning algorithm and develop perceptron network to implement two inputs OR function. Consider inputs and output as unipolar. Assume initial weight and bias values equal to zero. Consider learning rate equal to one (10)

Q.4 A) What are the performance measures to see whether training of neural network is successful? Explain (10)

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Q.4 B) What is defuzzification? Explain various methods of defuzzification. (10)

Q.5.A) Describe hand written character recognition using Neural Networks. (8)

Q.5.B) i) Describe with diagram application of Fuzzy logic in image contrast enhancement (8)
ii) Write any four properties of fuzzy sets. (4)

Q.6.A) Describe Neural Network based face recognition with block diagram (8)

Q.6. B) i) Describe Fuzzy Inference System with a block diagram and its application in fuzzy control of washing machine (8)
ii) Explain with diagram a) Union of fuzzy sets b) Intersection of fuzzy sets (4)
