Artificial Intelligence Fuzzy Logic Interview Questions And Answers Guide.

Artificial Intelligence Fuzzy Logic Job Interview Preparation Guide.

Question # 1

This set of Artificial Intelligence MCQs focuses on "Fuzzy Logic - 1".
1. Fuzzy logic is a form of
a) Two-valued logic
b) Crisp set logic
c) Many-valued logic
d) Binary set logic

Answer:-

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

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Question # 2

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

Answer:-

a) Either 0 or 1, between 0 & 1
Explanation: Refer the definition of Fuzzy set and Crisp set.

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Question # 3

Fuzzy logic is extension of Crisp set with an extension of handling the concept of Partial Truth.
a) True
b) False

Answer:-

a) True

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Question # 4

How many types of random variables are available?
a) 1
b) 2
c) 3
d) 4

Answer:-

c) 3
Explanation: The three types of random variables are Boolean, discrete and continuous.

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Question # 5

The room temperature is hot. Here the hot (use of linguistic variable is used) can be represented by _____ .
a) Fuzzy Set
b) Crisp Set

Answer:-

a) Fuzzy Set
Explanation: Fuzzy logic deals with linguistic variables.

Question # 6

The values of the set membership is represented by
a) Discrete Set
b) Degree of truth
c) Probabilities
d) Both b & c

Answer:-

b) Degree of truth
Explanation: Both Probabilities and degree of truth ranges between 0 - 1.

Question # 7

What is meant by probability density function?
a) Probability distributions
b) Continuous variable
c) Discrete variable
d) Probability distributions for Continuous variables

Answer:-

d) Probability distributions for Continuous variables

Question # 8

Japanese were the first to utilize fuzzy logic practically on high-speed trains in Sendai.
a) True
b) False

Answer:-

a) True

Question # 9

Which of the following is used for probability theory sentences?
a) Conditional logic
b) Logic
c) Extension of propositional logic
d) None of the mentioned

Answer:-

c) Extension of propositional logic
Explanation: The version of probability theory we present uses an extension of propositional logic for its sentences.

Question # 10

Fuzzy Set theory defines fuzzy operators. Choose the fuzzy operators from the following.
a) AND
b) OR
c) NOT
d) EX-OR

Answer:-

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

Question # 11

Where does the Bayes rule can be used?
a) Solving queries
b) Increasing complexity
c) Decreasing complexity
d) Answering probabilistic query

Answer:-

d) Answering probabilistic query
Explanation: Bayes rule can be used to answer the probabilistic queries conditioned on one piece of evidence.

Question # 12

There are also other operators, more linguistic in nature, called _____ that can be applied to fuzzy set theory.
a) Hedges
b) Lingual Variable
c) Fuzz Variable
d) None of the mentioned

Answer:-

a) Hedges

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Question # 13

Fuzzy logic is usually represented as
a) IF-THEN-ELSE rules
b) IF-THEN rules
c) Both a & b
d) None of the mentioned

Answer:-

b) IF-THEN rules
Explanation: Fuzzy set theory defines fuzzy operators on fuzzy sets. The problem in applying this is that the appropriate fuzzy operator may not be known. For this reason, fuzzy logic usually uses IF-THEN rules, or constructs that are equivalent, such as fuzzy associative matrices.
Rules are usually expressed in the form:
IF variable IS property THEN action

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Question # 14

What does the Bayesian network provides?
a) Complete description of the domain
b) Partial description of the domain
c) Complete description of the problem
d) None of the mentioned

Answer:-

a) Complete description of the domain
Explanation: A Bayesian network provides a complete description of the domain

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Question # 15

_____ is/are the way/s to represent uncertainty.
a) Fuzzy Logic
b) Probability
c) Entropy
d) All of the mentioned

Answer:-

d) All of the mentioned
Explanation: Entropy is amount of uncertainty involved in data. Represented by H(data).

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Question # 16

Like relational databases there does exists fuzzy relational databases.
a) True
b) False

Answer:-

a) True
Explanation: Once fuzzy relations are defined, it is possible to develop fuzzy relational databases. The first fuzzy relational database, FRDB, appeared in Maria Zemankova's dissertation.

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Question # 17

Which condition is used to influence a variable directly by all the others?
a) Partially connected
b) Fully connected
c) Local connected
d) None of the mentioned

Answer:-

b) Fully connected

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Question # 18

_____ are algorithms that learn from their more complex environments (hence eco) to generalize, approximate and simplify solution logic.

a) Fuzzy Relational DB
b) Ecorithms
c) Fuzzy Set
d) None of the mentioned

Answer:-

c) Fuzzy Set
Explanation: Local structure is usually associated with linear rather than exponential growth in complexity.

Question # 19

What is the consequence between a node and its predecessors while creating Bayesian network?
a) Conditionally dependent
b) Dependent
c) Conditionally independent
d) Both a & b

Answer:-

c) Conditionally independent
Explanation: The semantics to derive a method for constructing Bayesian networks were led to the consequence that a node can be conditionally independent of its predecessors.

Question # 20

Traditional set theory is also known as Crisp Set theory.
a) True
b) False

Answer:-

a) True
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. In case of fuzzy logic there are many values. With weight say x the member is in the set.

Question # 21

What is Artificial Intelligence Fuzzy Logic?

Answer:-

Fuzzy logic is a form of many-valued logic; it deals with reasoning that is approximate rather than fixed and exact. In contrast with traditional logic theory, where binary sets have two-valued logic: true or false, fuzzy logic variables may have a truth value that ranges in degree between 0 and 1. Fuzzy logic has been extended to handle the concept of partial truth, where the truth value may range between completely true and completely false. Furthermore, when linguistic variables are used, these degrees may be managed by specific functions.

Question # 22

Where do we implement Artificial Intelligence Fuzzy Logic?

Answer:-

It's a multi valued logic.
In Boolean logic is two valued logic,where we will say
an element belongs to a set with membership 1, if it
doesn't belongs to the set then it's membership is 0.
Where as in fuzzy sets we say degree of membership
between 0 and 1.
For example,we have a set of men age.
In Boolean logic a person X aged 51 we will say x is old
and a person Y aged 49 we will say young.
In fuzzy logic we say X belongs to the old men set with a
membership of 0.51 and to young men set with a membership of
0.49
So Boolean logic is our Black&White TV where as Fuzzy logic
is Color TV Fuzzy logic is a Discrete spectrum of values.

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