1. Which of the following is a subset of machine learning?

   A. Numpy
   B. SciPy
   C. Deep Learning
   D. All of the above

   View Answer

   Ans : C
   Explanation: Deep learning is a computer software that mimics the network of neurons in a brain. It is a subset of machine learning and is called deep learning.

2. How many layers Deep learning algorithms are constructed?

   1

   2

   3

   4

   3

   inner
   outer
   hidden

Other Reference
Quantitative Aptitude (https://letsfindcourse.com/quantitative-aptitude/quantitative-aptitude-questions)
Learn Machine Learning (https://letsfindcourse.com/best-machine-learning-tutorials)
Machine Learning Books (https://letsfindcourse.com/blogs/top-10-machine-learning-books)

Deep Learning Questions And Answers

11. In which of the following applications can we use deep learning to solve the problem?

A. Protein structure prediction

B. Prediction of chemical reactions

C. Detection of exotic particles

D. All of the above

View Answer

Ans : D

Explanation: We can use neural network to approximate any function so it can theoretically be used to solve any problem.

12. Which of the following statements is true when you use 1×1 convolutions in a CNN?

A. It can help in dimensionality reduction

B. It can be used for feature pooling

C. It suffers less overfitting due to small kernel size

D. All of the above

View Answer

Ans : D

Explanation: 1×1 convolutions are called bottleneck structure in CNN.

13. The number of nodes in the input layer is 10 and the hidden layer is 5. The maximum number of connections from the input layer to the hidden layer are

A. 50

B. less than 50

C. more than 50

D. It is an arbitrary value

View Answer

Ans : A

Explanation: Since MLP is a fully connected directed graph, the number of connections are a multiple of number of nodes in input layer and hidden layer.

14. The input image has been converted into a matrix of size 28 X 28 and a kernel/filter of size 7 X 7 with a stride of 1. What will be the size of the convoluted matrix?

A. 20x20
B. 21x21
C. 22x22
D. 25x25

View Answer

Ans : C

Explanation: The size of the convoluted matrix is given by $C=((I-F+2P)/S)+1,$ where C is the size of the Convoluted matrix, I is the size of the input matrix, F the size of the filter matrix and P the padding applied to the input matrix. Here P=0, I=28, F=7 and S=1. There the answer is 22.
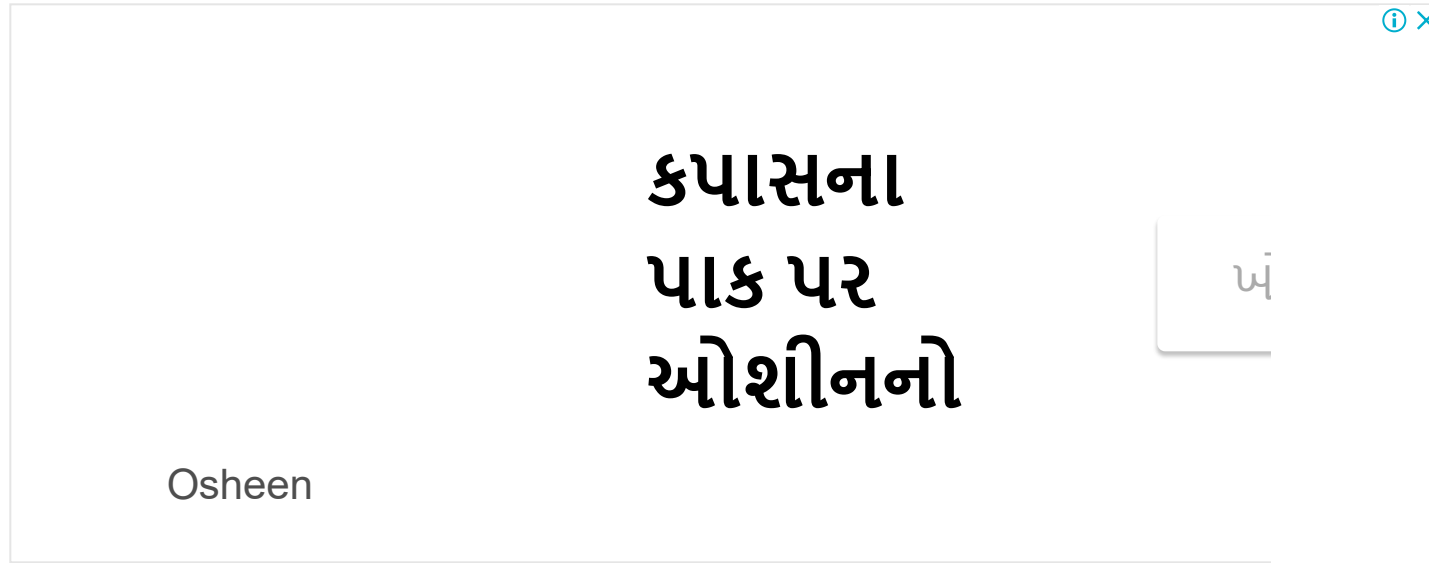
15. In a simple MLP model with 8 neurons in the input layer, 5 neurons in the hidden layer and 1 neuron in the output layer. What is the size of the weight matrices between hidden output layer and input hidden layer?

