

1	A	What is a pyramidal cell? Explain with the help of a diagram.
	B	In directed graph terminology explain the Signal Flow graph of a typical neuron.
	C	Describe the four rules of knowledge representation in artificial neural networks.
	D	How can we compare AI with neural networks?
2	A	Describe error correction learning technique for training a ANN with the help of a block diagram.
	B	What is Hebb's Hypothesis? What is Hebbian Learning? Define four key mechanisms that describe a hebbian synapse.
	C	Give the Characteristics of an associative memory. How it is different from Correlation Matrix memory.
3	A	Describe Least Mean Square Algorithm. What are its convergence considerations? What are its virtues and limitations?
	B	Describe the relation between Perceptron and bayes classifier for a Gaussian environment.
4	A	How you differentiate sequential and batch modes of training.
	B	What is XOR Problem? Explain with example & give the solution.
	C	How you define cross validation. Explain with example.
5	A	Compare the use of Array or link list data structure in the Neural network model.
	B	Compare the Von Neumann computer with the neural network model.
	C	Explain the theory of character recognition using the neural networks.
6	A	Consider the following prototype patterns shown below: design an auto associator for these patterns. Use the Hebb's Rule: $I_1 = [1 \ 1 \ -1 \ 1 \ -1 \ -1]^T$, $I_2 = [-1 \ 1 \ 1 \ 1 \ 1 \ -1]^T$
	B	What you mean by soft computing. Explore the various areas & do comparison.
	C	What is Fuzzy computing? Describe the fuzzy set theory with the help of membership function.
	D	Unsupervised learning can be implemented in an off-line or on-line fashion. Discuss the physical implications of these two possibilities.