**1. What is the primary purpose of Exploratory Data Analysis (EDA)?**

* A) To deploy the model
* B) To gather data
* C) To explore and understand the data's underlying patterns
* D) To finalize the machine learning algorithm
* **Answer:** C

**2. Which of the following best describes the function of an Input Layer in a neural network?**

* A) It processes data by applying mathematical operations
* B) It sends the final prediction or decision
* C) It receives data from outside the network
* D) It adjusts the weights during training
* **Answer:** C

**3. What does the term "weights" refer to in an artificial neural network?**

* A) The final output of the network
* B) The number of neurons in a layer
* C) The strength of the connection between neurons
* D) The input data to the network
* **Answer:** C

**4. In a neural network, what is the purpose of the activation function?**

* A) To increase the number of layers in the network
* B) To determine whether a neuron should be activated
* C) To connect neurons to each other
* D) To collect and preprocess data
* **Answer:** B

**5. Which technique is best suited for image recognition tasks?**

* A) Recurrent Neural Network (RNN)
* B) Long Short-Term Memory (LSTM)
* C) Artificial Neural Network (ANN)
* D) Convolutional Neural Network (CNN)
* **Answer:** D

**6. What is the main advantage of using an LSTM network over a standard RNN?**

* A) It processes images more efficiently
* B) It remembers information for a longer period
* C) It reduces the number of neurons required
* D) It simplifies the model's architecture
* **Answer:** B

**7. What does the F1 Score measure in model evaluation?**

* A) The accuracy of the model
* B) The precision of positive predictions
* C) The balance between precision and recall
* D) The total number of correct predictions
* **Answer:** C

**8. Which of the following is an example of a practical application of deep learning in healthcare?**

* A) Predicting stock prices
* B) Recommending movies on Netflix
* C) Detecting diseases using medical images
* D) Translating languages
* **Answer:** C

**9. What is the first step in the machine learning workflow?**

* A) Train the model
* B) Define the problem
* C) Deploy the model
* D) Perform EDA
* **Answer:** B

**10. During the training process of a neural network, what does backpropagation do?**

* A) Passes data forward through the network
* B) Adjusts the weights to minimize errors
* C) Determines the final output
* D) Splits the data into training and test sets
* **Answer:** B

**11. What is the purpose of data normalization in preprocessing?**

* A) To remove duplicate data entries
* B) To scale data to a consistent range
* C) To increase the size of the dataset
* D) To encode categorical data into numerical values
* **Answer:** B

**12. Which of the following best describes the output layer in a neural network?**

* A) It is where data enters the network
* B) It is where the final decision or prediction is made
* C) It processes the data through multiple layers
* D) It reduces the dimensionality of the input data
* **Answer:** B

**13. Which machine learning technique is best suited for predicting the next word in a sentence?**

* A) Convolutional Neural Network (CNN)
* B) Support Vector Machine (SVM)
* C) Recurrent Neural Network (RNN)
* D) Decision Tree
* **Answer:** C