Visvesvaraya Technological University, Belagavi

MODEL QUESTION PAPER

6th Semester, B.E (CBCS) EC/TC

Course: 15EC653 - ARITIFICAL NEURAL NETWORKS

Time: 3 Hours   Max. Marks: 80

Note: (i) Answer Five full questions selecting any one full question from each Module.

   (ii) Question on a topic of a Module may appear in either its 1st or/and 2nd question.

		Module-1	**Marks**
1	a.	What is Neural Learning? Draw and explain the general neuron model.	8
	b.	State and explain the Ex-OR problem? Also, explain how to overcome it.	8
		OR	
2	a.	List and explain any three commonly used activation functions in ANN?	8
	b.	Draw and explain architectural graph of a multi-layer perceptron with two hidden layers.	8
		Module-2	
3	a.	What is termination criterial in perceptron training, if the given samples are not linearly separable?	6
	b.	Discuss about Stability and Rate of convergence LMS Algorithm.	10
		OR	
4	a.	What is Back propagation? Explain the Back propagation-training algorithm with the help of a one hidden layer feed forward Network	10
	b.	Illustrate how LMS algorithm is used for noise cancellation	6
		Module-3	
5	a.	Derive LMS adaptive algorithm.	8
	b.	Compare RBF with Multilayer Perceptron.	8
		OR	
6	a.	Describe how RBB networks uses cover's theorem to solve complex classification problem.	8
	b.	Define the problem of automated face recognition system and its ANN solution.	8
		Module-4	
7	a.	What is the architecture of Hopfield network? Explain the working principal of Hopfield network with example	8
	b.	Explain how BAM can be used as Hetro-associative memory.	8
		OR	
8	a.	Explain how an unsupervised learning mechanism can be adopted to solve supervised learning task using LVQ algorithm.	10
	b.	Explain the concept of Simulated annealing.	6
		Module-5	
9	a.	Explain the concept of dimensionality reduction using principal component analysis.	8

	b.	Discuss any two applications of SOM.	8
		OR	
10	a.	Describe Kohonen self-organization map in detail.	10
	b.	Write a short note on Growing neural GAS algorithm.	6