

(6 pages)

Reg. No.:.....

Code No. : 30614 E Sub. Code : SECS 6 C

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2020.

Sixth Semester

Computer Science — Main

Major Elective : NEURAL NETWORKS

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer

1. A _____ is used to learn patterns and relationships in data.
(a) Computer network (b) Neural networks
(c) Matlab (d) Node

2. _____ computing is used to refer to the information engineering aspects of this research
- (a) Cloud (b) Neuro
(c) Synapses (d) Grid
3. The _____ learning rule, the learning signal is the differences between the desired and actual response
- (a) Delta (b) LMS
(c) Perceptron (d) Competitive
4. A single layer perception as used in pattern classification is that, it is concerned with only a single
- (a) Neuron (b) Associator
(c) Response (d) Network
5. _____ is a systematic method for training multi-layer artificial neural network.
- (a) BPR (b) FFN
(c) BPN (d) ANN
6. The _____ Hopfield net is a fully interconnected neural net with each unit connected to every other unit
- (a) Discrete (b) Feed back
(c) System (d) All the above

7. _____ networks, target values are available for the input training pattern and the learning is supervised
- (a) LVQ (b) SOM
(c) Vector reference (d) Neural
8. The architecture of a counter propagation network resembles an _____ and _____ model
- (a) In star and our star (b) Front and back
(c) 1st and 2nd (d) None of these
9. _____ implementations in bankruptcy fore casting become more and more numerous
- (a) Artificial neural networks
(b) Application neural networks
(c) Image analysis
(d) Single analysis
10. _____ IDS system detect attacks for an individual system using system logs and operating system audit trails
- (a) Network based (b) Host based
(c) Misuse (d) Network vigilance

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is neural networks? Explain the capabilities of neural networks.

Or

- (b) Explain the different fields of neural networks.

12. (a) Explain the architecture MC culloch pitts neuron model.

Or

- (b) What is Hebbian learning Rule? Explain.

13. (a) What is back propagation network? Explain.

Or

- (b) What is radial basis function network? Explain.

14. (a) What are the methods used for determining the winner?

Or

- (b) Describe the learning vector quantization.

15. (a) Explain the classification of intrusion defection system.

Or

(b) Describe the multilayer perception.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Discuss the basic building blocks of artificial neural networks.

Or

(b) Explain

(i) Weights in artificial neural network

(ii) Sigmoidal function

17. (a) Explain the learning rule in fundamental model of artificial neural networks.

Or

(b) Explain in detail about single layer perception.

18. (a) Explain the feed formed network.

Or

(b) Write an training algorithm for RBFN with fixed centers.

19. (a) Describe the Kohonen self organizing features maps.

Or

- (b) Write a MATLAB program for drawing features in two dimensional view.

20. (a) Explain the application of neural networks in bio informates.

Or

- (b) Discuss in detail about neural networks in fore casting.
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