1. In game searching, which algorithm is equal to minimax search which eliminate the branches that have no influence on the final decision.

a. Depth-first search

b. Breadth first search

c. Alpha-beta pruning

d. None.

2. if Alpha-Beat pruning is used to design a game, then what values are assigned to alpha and beta.

a. Alpha= max

b. beta = min

c. Beat = max

d. Alpha= max and Beta = min

3. If Alpha –Beta pruning used in game designing, then alpha-beta search values updated at.

a. initial state

b. At the end

c. Along the path of search

d. None.

4. What is the time complexity of Alpha-Beta Pruning?

a. $O(b^{d/2})$

b. $O(b^{d})$

c. $O(bd^{})$

d. None

5. In learning agent, performance element takes external actions through the instructions of

a. sensors

b. critic

c. knowledge

d. None of these

6. In learning agent performance of the Agent is improve by

a. performance element

b. learning element

c. critic

d. ALL

7. Machine Learning is the subfield of Artificial Intelligence consists learning algorithms that

a. improve their performance

b. at executing some task

c. over time with experience

d. ALL

8. In Machine Learning, at preprocessing stage, how missing or corrupted data can be handled

a. Drop missing rows or columns

b. Replace missing values with mean/median/mode

c. Assign a unique category to missing values

d. All of the above

9.  What is the purpose of performing cross-validation?

a. To assess the predictive performance of the models

b. To judge how the trained model performs outside the sample on test data

c. both 1 and 2

10. **Given below are three figures (A,B,C). Which of the following option is correct for these images?**



A) (A) is tanh, (B) is ReLU and (C) is SIGMOID activation functions.

B) (A) is SIGMOID, (B) is ReLU and (C) is tanh activation functions.

C) (A) is ReLU, (B) is tanh and (C) is SIGMOID activation functions.

D) (A)is tanh, (B) is SIGMOID and (C) is ReLU activation functions.

11. Suppose you are using activation function X in hidden layers of neural network. At a particular neuron for any given input, you get the output as “-0.0001”. Which of the following activation function could X represent?

A) ReLU

B) tanh

C) SIGMOID

D) None of these

12. Imagine you are working on a binary classification problem. You trained a model on training dataset and get the below confusion matrix on validation dataset.



Based on the above confusion matrix, choose which option(s) below will give you correct predictions?

1. Accuracy is ~0.91
2. Misclassification rate is ~ 0.91
3. False positive rate is ~0.95
4. True positive rate is ~0.95

A) 1 and 3

B) 2 and 4

C) 1 and 4

D) 2 and 3

13. In the game tree as shown in figure, apply Minimax algorithm and compute the values of node A,B &C:

a. A= -3, B= 4, C= 4

b. A= 4, B= 4, C= -3

c. A= 4, B= -3, C= 6

d. A= 6, B= -3, C= 4

14. If alpha-beta pruning is applied in designing a game tree, then how effectiveness can be increased on

a. depends on nodes

b. depends on the order in which they are executed

b. ALL

d. None.

15. In game tree the feasibility is calculated through

a. evaluation function

b. transposition

c. alpha-beta pruning

d. ALL

16. In biological nucleus holds genetic information and this genetic information stored in

a. chromosomes

b. DNA

c. nucleus

d. chromatin

17. Genetic value for a particular chromosomes is known as

a. Gene

b. Allele

c. genotype

d. both a and b

18. The space in which the solutions are represented in such a way that can be easily understood and manipulated using a computing system

a. phenotype space

b. population

c. genotype space

d. none

19. Fuzzy logic is the form of
a) Two-valued logic
b) Crisp set logic
c) Multi-valued logic
d) Three- valued logic

20. The truth values of classical logic is \_\_\_\_\_\_\_\_\_\_\_\_ and that of fuzzy logic is \_\_\_\_\_\_\_\_\_\_
a) Either 0 or 1, between 0 & 1
b) Between 0 & 1, either 0 or 1
c) Between 0 & 1, between 0 & 1
d) Either 0 or 1, either 0 or 1