1-real_time decisions, the game ai, learning tasks, skill acquisition, and robot navigation are applications of

a) survived

b) unsupervised

c) reinforcement learning

d) none of the above

2-what is the most significant phase in a genetic algorithm?

a) crossover

b) fitness function

c) mutation

d) all of the above

3-Among the following options identify the one which is not a type of learning

1) Semi-Supervised Learning

2) Supervised Learning

3) Reinforcement Learning 4) Unsupervised Learning

4-There must be equal-sized clusters in kmeans algorithm.

False

5-Which of the following is from the measures of the Central Tendency

Mean - Median - Mode - all of them ✓

Supervised learning is a machine learning technique, where you do not need to supervise the model

6-Deep Learning is the same as Unsupervised learning True - False ✓

7-Artificial intelligence is the process that allows a computer to learn and make decisions like humans

True

8-Among the following option identify the one which is not a type of learning :

a- semi unsupervised learning

b- supervised learning

c- Reinforcement learning

d- unsupervised learning

9-Point out the wrong statement.

a) k-means clustering is a method of vector quantization

b) k-means clustering aims to partition n observations into k clusters

c) k-nearest neighbor is same as k-means

d) none of the mentioned

10-PSO adapts the particles velocities, rather than their positions

True

11-Suppose you have a dataset with n records and you have just performed K-means with K=c if t is the number of iterations. What might be a

reasonable time complexity for the K-means algorithm.

1) O(n^2 c t)
2) O(n t c) ☑
3) O(log(t) c n)
4) O(c^n t)

12-the result of K-means algorithm depends on the initial random selection of cluster centers (true)

13-K-Means automatically adjusts the number of clusters.

False, the algorithms has to be initialized with a k value

14-Machine learning is a subset of which of the following.

- Artificial intelligence - Data learning- Deep Learning - None of the above

15-Which of the following machine learning techniques helps in detecting the outliers in data?

- Classification
- Clustering
- Anomaly detection
- All of the above

16-Genetic Algorithm is appropriate to solve constrained optimization problems.

True

17-Which of the following distance measure do we use in case of categorical variables in KNN?

1. Hamming Distance

2. Euclidean Distance

3. Manhattan Distance

A) 1

B) 2

C) 3

D) 1 and 2

18-Which of the following is NOT Supervised Learning? (SVM, Naïve Bayes, KMeans, Decision Tree)

19-Deep Learning is a subset of machine learning. (True)

20-Which of the following is required by K-means clustering?

a) defined distance metric

b) number of clusters

c) initial guess as to cluster centroids

d) all of the mentioned

21-both knn and k means are unsupervised machine learning (x)

22-Feature selection tries to eliminate features which are

(A) Rich (B) Redundant (C) Irrelevant (D) Relevant

23-k-NN algorithm does more computation on test time rather than train time.

TRUE

24-Which of the following is not a supervised learning?

A) PCA

B) Naive Bayesian

C) Linear Regression

D) Decision Tree Answer

25-k-NN algorithm does more computation on test time rather than train time.

TRUE

26-Which of the following are common classes of problems in machine learning?

Regression

Classification

Clustring All of the above. ✓

27-Clustering is supervised learning (false)

28-Is the supervised learning unlabeled

False

29-which algorithm we use particles on it

a)svm

b)knn

c)pso

d)kmeans

30-In knn k number can be even or odd (F)

31-Knn is …… algorithm

A. Lazy

B. Parametric

C. Unsupervised

D. Optimization

32-Which of the following is not type of learning?

Unsupervised Learning

Supervised Learning

Semi-unsupervised Learning

Reinforcement Learning

33-Which of the following is not a supervised learning?

A)Naive Bayesian

B)PCA

C)Linear Regression

D)Decision Tree Answer

34-Machine learning is a subset of which of the following.

A)Artificial intelligence

B)Deep learning

C)Data learning

D)None of the above

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

Ans:True

36-Nearest neighbors is a parametric method.(false)

That is, the method can be used even when the variables are categorical.

37-Which of the following option is true about k-NN algorithm?

A) It can be used for classification

B) It can be used for regression

C) It can be used in both classification and regression

We can also use k-NN for regression problems. In this case the prediction can be based on the mean or the median of the k-most similar instances.

