R07

Code: R7411009

B.Tech IV Year I Semester (R07) Supplementary Examinations, May 2013

ARTIFICIAL NEURAL NETWORKS

(Electronics & Instrumentation Engineering)

Time: 3 hours Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

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1. (a) With neat sketch explain the organization and behavior of biological neuron.
   (b) Explain in detail various network architectures of ANN.

2. (a) Design three input 'NAND' gate using McCulloch-Pitts neuron model.
   (b) Explain in detail the following learning rules:
   (i) Least mean square rule.
   (ii) Out star learning rule.
   (iii) Boltzmann learning rule.

3. Explain in detail the architecture and training algorithm of single layer continuous perceptron model.

4. Explain the architecture of 'MADALINE' model. How can you obtain weight update equation using MRII algorithm? Explain.

5. (a) Explain the concept of Winner take-all learning algorithm.
   (b) Discuss in detail the concept of Kohonen self organizing maps and also explain its algorithm.

6. (a) Explain the architecture of discrete hop-field networks.
   (b) Discuss in detail storage and retrival algorithms of hop-field networks.

7. Explain the architecture mathematical modeling and energy function of 'BAM'.

8. How 'ANN' is useful for pattern recognition? Explain.

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