A. [1 X 5] , [5 X 8]
B. [5 x 1] , [8 X 5]
C. [8 X 5] , [5 X 1]
D. [8 X 5] , [1 X 5]

View Answer

Ans : B
Explanation: The size of weights between any layer 1 and layer 2 Is given by [nodes in layer 1 X nodes in layer 2].

16. Which of the following functions can be used as an activation function in the output layer if we wish to predict the probabilities of n classes (p1, p2..pk) such that sum of p over all n equals to 1?

A. Softmax

B. ReLu

C. Sigmoid

D. Tanh

View Answer

Ans : A

Explanation: Softmax function is of the form in which the sum of probabilities over all k sum to 1.

17. Assume a simple MLP model with 3 neurons and inputs= 1,2,3. The weights to the input neurons are 4,5 and 6 respectively. Assume the activation function is a linear constant value of 3. What will be the output ?

A. 32

B. 64

C. 96

D. 128

View Answer

Ans : C

Explanation: The output will be calculated as 3(1*4+2*5+6*3) = 96

18. Which of the following would have a constant input in each epoch of training a Deep Learning model?

A. Weight between input and hidden layer

B. Weight between hidden and output layer

C. Biases of all hidden layer neurons

D. Activation function of output layer

View Answer

Ans : A

Explanation: Weights between input and hidden layer are constant.

19. Sentiment analysis using Deep Learning is a many-to one prediction task

A. True
B. False
C. Can be true and fasle
D. can not say

View Answer

Ans : A

Explanation: Option A is correct. This is because from a sequence of words, you have to predict whether the sentiment was positive or negative.

20. In CNN, having max pooling always decrease the parameters?

A. True
B. False
C. Can be true and false
D. Can not say

View Answer

Ans : B

Explanation: This is not always true. If we have a max pooling layer of pooling size as 1, the parameters would remain the same.s

A. 2

B. 3

C. 4

D. 5

View Answer

Ans : B

Explanation: Deep learning algorithms are constructed with 3 connected layers : inner layer, outer layer, hidden layer.

3. The first layer is called the?

A. inner layer

B. outer layer

C. hidden layer

D. None of the above

View Answer

Ans : A

Explanation: The first layer is called the Input Layer. The last layer is called the Output Layer. All layers in between are called Hidden Layers.

4. RNNs stands for?

A. Receives neural networks

B. Report neural networks

C. Recording neural networks

D. Recurrent neural networks

View Answer

Ans : D

Explanation: Recurrent neural networks (RNNs) : RNN is a multi-layered neural network that can store information in context nodes, allowing it to learn data sequences and output a number or another sequence.

5. Which of the following is/are Common uses of RNNs?

A. BusinessesHelp securities traders to generate analytic reports

B. Detect fraudulent credit-card transaction

C. Provide a caption for images

D. All of the above

View Answer

Ans : D

Explanation: All of the above are Common uses of RNNs.

6. Which of the following is well suited for perceptual tasks?

A. Feed-forward neural networks

B. Recurrent neural networks

C. Convolutional neural networks

D. Reinforcement Learning

View Answer

> Ans : C
> Explanation: CNN is a multi-layered neural network with a unique architecture designed to extract increasingly complex features of the data at each layer to determine the output. CNNs are well suited for perceptual tasks.

7. CNN is mostly used when there is an?

A. structured data

B. unstructured data

C. Both A and B

D. None of the above

View Answer

> Ans : B
> Explanation: CNN is mostly used when there is an unstructured data set (e.g., images) and the practitioners need to extract information from it.

8. Which neural network has only one hidden layer between the input and output?

A. Shallow neural network

B. Deep neural network

C. Feed-forward neural networks

D. Recurrent neural networks

View Answer

Ans : A

Explanation: Shallow neural network: The Shallow neural network has only one hidden layer between the input and output.

9. Which of the following is/are Limitations of deep learning?

A. Data labeling
B. Obtain huge training datasets
C. Both A and B
D. None of the above

View Answer

Ans : C

Explanation: Both A and B are Limitations of deep learning.

10. Deep learning algorithms are _____ more accurate than machine learning algorithm in image classification.

A. 33%
B. 37%
C. 40%
D. 41%

View Answer

Ans : D

Explanation: Deep learning can outperform traditional method. For instance, deep learning algorithms are 41% more accurate than machine learning algorithm in image classification, 27 % more accurate in facial recognition and 25% in voice recognition.