Code No: RA410401 **RA**

III B.Tech II Semester Regular Examinations, April/May 2005
ARTIFICIAL NEURAL NETWORKS
(Common to Electronics & Communication Engineering,Electronics & Instrumentation Engineering,Bio-Medical Engineering and Electronics & Control Engineering)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. List different neural network architectures. Give a brief note about the functioning of these architectures. What are the pattern recognition tasks performed by each one.

2. (a) Distinguish between supervised and unsupervised learning Give two examples for each kind.
   (b) Illustrate the Boltzman learning. What are its advantages?

3. (a) What are the properties of output functions used in perceptron? What are the limitations of this output function.
   (b) What is the significance of LMS algorithm in the network training.

4. (a) What are the steps involved in the back propagation algorithm.
   (b) What are the pattern recognition tasks it can perform.
   (c) What are the limitations of back propagation algorithm.

5. What are the phase involved in the design of a Radial Basis function network. Give a detailed note about the different phases in it.

6. (a) With a neat diagram explain a typical competitive learning neural network.
   (b) Explain about the instar learning law. How the weight updations are taking place.

7. (a) Enumerate the steps involved in the algorithm for vector quantization.
   (b) What is bi-directional associative memory?

8. (a) List the image processing tasks that can be performed using neural networks.
   (b) What are the appropriate neural networks for different image processing tasks?

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