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Machine Learning MCQ with Answers

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Machine learning is a field of computer science that deals with the problem of finding mathematical and statistical functions that best explain the relationship between input data, output data, and other inputs (external) to a system. Machine learning has some uses in areas such as detection, recommendation systems, fraud detection, machine translation, visual recognition, and the development of autonomous robotic systems.

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Q1. What is machine learning?

- **A.** The selective acquisition of knowledge through the use of manual programs
- **B.** The selective acquisition of knowledge through the use of computer programs
- **C.** The autonomous acquisition of knowledge through the use of manual programs
- **D. The autonomous acquisition of knowledge through the use of computer programs**

Q2. Machine Learning is a field of AI consisting of learning algorithms that ....

- **A.** At executing some task
- **B.** Over time with experience
- **C.** Improve their performance
- **D. All of the above**

Q3. .... is a widely used and effective machine learning algorithm based on the idea of bagging.

- **A.** Regression
- **B.** Classification

- **C.** Decision Tree
- **D. Random Forest**

Q4. What is the disadvantage of decision trees?

- **A.** Factor analysis
- **B.** Decision trees are robust to outliers
- **C. Decision trees are prone to be overfit**
- **D.** All of the above

Q5. How can you handle missing or corrupted data in a dataset?

- **A.** Drop missing rows or columns
- **B.** Assign a unique category to missing values
- **C.** Replace missing values with mean/median/mode
- **D. All of the above**

Q6. Which of the followings are most widely used metrics and tools to assess a classification model?

- **A.** Confusion matrix
- **B.** Cost-sensitive accuracy
- **C.** Area under the ROC curve
- **D. All of the above**

Q7. Machine learning algorithms build a model based on sample data, known as ....

- **A. Training Data**
- **B.** Transfer Data
- **C.** Data Training
- **D.** None of the above

Q8. Machine learning is a subset of ....

- **A.** Deep Learning
- **B. Artificial Intelligence**
- **C.** Data Learining
- **D.** None of the above

Q9. A Machine Learning technique that helps in detecting the outliers in data.

- **A.** Clustering
- **B.** Classification
- **C. Anamoly Detection**
- **D.** All of the above

Q10. Who is the father of Machine Learning?

- **A.** Geoffrey Hill
- **B.** Geoffrey Chaucer
- **C. Geoffrey Everest Hinton**
- **D.** None of the above

Q11. What is the most significant phase in a genetic algorithm?

- **A.** Selection
- **B.** Mutation
- **C. Crossover**
- **D.** Fitness function

Q12. Which one in the following is not Machine Learning disciplines?

- **A.** Physics
- **B.** Information Theory
- **C. Neurostatistics**
- **D.** Optimization Control

Q13. Machine Learning has various function representation, which of the following is not function of symbolic?

- **A.** Decision Trees
- **B.** Rules in propotional Logic

- **C.** Rules in first-order predicate logic
- **D. Hidden-Markov Models (HMM)**

Q14. .... algorithms enable the computers to learn from data, and even improve themselves, without being explicitly programmed.

- **A.** Deep Learning
- **B. Machine Learning**
- **C.** Artificial Intelligence
- **D.** None of the above

Q15. What are the three types of Machine Learning?

- **A.** Supervised Learning
- **B.** Unsupervised Learning
- **C.** Reinforcement Learning
- **D. All of the above**

Q16. Which of the following is not a supervised learning?

- **A. PCA**
- **B.** Naive Bayesian
- **C.** Linear Regression
- **D.** Decision Tree Answer

Q17. Real-Time decisions, Game AI, Learning Tasks, Skill acquisition, and Robot Navigation are applications of ....

- **A. Reinforcement Learning**
- **B.** Supervised Learning: Classification
- **C.** Unsupervised Learning: Regression
- **D.** None of the above

Q18. Which of the following is not numerical functions in the various function representation of Machine Learning?

- **A. Case-based**
- **B.** Neural Network

- **C.** Linear Regression
- **D.** Support Vector Machines

Q19. Common classes of problems in machine learning is ....

- **A.** Clustering
- **B.** Regression
- **C.** Classification
- **D. All of the above**

Q20. Which of the folloiwng clustering algorithm merges and splits nodes to help modify nonoptimal partitions?

- **A. K-Means clustering**
- **B.** Conceptual clustering
- **C.** Agglomerative clustering
- **D.** All of the above

Q21. Missing data items are .... with Bayes classifier.

- **A.** Ignored
- **B.** Treated as equal compares
- **C. Treated as unequal compares.**
- **D.** Replaced with a default value.

Q22. Which supervised learning technique can process both numeric and categorical input attributes?

