Assignment 5

The due date for submitting this assignment has passed. Due on 2019-04-03, 23:59 IST.
As per our records you have not submitted this assignment.

1) Which one of the following statements is TRUE?

Connecting weights between two layers of a neural network lie

   a. within the same range of input variables.
   b. within the same range of output variables.
   c. within a normalized scale of either [-1.0, +1.0] or (0.0, +1.0)
   d. within the range of [-10.0, +10.0]

Score: 0
Accepted Answers:
(c)

2) The transfer function of a neuron lying on one layer of a neural network is assumed to be sigmoid of the form \( y = \frac{1}{1+e^{-x}} \). Corresponding to its input \( x=1.5 \), the output is approximated as

   a. 1.5678
   b. 2.3548
   c. 0.1235
   d. 0.8176

Score: 0
Accepted Answers:
(c)

No, the answer is incorrect.
Back-propagation algorithm (Delta rule)

- a. uses the concept of direct search of optimization.
- b. uses the concept of gradient-based search of optimization.
- c. uses the concept of nature-inspired optimization algorithm.
- d. does not use the concept of optimization.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a)
(b)
(c)
(d)

4) In generalized delta rule, momentum constant (α) is allowed to vary in the range of

- a. (-1.0, +1.0)
- b. (0.5, +1.5)
- c. (0.0, +1.0)
- d. (-10.0, +10.0)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a)
(b)
(c)
(d)

5) Which one of the following statements is FALSE?

- a. Gaussian distribution is a radial basis function.
- b. Radial Basis Function Network (RBFN) is a two-layer neural network.
- c. RBFN is computationally less expensive compared to conventional multi-layer feed-forward neural network.
- d. Back-propagation neural network can capture the dynamics of a highly dynamic process.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a)
(b)
(c)
(d)
In a batch mode of supervised learning,

a. the number of training scenarios should be at least equal to the number of design variables.
b. the number of training scenarios should be less than the number of design variables.
c. there is no relationship between the number of training scenarios and design variables.
d. there is no chance of over-training.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a)

7)

To implement back-propagation algorithm in multi-layer feed-forward neural network, we need the concept of

a. integration by parts.
b. chain rule of partial differentiation.
c. chain rule of exact differentiation.
d. conventional integration.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b)

8)

For input-output modelling, in terms of accuracy in predictions,

a. Radial basis function neural network is found to be much better than multi-feed-forward neural network.
b. Multi-layer feed-forward neural network is found to be much better than Radial basis function neural network.
c. the performances of multi-layer feed-forward neural network and radial basis function neural network are comparable.
d. the performances of multi-layer feed-forward neural network and radial basis function neural network should not be compared.

No, the answer is incorrect.
Score: 0
9) Which one of the following statements is TRUE?

- a. Both multi-layer feed-forward neural network as well as radial basis function neural network can be used as clustering tools.
- b. Both multi-layer feed-forward neural network as well as radial basis function neural network can be used as regression tools.
- c. Multi-layer feed forward neural network and radial basis function neural network can be used as regression and clustering tools, respectively.
- d. Multi-layer feed forward neural network and radial basis function neural network can be used as clustering and regression tools, respectively.

No, the answer is incorrect.
Score: 0

10) In a multi-layer feed-forward neural network, the minimum number of neurons to be put in the hidden layer is

- a. 1
- b. 2
- c. 10
- d. 5

No, the answer is incorrect.
Score: 0

Accepted Answers:
(b)