

Unit II --SCOA MCQ on Fuzzy Logic

1. What is Fuzzy Logic?

- A. a method of reasoning that resembles human reasoning
- B. a method of question that resembles human answer
- C. a method of giving answer that resembles human answer.
- D. None of the Above

View Answer

Ans : A

Explanation: Fuzzy Logic (FL) is a method of reasoning that resembles human reasoning.

2. How many output Fuzzy Logic produce?

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

View Answer

Ans : A

Explanation: The conventional logic block that a computer can understand takes precise input and produces a definite output as TRUE or FALSE, which is equivalent to human's YES or NO.

3. Fuzzy Logic can be implemented in?

- A. Hardware
- B. software
- C. Both A and B
- D. None of the Above

View Answer

Ans : C

Explanation: It can be implemented in hardware, software, or a combination of both.

4. The truth values of traditional set theory is _____ and that of fuzzy set 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

View Answer

Ans : A

Explanation: Refer the definition of Fuzzy set and Crisp set.

5. How many main parts are there in Fuzzy Logic Systems Architecture?

- A. 3
- B. 4
- C. 5
- D. 6

View Answer

Ans : B

Explanation: It has four main parts.

6. Each element of X is mapped to a value between 0 and 1. It is called _____.

- A. membership value
- B. degree of membership
- C. membership value
- D. Both A and B

View Answer

Ans : D

Explanation: each element of X is mapped to a value between 0 and 1. It is called membership value or degree of membership.

7. How many level of fuzzifier is there?

- A. 4
- B. 5
- C. 6
- D. 7

[View Answer](#)

Ans : B

Explanation: There is 5 level to fuzzifier

8. Fuzzy Set theory defines fuzzy operators. Choose the fuzzy operators from the following.

- A. AND
- B. OR
- C. NOT
- D. All of the above

[View Answer](#)

Ans : D

Explanation: The AND, OR, and NOT operators of Boolean logic exist in fuzzy logic, usually defined as the minimum, maximum, and complement;

9. The room temperature is hot. Here the hot (use of linguistic variable is used) can be represented by _____

- A. Fuzzy Set
- B. Crisp Set
- C. Both A and B
- D. None of the Above

[View Answer](#)

Ans : A

Explanation: Fuzzy logic deals with linguistic variables.

10. What action to take when IF (temperature=Warm) AND (target=Warm) THEN?

- A. Heat
- B. No_Change
- C. Cool
- D. None of the Above

View Answer

Ans : B

Explanation: IF (temperature=Warm) AND (target=Warm) THEN No_change

11. What is the form of Fuzzy logic?

- A. Two-valued logic
- B. Crisp set logic
- C. Many-valued logic
- D. Binary set logic

View Answer

Ans : C

Explanation: With fuzzy logic set membership is defined by certain value. Hence it could have many values to be in the set.

12. Who was the inventor of Fuzzy Logic?

- A. doug cutting
- B. John McCarthy
- C. Lotfi Zadeh
- D. John cutting

View Answer

Ans : C

Explanation: The inventor of fuzzy logic, Lotfi Zadeh

13. Traditional set theory is also known as Crisp Set theory.

- A. TRUE
- B. FALSE
- C. Traditional set theory is not there.
- D. None of the Above

View Answer

Ans : A

Explanation: Traditional set theory set membership is fixed or exact either the member is in the set or not. There is only two crisp values true or false.

14. Fuzzy logic is useful for both commercial and practical purposes.

- A. True, False
- B. True, True
- C. False, False
- D. False, True

View Answer

Ans : B

Explanation: Fuzzy logic is useful for commercial and practical purposes.

15. Which of the following is not a part of fuzzy logic Systems Architecture?

- A. Fuzzification Module
- B. Knowledge Base
- C. Defuzzification Module
- D. Interference base

View Answer

Ans : D

Explanation: Interference base is not a part of fuzzy logic Systems Architecture.

16. In Membership function graph x-axis represent?

- A. universe of discourse.
- B. degrees of membership in the $[0, 1]$ interval
- C. degrees of discourse
- D. Universe of membership

View Answer

Ans : A

Explanation: x axis represents the universe of discourse.

17. Fuzzy logic is usually represented as _____

- A. IF-THEN-ELSE rules
- B. IF-THEN rules
- C. Both IF-THEN-ELSE rules & IF-THEN rules
- D. None of the Above

View Answer

Ans : C

Explanation: Fuzzy logic is usually represented as Both IF-THEN-ELSE rules & IF-THEN rules

18. The values of the set membership is represented by _____

- A. Discrete Set
- B. Degree of truth
- C. Probabilities
- D. Both Degree of truth & Probabilities

View Answer

Ans : D

Explanation: Both Probabilities and degree of truth ranges between 0 to 1.

19. What action to take when IF temperature=(Hot OR Very_Hot) AND target=Warm THEN?

- A. Heat
- B. No_Change
- C. Cool
- D. None of the Above

View Answer

Ans : C

Explanation: IF temperature=(Hot OR Very_Hot) AND target=Warm THEN Cool

20. Which of the following is not Application Areas of Fuzzy Logic?

- A. Automotive Systems
- B. Domestic Goods
- C. Domestic Control
- D. Environment Control

View Answer

Ans : C

Explanation: Domestic Control is not Application Areas of Fuzzy Logic

Membership Functions

21. Membership function defines the fuzziness in a fuzzy set irrespective of the elements in the set, which are discrete or continuous.

A.True

B.False

22. The membership functions are generally represented in

A.Tabular Form

B.Graphical Form

C.Mathematical Form

D.Logical Form

23. Membership function can be thought of as a technique to solve empirical problems on the basis of

A. Knowledge

B. Example

c. Learning

D. Experince

24. Three main basic features involved in characterizing membership function are

A.Intution, Inference, Rank Ordering

B.Fuzzy Algorithm, Neural network, Genetic Algorithm

C.Core, Support , Boundary

D.Weighted Average, center of Sums, Median

25. The region of universe that is characterized by complete membership in the set called

A.Core

B.Support

C.Boundary

D.Fuzzy

26. A fuzzy set whose membership function has at least one element x in the universe whose membership value is unity is called

A.sub normal fuzzy sets

B.normal fuzzy set

- C.convex fuzzy set
- D.concave fuzzy set

27. In a Fuzzy set a prototypical element has a value

- A.1
- B.0
- C.infinite
- D.Not defined

28. A fuzzy set wherein no membership function has its value equal to 1 is called

- A.normal fuzzy set
- B.Subnormal fuzzy set.
- C.convex fuzzy set
- D.concave fuzzy set

29. A fuzzy set has a membership function whose membership values are strictly monotonically increasing or strictly monotonically decreasing or strictly monotonically increasing than strictly monotonically decreasing with increasing values for elements in the universe

- A.convex fuzzy set
- B.concave fuzzy set
- C.Non concave Fuzzy set
- D.Non Convex Fuzzy set

30 .The membership values of the membership function are nor strictly monotonically increasing or decreasing or strictly monoronically increasing than decreasing.

- A.**Convex Fuzzy Set
- B.**Non convex fuzzy set
- C.**Normal Fuzzy set
- D.**Sub normal fuzzy set

31. The crossover points of a membership function are defined as the elements in the universe for which a particular fuzzy set has values equal to

- A.**infinite
- B.**1
- C.**0
- D.**0.5

32. Fuzzy Computing

- A.**doesnt deal with 2 valued logic
- B.**mimics human behaviour
- C.**deals with information which is vague, imprecise, uncertain, ambiguous, inexact, or probabilistic
- D.**All of the above