**1)For the below confusion matrix, what is the accuracy?**

**Predicted**

**No Yes**

**Groud Truth No 53272 1307**

**Yes 1077 4344**

**a)95%**

**b)90%**

**c)96%**

**d)98%**

**Weight 2.5 Mark**

**2)** **A model makes predictions and predicts 70 examples for the first minority class, where 50 are correct and 20 are incorrect. It predicts 150 for the second class with 99 correct and 51 incorrect. Precision will be**

**96.6**

**b)67.7**

**c)77.2**

**d)88.4**

**Weight 2.5 Mark**

**3).** Recall = TruePositives / (TruePositives + FalseNegatives)

A model makes predictions and predicts 90 of the positive class predictions correctly and 10 incorrectly. Recall will be

67

60

**90**

80

4) **Suppose an input to Max-Pooling layer is given above. The pooling size of neurons in the layer is (3, 3).**

https://cdn.analyticsvidhya.com/wp-content/uploads/2017/04/12122309/DL1.png

**What would be the output of this Pooling layer? 3**

6) **Suppose you have 3 convolutional kernel of size 7 x 7 with zero padding and stride 1 in the first layer of a convolutional neural network. You pass an input of dimension 224 x 224 x 3 through this layer. What are the dimensions of the data which the next layer will receive?  3**

A) 217 x 217 x 3

B) 217 x 217 x 8

C) 218 x 218 x 3

D) 220 x 220 x 7

8.\_\_\_\_\_\_\_\_\_\_\_\_in which we give input to our model.

A. Input layer

B. Output layer

C. Hidden layer

D. None of these

**Ans : A**

9.The input from Input layer is then feed into the\_\_\_\_\_\_.

A. Input layer

B. Output layer

C. Hidden layer

D. None of these

**Ans : C**

10.The data is then fed into the model and output from each layer is obtained this step is called \_\_\_\_\_\_\_.

A. Feedforward

B. Feed backward

C. input layer

D. Output layer

**Ans : A**

**11.In \_\_\_\_\_\_\_\_\_\_\_\_ holds the raw input of image used to build ConvNets.**

A. Input Layer

B. Convolution Layer

C. Activation Function Layer

D**.**Pool Layer

**Ans : A**

**12. \_\_\_\_\_\_\_\_\_\_\_\_ computes the output volume by computing dot product between all filters and image patch.**

A. Input Layer

B. Convolution Layer

C. Activation Function Layer

D. Pool Layer

**Ans : B**

**13.\_\_\_\_\_\_\_\_\_\_will apply element wise activation function to the output of convolution layer.**

A. Input Layer

B. Convolution Layer

C. Activation Function Layer

D. Pool Layer

**Ans : C**

**14.\_\_\_\_\_\_\_\_\_common types of pooling layers.**

A. 2

B. 3

C. 4

D. 5

**Ans : A**

**15. \_\_\_\_\_\_\_\_\_is a pooling operation that selects the maximum element from the region of the feature map covered by the filter.**

A. Max Pooling

B. Average Pooling

C. Global pooling

D. None of these

**Ans : A**

**16.\_\_\_\_\_\_\_\_ computes the average of the elements present in the region of feature map covered by the filter.**

A. Max Pooling

B. Average Pooling

C. Global pooling

D. None of these

**Ans : B**

**17. \_\_\_\_\_\_\_\_\_\_\_reduces each channel in the feature map to a single value.**

A. Max Pooling

B. Average Pooling

C. Global pooling

D. None of these

**Ans : C**

**What is feed forward in Convolution Neural Network?**

**Ans :**The data is then fed into the model and output from each layer is obtained this step is called feed forward.

**What is Convolution Neural Network?**

**Ans** : Convolution Neural Networks or covnets are neural networks that share their parameters.

1. What is the primary purpose of a Convolutional Neural Network (CNN)?

a) Object detection

b) Image classification

c) Text generation

d) Reinforcement learning

Answer: b) Image classification

2. Which layer type is typically used to extract local features in a CNN?

a) Convolutional layer

b) Pooling layer

c) Fully connected layer

d) Activation layer

Answer: a) Convolutional layer

3. What is the advantage of using convolutional layers in a CNN?

a) They can capture local spatial patterns in the input data

b) They can handle sequential data

c) They can generate synthetic data

d) They can handle variable-length inputs

Answer: a) They can capture local spatial patterns in the input data

4. What is the purpose of the pooling layer in a CNN?

a) To reduce the spatial dimensions of the feature maps

b) To introduce non-linearity to the network

c) To adjust the weights and biases of the network

d) To compute the gradients for backpropagation

Answer: a) To reduce the spatial dimensions of the feature maps

5. Which activation function is commonly used in the convolutional layers of a CNN?

a) ReLU (Rectified Linear Unit)

b) Sigmoid

c) Tanh (Hyperbolic Tangent)

d) Softmax

Answer: a) ReLU (Rectified Linear Unit)

