

CODE NO: NR421901 SET NO.2

**2005 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY**

**IV B.TECH. II SEMESTER SUPPLEMENTARY EXAMINATIONS**

**NEURAL NETWORKS**

**(ELECTRONICS & COMPUTER ENGINEERING)**

**JULY -2005**

**TIME: 3 HOURS  
MAX MARKS:80**

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**Answer any FIVE Questions  
All Questions carry equal marks**

1. *Describe briefly some important applications of Artificial Neural Networks highlighting the type of neural network that is used in each case.*
2. (a) *Write the advantages and disadvantages of perceptron.*  
(b) *Explain Least Mean Square (LMS) algorithm.*
3. *Explain the backpropagation algorithm and derive the expressions for weight update relations?*
4. *Describe the Hopfield model. In this model why is the energy of the all zero state always '0' in any net of any size? Use this fact to argue that at least one threshold must be negative for the all-zero state not to be stabilize well.*
5. *Explain the working of Kohonen's self-organizing map and derive weight update relations.*
6. *Derive expressions for the weight updation involved in counter propagation.*
7. *What is the function of ART network and explain its operation with relevant equations.*
8. *What are the applications of Kohonens networks in image processing and pattern recognition?*