



CBCS SCHEME

15MT755

USN

--	--	--	--	--	--	--	--	--	--

Seventh Semester B.E. Degree Examination, Aug./Sept.2020

Artificial Neural Networks

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the feed forward and feedback architecture of neural network. (08 Marks)
b. Explain the following : i) Convex sets ii) Convex hulls iii) Linear separability. (08 Marks)

OR

- 2 a. List out the difference between supervised and unsupervised learning algorithms. (08 Marks)
b. List and explain any four neuronal signal function used in ANN. (08 Marks)

Module-2

- 3 a. With a neat diagram of adaptive linear neuron, explain α - LMS learning algorithm. (08 Marks)
b. Mention the issues involved in data preprocessing for neural network. (08 Marks)

OR

- 4 a. Explain the application of LMS algorithm to noise cancellation. (08 Marks)
b. Discuss pattern mode training or batch mode training in back propagation algorithm. (08 Marks)

Module-3

- 5 a. Explain structural risk minimization in support vector machine. (08 Marks)
b. Discuss Vapnik – Chervonenkes Dimension and growth function. (08 Marks)

OR

- 6 a. Illustrate how RBFN is applied for face recognition. (10 Marks)
b. Write three well known classes of approximating function and their inner product kernels which satisfy mercer condition. (06 Marks)

Module-4

- 7 a. Explain associative memory model for neural network. (08 Marks)
b. Explain operational details of Boltzmann machine. (08 Marks)

OR

- 8 a. Derive an expression for energy function to prove stability of the system using Cohen – Grossberg form of Hopfield model. (08 Marks)
b. Draw and explain the architecture of hop field auto associative memory. (08 Marks)

Module-5

- 9 a. Discuss self organizing feature map algorithm. (08 Marks)
b. List the steps followed in growing neural gas. (08 Marks)

OR

- 10 a. Explain Oja's rule. (08 Marks)
b. With the help of diagram describe unsupervised vector quantization. (08 Marks)

* * * * *

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.