6. What is the purpose of the stride parameter in a convolutional layer?

a) To determine the size of the receptive field

b) To control the step size of the convolution operation

c) To adjust the learning rate during training

d) None of the above

Answer: b) To control the step size of the convolution operation

7. Which layer type is used to reduce the spatial dimensions in a CNN?

a) Convolutional layer

b) Pooling layer

c) Fully connected layer

d) Activation layer

Answer: b) Pooling layer

8. What is the purpose of the padding parameter in a convolutional layer?

a) To adjust the learning rate during training

b) To prevent the reduction of spatial dimensions

c) To regularize the network and prevent overfitting

d) None of the above

Answer: b) To prevent the reduction of spatial dimensions

9. Which layer type is responsible for making final predictions in a CNN?

a) Convolutional layer

b) Pooling layer

c) Fully connected layer

d) Activation layer

Answer: c) Fully connected layer

10. What is the purpose of the fully connected layers in a CNN?

a) To capture global patterns and make predictions

b) To reduce the spatial dimensions of the input data

c) To apply non-linear transformations to the feature maps

d) To initialize the weights and biases of the network

Answer: a) To capture global patterns and make predictions

11. Which layer type is responsible for applying non-linear transformations to the feature maps in a CNN?

a) Convolutional layer

b) Pooling layer

c) Fully connected layer

d) Activation layer

Answer: d) Activation layer

12. What is the purpose of dropout regularization in a CNN?

a) To randomly disable neurons during training to prevent overfitting

b) To adjust the learning rate during training

c) To increase the number of layers in the network

d) None of the above

Answer: a) To randomly disable neurons during training to prevent overfitting

13. Which layer type is responsible for backpropagating the gradients and updating the network's parameters in

a CNN?

a) Convolutional layer

b) Pooling layer

c) Fully connected layer

d) Activation layer

Answer: c) Fully connected layer

14. What is the primary advantage of using a CNN over a fully connected neural network for image processing tasks?

a) CNNs can capture local spatial patterns in the input data

b) CNNs can handle sequential data

c) CNNs have a higher number of neurons

d) CNNs have a higher training speed

Answer: a) CNNs can capture local spatial patterns in the input data

15. Which layer type is responsible for parameter sharing in a CNN?

a) Convolutional layer

b) Pooling layer

c) Fully connected layer

d) Activation layer

Answer: a) Convolutional layer

16. What is the purpose of the receptive field in a convolutional layer?

a) To determine the number of filters in the layer

b) To determine the size of the feature maps

c) To specify the size of the local region for the convolution operation

d) None of the above

Answer: c) To specify the size of the local region for the convolution operation

17. Which layer type is responsible for spatial downsampling in a CNN?

a) Convolutional layer

b) Pooling layer

c) Fully connected layer

d) Activation layer

Answer: b) Pooling layer

18. What is the purpose of the filter/kernel in a convolutional layer?

a) To determine the number of neurons in the layer

b) To specify the size of the feature maps

c) To extract local features from the input data

d) None of the above

Answer: c) To extract local features from the input data

19. Which layer type is commonly used in CNNs to normalize the input data?

a) Convolutional layer

b) Pooling layer

c) Batch normalization layer

d) Activation layer

Answer: c) Batch normalization layer

20. What is the primary goal of training a CNN?

a) To minimize the prediction error on the training data

b) To maximize the number of layers in the network

c) To achieve 100% accuracy on the test data

d) None of the above

Answer: a) To minimize the prediction error on the training data

21. Which layer type is responsible for introducing translation invariance in a CNN?

a) Convolutional layer

b) Pooling layer

c) Fully connected layer

d) Activation layer

Answer: a) Convolutional layer

22. What is the purpose of the output layer in a CNN?

a) To compute the predicted output based on the final feature representation

b) To reduce the spatial dimensions of the input data

c) To apply non-linear transformations to the feature maps

d) To initialize the weights and biases of the network

Answer: a) To compute the predicted output based on the final feature representation

23. What is the purpose of zero-padding in a CNN?

a) To adjust the learning rate during training

b) To prevent the reduction of spatial dimensions

c) To regularize the network and prevent overfitting

d) None of the above

Answer: b) To prevent the reduction of spatial dimensions

24. Which layer type is commonly used in CNNs for semantic segmentation tasks?

a) Convolutional layer

b) Pooling layer

c) Fully connected layer

d) Upsampling layer

Answer: d) Upsampling layer

25. What is the purpose of the loss function in CNN training?

a) To measure the prediction error and guide the learning process

b) To initialize the weights and biases of the network

c) To adjust the learning rate

during training

d) None of the above

Answer: a) To measure the prediction error and guide the learning process

26. Which layer type is commonly used in CNNs to introduce non-linearity?

a) Convolutional layer

b) Pooling layer

c) Fully connected layer

d) Activation layer

Answer: d) Activation layer

27. What is the purpose of the learning rate in CNN training?

a) To control the step size of the parameter updates during optimization

b) To adjust the size of the filters in the convolutional layers

c) To increase the number of layers in the network

d) None of the above

Answer: a) To control the step size of the parameter updates during optimization

28. Which layer type is responsible for feature extraction in a CNN?

a) Convolutional layer

b) Pooling layer

c) Fully connected layer

d) Activation layer

Answer: a) Convolutional layer

29. What is the purpose of data augmentation in CNN training?

a) To increase the number of layers in the network

b) To introduce noise and variations in the training data

c) To adjust the learning rate during training

d) None of the above

Answer: b) To introduce noise and variations in the training data

30. Which layer type is commonly used in CNNs to handle variable-sized inputs?

a) Convolutional layer

b) Pooling layer

c) Fully connected layer

d) None of the above

Answer: d) None of the above