- **A.** Bayes classifier
- **B. Linear regression**
- **C.** Ogistic regression
- **D.** None of the above

Q23. Logistic regression is a .... regression technique that is used to model data having a .... outcome.

- **A.** Linear, binary
- **B.** Linear, numeric

- **C. Nonlinear, binary**
- **D.** Nonlinear, numeric

Q24. Regression trees are often used to model which data?

- **A.** Linear
- **B. Nonlinear**
- **C.** Categorical
- **D.** None of the above

Q25. What is called the average squared difference between classifier predicted output and actual output?

- **A.** Mean relative error
- **B. Mean squared error**
- **C.** Mean absolute error
- **D.** Root mean squared error

Q26. Data used to optimize the parameter settings of a supervised learner model is called ....

- **A.** Test
- **B.** Training
- **C. Validation**
- **D.** None of the above

Q27. Bootstrapping allows us to choose the same training instance several times.

- **A. True**
- **B.** False

Q28. The average positive difference between computed and desired outcome values

- **A. Mean positive error**
- **B.** Mean absolute error
- **C.** Mean squared error
- **D.** Root mean squared error

Q29. Which of the following statement is true about prediction problems?

- **A.** The output attribute must be numeric.
- **B.** The output attribute must be categorical
- **C.** The resultant model is designed to determine future outcomes
- **D. The resultant model is designed to classify current behavior.**

Q30. What is the another name for an output attribute?

- **A.** Predictive variable
- **B.** Estimated variable
- **C.** Dependent variable
- **D. Independent variable**

Q31. Supervised learning and unsupervised clustering both require at least one ....

- **A.** Input attribute
- **B.** Output attribute
- **C. Hidden attribute**
- **D.** Categorical attribute

Q32. .... is not a machine learning algorithm.

- **A. SVG**
- **B.** SVM
- **C.** Random forest
- **D.** All of the above

Q33. Identify which is not machine learning disciplines?

- **A.** Physiscs
- **B.** Information theory
- **C. Nuero Statistics**
- **D.** None of the above

Q34. What is the full form of PAC?

- **A.** Probably Approx Cost
- **B. Probably Approximate Correct**
- **C.** Probability Approx Communication
- **D.** None of the above

Q35. Analysis of Machine Learning algorithm needs ....

- **A.** Statistical learning theory
- **B.** Computational learning theory
- **C. Both Statistical & Computational learning theory**
- **D.** None of the above

Q36. Choose the incorrect numerical functions in the various function representation of machine learning.

- **A. Case-based**
- **B.** Neural Network
- **C.** Linear regression
- **D.** All of true

Q37. What are successful applications of Machine Learning?

- **A.** Learning to recognize spoken words
- **B.** Learning to drive an autonomous vehicle
- **C.** Learning to classify new astronomical structures
- **D. All of the above**

Q38. What is called the application of machine learning methods to large databases?

- **A. Data mining**
- **B.** Internet of things
- **C.** Artificial intelligence
- **D.** None of the above

Q39. If machine learning model output involves target variable then that model is called as predictive model.

- **A. True**
- **B.** False

Q40. .... are the best machine learning method.

- **A.** Fast
- **B.** Accuracy
- **C.** Scalable
- **D. All of the above**

Q41. What is the output of training process in machine learning?

- **A.** Null
- **B.** Accuracy
- **C. Machine learning model**
- **D.** Machine learning algorithm

Q42. A model of language consists of the categories, does not include ....

- **A.** Language units
- **B. Structural units**
- **C.** System constraints
- **D.** Role structure of units

Q43. Regression discovers causal relationships.

- **A. True**
- **B.** False

Q44. .... is the approach of basic algorithm for decision tree induction.

- **A. Greedy**
- **B.** Top Down
- **C.** Procedural
- **D.** Step by Step

Q45. What is the way to ensemble multiple classifications or regression?

- **A.** Bagging
- **B.** Blending
- **C.** Boosting
- **D. Stacking**

Q46. What is the most common issue when using Machine Learning?

- **A. Poor Data Quality**
- **B.** Lack of skilled resources
- **C.** Inadequate Infrastructure
- **D.** None of the above

Q47. In Machine learning the module that must solve the given performance task is known as ....

- **A.** Critic
- **B.** Generalizer
- **C. Performance system**
- **D.** All of these

Q48. Which methods are used for the calibration in Supervised Learning?

- **A.** Platt Calibration
- **B.** Isotonic Regression
- **C. Both Platt Calibration & Isotonic Regression**
- **D.** None of the above

Q49. How many types are available in machine learning?

- **A.** 2
- **B. 3**
- **C.** 4
- **D.** 5

Q50. The Bayes rule can be used in ....

- **A.** Solving queries
- **B.** Increasing complexity
- **C.** Decreasing complexity
- **D. Answering probabilistic query**

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