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Code No: B5806

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.Tech II Semester Examinations, October/November 2011

NEURAL NETWORKS

(COMPUTER SCIENCE AND ENGINEERING)

Time: 3hours

Max. Marks: 60

**Answer any five questions
All questions carry equal marks**

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- 1.a) What is a neural network? Explain various models of a neuron.
- b) Explain how you compare AI machines with Neural Networks. [12]
- 2.a) State and explain Hebbian learning.
- b) Differentiate Hebbian learning and competitive learning. [12]
- 3.a) Explain the linear least square filter.
- b) What is Bayes classifier? Explain the Bayes classifier for the Gaussian environment. [12]
- 4.a) State and explain signal flow graph of XOR problem.
- b) Distinguish between sequential mode of back propagation and batch mode of back propagation. [12]
- 5.a) Identify and explain the limitations of the back propagation learning.
- b) Differentiate between supervised and unsupervised learning. [12]
- 6.a) Explain the properties of feature map.
- b) What are self organizing maps? Explain the competition process and cooperative process. [12]
7. What are dynamical systems? Explain in detail about the stability of equilibrium states. [12]
8. Write short notes on:
 - a) Feature detection
 - b) Hopfield models. [12]
