PAPER ID-420206

Subject Code: KCA042

Roll No: | | | | | | | | | | | | | |

MCA
(SEM IV) THEORY EXAMINATION 2021-22
NEURAL NETWORK

Time: 3 Hours ***Total Marks: 100***

Note: Attempt all Sections. If you require any missing data, then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2x10 = 20

Qno	Questions	CO
(a)	Define error correction learning.	1
(b)	What is the neuron importance in neural network?	1
(c)	How activation function works?	2
(d)	Differentiate between Aggregation and Activation function.	2
(e)	Define single layer network.	3
(f)	Differentiate between local minima and global minima.	3
(g)	How recurrent network works?	4
(h)	What do you mean by principal component analysis?	4
(i)	Define soft computing with example.	5
(j)	What do you mean by special networks?	5

SECTION B

2. Attempt any *three* of the following: 10x3 = 30

Qno	Questions	CO
(a)	Discuss the relevant computational properties of the Human Brain?	1
(b)	What is perceptron? Write the differences between Single Layer Perceptron(SLP) and Multilayer Perceptron(MLP).	2
(c)	What is RBF? Explain RBF properties with example.	3
(d)	Illustrate the independent component analysis with proper example.	4
(e)	Differentiate between complex valued NN and complex valued BP.	5

SECTION C

3. Attempt any *one* part of the following: 10x1 = 10

Qno	Questions	CO
(a)	Define knowledge representation and explain it with proper example.	1
(b)	What is Supervised learning and how it is differ from unsupervised learning?	1

4. Attempt any *one* part of the following: 10x1 = 10

Qno	Questions	CO
(a)	Discuss the bench mark problem in neural network.	2
(b)	Illustrate about the McCulloch-Pitts neuron model with diagram.	2

5. Attempt any *one* part of the following: 10x1 = 10

Qno	Questions	CO
(a)	Write the algorithm of generalized delta rule(Back Propagation Algorithm) and explain with example.	3
(b)	Explain Multi-layer neural network with proper diagram.	3

6. Attempt any *one* part of the following: 10x1 = 10

Qno	Questions	CO
(a)	Discuss in brief about Kohonen self-organizing feature maps architecture.	4
(b)	Explain the architecture of Learning vector quantization.	4

7. Attempt any *one* part of the following: 10x1 = 10

Qno	Questions	CO
(a)	Explain support vector machine and when this technique is required?	5
(b)	Discuss about the Hybrid soft computing techniques with example.	5

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