



In which type of ML does an agent learn by interacting with an environment?



29%



- ☐ Unsupervised Learning
- ☐ Clustering
- ☒ Reinforcement Learning✓
- ☐ Supervised Learning
- ☐ Regression

The correct answer is: Reinforcement Learning

#### Question 5

1.00/1.00

What is the primary purpose of backpropagation?

- ☐ Data preprocessing
- ☐ Initialization of weights
- ☐ Forward propagation of data
- ☐ Activation of neurons
- ☒ Adjusting weights based on the error✓

The correct answer is: Adjusting weights based on the error

#### Question 6

1.00/1.00

Which of the following is a challenge in training deep neural networks?

- ☐ All neurons activating at once
- ☐ Too few neurons
- ☐ Linear activation functions
- ☒ Vanishing/Exploding gradients✓
- ☐ Small datasets

The correct answer is: Vanishing/Exploding gradients

#### Question 7

1.00/1.00

What is the role of the loss function in training a neural network?

- ☐ To define the network architecture
- ☐ To initialize the weights
- ☒ To quantify the difference between predicted and actual values✓
- ☐ To introduce non-linearity
- ☐ To activate the neurons

The correct answer is: To quantify the difference between predicted and actual values



### Question 8

1.00/1.00

Which function introduces non-linearity in a neural network?

- ☐ Bias Function
- ☐ Linear Function
- ☐ Loss Function
- ☐ Weight Function
- ☒ Activation Function ✓

The correct answer is: Activation Function

### Question 9

1.00/1.00

How is a neural network's performance typically evaluated during training?

- ☐ Using the weights
- ☒ Using a validation set ✓
- ☐ Using the training data
- ☐ Using the test data
- ☐ Using the activation functions

The correct answer is: Using a validation set

### Question 10

1.00/1.00

Which of the following is NOT a layer type in a typical neural network?

- ☐ Input Layer
- ☐ Convolutional Layer
- ☐ Hidden Layer
- ☒ Quantum Layer ✓
- ☐ Output Layer

The correct answer is: Quantum Layer