ML MCQ

Machine learning is the Science of Getting computers to learn without being explicitly programmed. Machine learning works on a simple concept that is understanding with experiences.

The primary aim of machine learning is to allow computers to learn automatically without human interaction.

Scope of machine learning

- Machine learning in education
- Machine learning in search engine
- Machine learning in digital marketing
- Machine learning in Healthcare
- Spam protector
- Traffic alert
- Social media
- Google Translate

Limitation of machine learning

- Accuracy depends on training and learning which is not always available.
- It requires large data sets to learn about various topics which might be time taking and require various resources
- Good performance cannot always be guaranteed.
- a Mason needs to have heterogeneity in the data set to learn meaningful Insight.

Types of machine learning

- Supervised learning:
  - in supervised learning, given training explain examples of Input and corresponding output, the machine can predict outputs for new inputs
  - in supervised learning, we train the images with respect to data that is well labeled and with the correct output
- Unsupervised learning:
  - Unsupervised learning deals with the unlabeled data
  - No training data set is provided which means, no training will be given to the machine. Therefore it must work on its own to discover the required information.
  - The machine is trained with unlabelled data.

Linear regression

- Linear regression is a machine learning algorithm based on supervised learning
- It is the easiest and most popular machine learning algorithm
- It is used for predictive analysis
- It makes prediction for continuous variable size price of a product or house of salary
- Regression models target prediction values based upon their independent variables.

Artificial Neural Network (ANN)

- An artificial neural network is a computational nonlinear model that is inspired by the brain.
- ANN can perform tasks like classification, prediction, decision making, visualization, and others just by considering examples.
- It consists of a large collection of artificial neurons of the processing element which operates in parallel
- ANNs Are capable of learning, which takes place by altering with values.

Machine Learning MCQs

1. Among the following option identify the one which is not a type of learning

Correct Answer
Answer - A) Semi unsupervised learning is incorrect.

2. Identify the kind of learning algorithm for "facial identities for facial expressions".
Prediction

Correct Answer
Answer - B) For facial identities and facial expression, "recognition patterns" is used.

3. Identify the model which is trained with data in only a single batch.

Answer - C) The model is trained with data in only a single batch. is known as batch learning or offline learning.

4. What is the application of machine learning methods to a large database called?

Answer - C) Application of machine learning methods to large databases is known as data mining.

5. Identify the type of learning in which labeled training data is used.

Correct Answer
Answer - B) Supervised learning uses labeled training data.

6. Identify whether true or false: In PCA the number of input dimensions is equal to principal components.

Answer - A) True. In PCA the number of input dimensions is equal to principal components.

7. Among the following identify the one in which dimensionality reduction reduces.
Performance

Answer - D) Dimensionality reduction reduces collinearity.

8. Which of the following machine learning algorithm is based upon the idea of bagging?

Correct Answer
Answer - B) Random forest is based on the idea of bagging.

9. Choose a disadvantage of decision trees among the following.

Correct Answer
Answer - C) Decision trees are prone to overfitting.

10. What is the term known as on which the machine learning algorithms build a model based on sample data?

Correct Answer
Answer - B) The term is known as training data.

11. Machine learning is a subset of which of the following.

Answer - A) Machine learning is a subset of artificial intelligence.

12. Which of the following machine learning techniques helps in detecting the outliers in data?

Correct Answer
Answer - C) The machine learning algorithm which helps in detecting the outliers is known as anomaly detection.

13. The father of machine learning is _____

Answer - A) The father of machine learning is Geoffrey Everest Hinton.

14. The most significant phase in genetic algorithm is _____

Answer - D) Crossover is the most significant figure in genetic algorithm

15. Which of the following are common classes of problems in machine learning?

Answer - D) All of the above are common classes of problems in machine learning.

16. Among the following options identify the one which is false regarding regression.

Answer - D) Option d is incorrect among the following.

17. Identify the successful applications of ML.

Answer - D) All of the above are applications of ML.

18. Identify the incorrect numerical functions in the various function representation of machine learning.

Answer - A) Case-based is the correct answer

19. FIND-S algorithm ignores?

Answer - B) FIND-S algorithm ignores negative.

20. Select the correct definition of neuro software.

Correct Answer
Answer - C) Neuro software is a powerful and easy neural network.

21. Choose whether the following statement is true or false: The backpropagation law is also known as the generalized Delta rule.

Answer - A) True. The backpropagation law is also known as the generalized Delta rule.

22. Choose the general limitations of the backpropagation rule among the following.

Answer - D) All of the above general limitations of the backpropagation rule.

23. Analysis of ML algorithm needs

Answer - C) Analysis of ML algorithms needs both statistical learning theory and computational learning theory.

24. Choose the most widely used mattress and tools to assess the classification models.

Answer - D) All of the above are correct.

25. Full form of PAC is _____

Answer - B) PAC stands for Probably Approximate Correct.

26. Choose that following statement is true or false: True error is defined over the entire instance space, and not just over training data

Answer - A) True. the above statement is correct.

27. Choose the options below of which the area CLT is comprised of.
Mistake bound
Sample complexity
Computational complexity
All of the above
Hide

Answer - D) The area CLT is comprised of all of the above.

28. Choose the instance-based learner.

Answer - B) Lazy learner is an instance-based learner.

29. Identify the difficulties with the k-nearest neighbor algorithm.

Curse of dimensionality

Calculate the distance of the test case from all training cases

Both A and B

30. The total types of the layer in radial basis function neural networks is _____

Correct Answer

Answer - C) There is a total of 3 types of layered in radial basis function neural networks.

31. Which of the following is an application of CBR?

Correct Answer

Answer - B) Design is an application of CBR.

32. Choose the correct advantages of CBR.

Fast to train

A local approx is found for each test case

Knowledge is in a form understandable by human

All of the above

Answer - D) All of the above advantages of CBR.

33. Machine learning as various Search and Optimisation algorithms. Identify among the following which is not evolutionary computation.

Answer - D) Perceptron is not evolutionary computing.

34. Choose whether the following statement is true or false: Artificial intelligence is the process that allows a computer to learn and make decisions like humans.

Answer - A) The above statement is true.

35. Which of the following is not machine learning disciplines?

Information theory

Optimisation + control

Physics

Neuro statistics

Hide

Answer - D) Neuro statistics is not a message landing discipline

36. What does K stand for in K mean algorithm?

Answer - D) K stands for a number of iterations in the K mean algorithm.

37. Choose whether true or false: Decision tree cannot be used for clustering

Answer - B) False. A decision tree can be used for clustering.

38. Identify the clustering method which takes care of variance in data

Correct Answer

Answer - B) Gaussian mixture model takes care of variance in data

39. Which of the following is not a supervised learning

PCA

Naive Bayesian

Linear regression

Decision tree

Hide

40. What is unsupervised learning?

Answer - C) Unsupervised learning has neither feature nor number of groups known.

41. Which of the following is not a machine learning algorithm?

SVM

SVG

Random forest

None of the above

Hide

42. What is true about Machine Learning?

The main focus of ML is to allow computer systems to learn from experience without being explicitly programmed or human intervention.

ML is a type of artificial intelligence that extracts patterns out of raw data by using an algorithm or method.

Machine Learning (ML) is the field of computer science.

All of the above

Hide

43. Which of the following is not machine learning?

Answer - B) Rule-based inference is not machine learning

44. Identify the method which is used for train Control resampling.

Answer - B) repeatedcv is used for trainControl resampling.

45. Among the following option identify the one which is used to create the most common graph types.

Answer - C) qplot is used to create the most common graph types