# Multiple-Choice Questions on Deep Learning

1. Which of the following best describes Deep Learning?

* A) A rule-based system for making decisions
* B) A statistical method used to analyze data
* C) A type of Machine Learning that uses neural networks
* D) A technique for manually extracting features from data

✅ Correct Answer: C

2. Which of the following is NOT a requirement for Deep Learning?

* A) Big Data
* B) High Computational Power
* C) Handcrafted Feature Selection
* D) Neural Networks

✅ Correct Answer: C

3. What is the primary advantage of Deep Learning over traditional Machine Learning?

* A) Requires less computational power
* B) Performs better with high-dimensional data
* C) Does not need large amounts of data
* D) Uses fewer parameters

✅ Correct Answer: B

4. What is the function of an activation function in a neural network?

* A) To introduce non-linearity
* B) To initialize weights
* C) To store training data
* D) To reduce the number of layers in the network

✅ Correct Answer: A

5. What is the primary purpose of backpropagation in neural networks?

* A) To initialize the network
* B) To adjust weights based on errors
* C) To generate synthetic data
* D) To add new neurons to the network

✅ Correct Answer: B

6. Which of the following frameworks is primarily used for Deep Learning?

* A) Scikit-Learn
* B) Pandas
* C) PyTorch
* D) Matplotlib

✅ Correct Answer: C

7. Which deep learning framework is developed by Google?

* A) PyTorch
* B) TensorFlow
* C) Scikit-Learn
* D) Theano

✅ Correct Answer: B

8. Which company originally developed PyTorch?

* A) Google
* B) Microsoft
* C) Facebook (Meta)
* D) OpenAI

✅ Correct Answer: C

9. What does GPU stand for?

* A) General Processing Unit
* B) Graphical Processing Unit
* C) Generalized Programming Unit
* D) Gradient Processing Unit

✅ Correct Answer: B

10. Why are GPUs preferred for Deep Learning tasks?

* A) They consume less power
* B) They process data sequentially
* C) They enable parallel computation
* D) They use fewer memory resources

✅ Correct Answer: C

11. Which of the following is NOT a component of an artificial neuron?

* A) Input
* B) Weights
* C) Bias
* D) Gradient Boosting

✅ Correct Answer: D

12. What does ReLU stand for?

* A) Rectified Linear Unit
* B) Regularized Logistic Update
* C) Recurrent Learning Unit
* D) Reinforced Learning Utility

✅ Correct Answer: A

13. Which layer in a neural network is responsible for making predictions?

* A) Input Layer
* B) Hidden Layer
* C) Output Layer
* D) Bias Layer

✅ Correct Answer: C

14. Why is training deep neural networks computationally expensive?

* A) It requires a large number of labeled examples
* B) It needs specialized software
* C) It involves complex mathematical computations
* D) All of the above

✅ Correct Answer: D

15. What is the main reason for using multiple hidden layers in a deep neural network?

* A) To increase computation time
* B) To reduce network complexity
* C) To capture more abstract patterns in data
* D) To make training faster

✅ Correct Answer: C