

## Unit 10 - Week 8

## Course outline

How does an NPTEL online course work?

Week 0 Assignment 0

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Week 8

● Lecture 36 : Training ANNs

● Lecture 37 : Training ANNs (Contd..)

● Lecture 38 : Training ANNs (Contd..)

○ Lecture 39 : Training ANNs (Contd..)

○ Lecture 40 : Soft computing tools

● Lecture material of Week 8

○ Quiz : Week 8 Assignment 8

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## Week 8 Assignment 8

The due date for submitting this assignment has passed.  
As per our records you have not submitted this assignment.

Due on 2020-03-25, 23:59 IST.

1) For the same size of training data as input, the fastest learning techniques is 1 point

- Supervised training with gradient descent error correction.
- Supervised training with stochastic method.
- Supervised training without error calculation.
- Supervised training with Hebbian method.

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

2) Hebbian learning is a form of 1 point

- Supervised Learning
- Unsupervised learning
- Reinforced learning
- Stochastic learning

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

3) In case of layer calculation, the maximum time involved in 1 point

- Output layer computation.
- Hidden layer computation.
- Equal effort in each layer.
- Input layer computation.

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

4) The **Back Propagation Learning** algorithm is used to train 1 point

- a single layer feed forward neural network only
- a multiple layer feed forward neural network only
- a recurrent neural network only
- any artificial neural network

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

d.

5) In which learning method in the following, those neurons which responds strongly to input stimuli have their weights updated 1 point

- Competitive learning
- Stochastic Learning
- Hebbian Learning
- Gradient Descent Learning

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

6) Training Perceptron is based on 1 point

- Supervised learning technique.
- Unsupervised learning
- Reinforced learning
- Stochastic learning

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

7) A batch mode of training is generally implemented through the \_\_\_\_\_ in error calculation 1 point

- Minimization of median square error
- Maximization of median square error
- Maximization of mean square error
- Minimization of mean square error

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

d.

8) What is the number of matrix data involved in a simple recurrent neural network with a single hidden layer? 1 point

- 5
- 7
- 3
- 6

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

9) Which of the following is not a hybrid system? 1 point

- Embedded hybrid system
- Sequential hybrid system
- Auxiliary hybrid system
- Parallel hybrid system

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

d.

10) In which of the following, one technology calls the other technology as subroutine to process or manipulate information needed 1 point

- Embedded hybrid system
- Sequential hybrid system
- Auxiliary hybrid system
- Parallel hybrid system

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

11) Fuzzy – Genetic Hybrid system is a 1 point

- Fuzzy logic in parallel with the Genetic algorithm
- Fuzzy logic controlled Genetic algorithm
- Genetic algorithm controlled Fuzzy logic
- None of the above

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

12) In Supervised learning –  $\forall \epsilon$  sign is used to signify the fact that if  $\frac{\partial E}{\partial V} > 0$ , then we have to 1 point

- Increase V
- Decrease V
- Increase E
- Decrease E

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

13) Both fuzzy logic and artificial neural network are soft computing techniques because, 1 point

- Both give precise and accurate results.
- Artificial neural network gives accurate result but fuzzy logic does not.
- In each, no precise mathematical model of the problem is required.
- Fuzzy gives exact result but artificial neural network does not.

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

14) In supervised learning, training set of data includes 1 point

- Input
- Output
- Both input and output
- None

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

15) Given a training data  $\langle X; Y \rangle$ , the number of neurons in the input and output layers are 1 point

- $|X|$  and  $|Y|$
- $|x|$  and  $|y|$  where  $x \in X, y \in Y$
- $l$  and  $n$  where  $l, n \geq 1$  and are with arbitrary values.
- $l \geq |x|, n \geq |y|$  where  $x \in X, y \in Y$

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.