38-From advantage of KNN : can calculate distance between categorical data (true)

39-k-means output is equal size clusters (false)

40-kNN algorithm does more computation on test time rather than train time. (TRUE)

41-Which of the following option is true about k-NN algorithm?

A) It can be used for classification

B) It can be used for regression

C) It can be used in both classification and regression

42-Mention general steps in classification.

A) training

B) test

C) validation

D) all of the above

43-Which of the following is an application of Artificial Intelligence?

a) It helps to exploit vulnerabilities to secure the firm

b) Language understanding and problem-solving (Text analytics and NLP)

c) Easy to create a website

d) It helps to deploy applications on the cloud

Explanation: Language understanding and problem-solving come under the NLP and Text Analysis area which involves text recognition and sentiment analysis of the text. NLP ML model is trained to mainly do the task which processes human language's speech or text. For example voice assistant.

44-In how many categories process of Artificial Intelligence is categorized?

a) categorized into 5 categories

b) processes are categorized based on the input provided

c) categorized into 3 categories

d) process is not categorized

Explanation: It is categorized into 3 steps Sensing, Reasoning, Acting

i) Sensing: Through the sensor taking in the data about the world

ii) Reasoning: Reasoning is thinking or processing the data sensed by the sensor.

iii) Action: On the basis of input and reasoning, acting is generating and controlling actions in the environment.

45-What is true about Machine Learning?

A. Machine Learning (ML) is that field of computer science

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

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

D. All of the above

46-Selecting the decision tree split (at each node as you move down the tree) that maximizes information gain will guarantee an optimal decision tree.

(b) FALSE

47-Which of the following options is true about KNN algorithm?

a) can be used for classification

b) can be used for regression

c) can be used for both

48-K-means is not deterministic and it also consists of number of iterations true

49-Classification done in Euclidean distance in knn algorithm is comparing feature vectors of

a) Same point

b) Within point

c) Different point

d) None of these

50-KNN algorithm does more computation on test time rather than train time (TRUE)

51-In what type of learning labelled training data is used:

A. unsupervised learning

B. supervised learning

C. reinforcement learning

D. active learning

52-Data used to build a data mining model:

training data ("TRUE")

53-An advantage of simulation is that it allows model builders to solve problems with minimal interaction with users or managers. State true or false.

:False

54-Which of the following statement is true about k-NN algorithm?

1. k-NN performs much better if all of the data have the same scale

2. k-NN works well with a small number of input variables (p), but struggles when the number of inputs is very large

3. k-NN makes no assumptions about the functional form of the problem being solved

A) 1 and 2

B) 1 and 3

C) Only 1

D) All of the above

55-among the following option identify the one which is not a type of learning

a)semi unsupervised learning

b)supervised learning

c)reinforcement learning

d)unsupervised learning

56-identify the kind of learning algorithm for facial identities for facial expression

a)prediction

b) recognition patterns

c)recognizing anomalies

d)generating patterns

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

Regression

Classification

Decision Tree

Random Forest

58-What is the disadvantage of decision trees?

Factor analysis

Decision trees are robust to outliers

Decision trees are prone to be overfit

All of the above

59-How can you handle missing or corrupted data in a dataset?

Drop missing rows or columns

Assign a unique category to missing values

Replace missing values with mean/median/mode

All of the above

60-Machine learning algorithms build a model based on sample data, known as

Training Data

Transfer Data

Data Training

None of the above

61-Machine learning is a subset of

Deep Learning

Artificial Intelligence

Data Learining

None of the above

62- What is the most significant phase in a genetic algorithm?

Selection

Mutation

Crossover

Fitness function

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

Deep Learning

Machine Learning

Artificial Intelligence

None of the above

64- Common classes of problems in machine learning is

Clustering

Regression

Classification

All of the above

65- Regression trees are often used to model which data?

Linear

Nonlinear

Categorical

None of the above

66-A project team split their data into training and test. Using their training data and cross-validation, they chose the best parameter setting. They built a model using these parameters and their training data, and then report their error on test data. TRUE

67- Reducing the number of leaves in a decision tree will increase the Bias and decrease the Variance True

68. Increase the number of training examples in logistic regression will eventually decrease the Bias and increase the Variance False (No change occurs in Bias and Variance will decrease)

69. In a machine learning algorithm, if the number of parameters grow with the amount of training data, then the model is non-parametric. true

70. Suppose your model is demonstrating high bias across different training sets. Increase the model complexity would reduce the bias. true