U.S.N

P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belagavi)
Eighth Semester, B.E. - Electrical and Electronics Engineering
Semester End Examination; July - 2021
Artificial Neural Network

Time: 3 hrs   *Max. Marks: 100*

Note: *Answer any **FIVE** full questions.*

1 a.	What is Artificial Neural Network (ANN)? Explain the structure of Biological Neural Network (BNN) in detail.		8
b.	Compare and contrast Biological Neural Network (BNN) with Artificial Neural Network (ANN).		8
c.	Briefly explain the sinusoidal activate functions in context of ANN.		4
2 a.	Explain briefly the various connections structure of ANN with relevant figures.		8
b.	Differentiate between supervised and unsupervised learning.		8
c.	Explain the bios and threshold in context of ANN.		4
3 a.	Sketch and explain the McCulloch-Pitts neuron model.		6
b.	What is learning in neural network? Explain the competitive learning rule.		8
c.	Discuss perception learning rule in detail.		6
4 a.	State the training algorithm of the Hebbnet with its architecture.		10
b.	What is the importance of Delta learning rule? "Delta learning is called as error correction rule" Justify.		10
5 a.	Explain the architecture and training algorithm of the single layer perceptron network.		12
b.	Briefly explain the multilayer perception network in detail.		8
6 a.	Explain the adaline architecture and its training algorithm.		10
b.	What is Madaline architecture? Discuss in detail the MRI algorithm used for Madaline architecture.		10
7 a.	What are feedback networks? Explain the architecture and training algorithm of discrete Hopfield net.		10
b.	Define Bi-directional associative memory (BAM). Draw the architecture of a BAM network and discuss in detail.		10
8 a.	What is feed-forward network? Explain the architecture of Radial Basis Function Network (RBFN) in brief.		8
b.	Explain the merits and demerits of Back Propagation Network (BPN).		5
c.	State the application algorithm of a Back Propagation Network (BPN) and also mention the application of BPN.		7
9 a.	Explain the architecture of Kohonen self organizing feature map with relevant diagrams and its training algorithm.		12
b.	What is the Learning Vector Quantization (LVQ)? Explin LVQ in detail with its architecture.		8
10 a.	What is Adaptive Resonance Theory (ART) Network? Explain the basic architecture and operation of ART.		10
b.	Explain the architecture and training algorithm of ART-1 net.		10

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