

Introduction to AI and Machine Learning

AI And ML · Answer Key · 25 Questions

1. What does AI stand for?

- A) Automated Intelligence
- B) Artificial Intelligence**
- C) Advanced Information
- D) Algorithmic Invention

2. Machine Learning (ML) is a subfield of which broader area?

- A) Robotics
- B) Data Science
- C) Artificial Intelligence**
- D) Computer Programming

3. Which of these is a common type of machine learning where the algorithm learns from labeled data?

- A) Unsupervised Learning
- B) Reinforcement Learning
- C) Supervised Learning**
- D) Semi-supervised Learning

4. In Machine Learning, what is the term for the data used to train a model?

- A) Test Data
- B) Validation Data
- C) Training Data**
- D) Production Data

5. Which AI technique allows a computer to mimic human speech and understand spoken language?

- A) Computer Vision
- B) Natural Language Processing (NLP)**
- C) Robotics
- D) Expert Systems

6. What is a 'neural network' in the context of AI and ML?

- A) A type of computer hardware
- B) A biological brain structure
- C) A computational model inspired by the human brain**
- D) A programming language

7. What is the goal of 'unsupervised learning'?

- A) To predict an outcome based on past examples
- B) To learn from data with no pre-existing labels**
- C) To make decisions through trial and error
- D) To mimic human intuition

8. Which of these is an example of an AI application that recognizes objects in images?

- A) Speech Recognition
- B) Machine Translation
- C) Computer Vision**
- D) Recommendation Systems

9. In ML, what does 'overfitting' mean?

- A) The model is too simple and doesn't capture patterns
- B) The model performs very well on training data but poorly on new data**
- C) The model is not being trained at all
- D) The model has too many features

10. What is 'reinforcement learning' best described as?

- A) Learning by watching others
- B) Learning through feedback from actions (rewards and penalties)**
- C) Learning from a textbook
- D) Learning without any interaction

11. Which company developed the AlphaGo program, which famously defeated a Go world champion?

- A) Microsoft
- B) Google**
- C) IBM
- D) Meta

12. What is a 'dataset' in Machine Learning?

- A) A single piece of information
- B) A collection of related data used for training or testing**
- C) A computer program
- D) An algorithm

13. Which of these is a common algorithm used in Supervised Learning for classification tasks?

- A) K-Means Clustering
- B) Linear Regression
- C) Decision Trees**
- D) Principal Component Analysis (PCA)

14. What is the primary purpose of 'testing' a machine learning model?

- A) To train the model further
- B) To see how well it performs on unseen data**
- C) To explain how it works to others
- D) To identify bugs in the code

15. Which area of AI deals with enabling computers to 'see' and interpret visual information from the world?

- A) Natural Language Processing
- B) Robotics
- C) Computer Vision**
- D) Expert Systems

16. What is a 'chatbot' an example of?

- A) Computer Vision
- B) Robotics
- C) Natural Language Processing (NLP)**
- D) Data Mining

17. What is the term for a machine learning model that is too simple and fails to capture the underlying trends in the data?

- A) Overfitting
- B) Underfitting**
- C) Bias
- D) Variance

18. What kind of data does 'unsupervised learning' typically use?

- A) Labeled data
- B) Unlabeled data**
- C) Reward signals
- D) Textual data only

19. Which AI technology powers virtual assistants like Siri or Alexa?

- A) Computer Vision
- B) Robotics
- C) Natural Language Processing (NLP)**
- D) Expert Systems

20. What is the process of selecting which features from a dataset to use for training an ML model called?

- A) Data Cleaning
- B) Model Deployment
- C) Feature Engineering**
- D) Data Visualization

21. In ML, what is 'bias' often related to?

- A) The randomness of the model
- B) The model's assumptions about the data**
- C) The speed of the algorithm
- D) The size of the dataset

22. What is a simple example of an AI system that plays a game?

- A) A calculator
- B) A word processor
- C) A chess-playing program**
- D) A spreadsheet

23. Which type of learning involves an agent learning to make a sequence of decisions to achieve a goal?

- A) Supervised Learning
- B) Unsupervised Learning
- C) Reinforcement Learning**
- D) Transfer Learning

24. What is the role of an 'algorithm' in Machine Learning?

- A) To store the data
- B) To process the data and learn patterns**
- C) To display the results
- D) To power the computer's hardware

25. What does the 'M' in ML stand for?

A) Machine

B) Mathematical

C) Model

D) Management