

B.TECH.

THEORY EXAMINATION (SEM–VIII) 2016-17

NEURAL NETWORK

Time : 3 Hours

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION - A

1. Attempts all parts. All carry equal marks

- a) Define artificial intelligence.
- b) What do you understand by scaling?
- c) What do you understand by normalization?
- d) What is RBF?
- e) What is unsupervised learning?
- f) What do you mean by neurocomputing?
- g) What is independent component analysis?
- h) Define principal component analysis technique.
- i) Define delta learning rule.
- j) What is feature mapping?

SECTION - B

2 Attempt any five questions

- a) Elaborate different normalization techniques used in data processing.
- b) What are the factors to be considered while designing a learning rule?
- c) Describe common application of SOM.
- d) Describe architecture of single layer and multilayer feed forward ANN.
- e) What do you understand by scaling and normalization? Explain.
- f) Describe the architecture of recurrent network.
- g) Describe the activation functions commonly used in BP algorithm.
- h) Describe neuro fuzzy genetic algorithm integration.

SECTION - C

Attempt any two part. (15x2=30)

- 3 What is sum squared error in neural network training? Write down applications of ANN.
- 4 What is feature extraction? Explain any two feature extraction technique in detail.
- 5 Write short notes on:
 - i) RPROP algorithm
 - ii) Gradient descent rule.
 - iii)LZ and LZW.

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Max. Marks : 100

 $(10x \ 2 = 20)$