Q.1The 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
Explanation: Refer the definition of Fuzzy set and Crisp set.

Q.2 _____ 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
Explanation: Local structure is usually associated with linear rather than exponential growth in complexity.

Q.3 What is the form of Fuzzy logic?
a) Two-valued logic
b) Crisp set logic
c) Many-valued logic
d) Binary set logic

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

Q.4 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
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.

Q.5 Where does the Bayes rule can be used?

a) Solving queries
b) Increasing complexity
c) Decreasing complexity
d) Answering probabilistic query

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

Q.6 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
Explanation: A Bayesian network provides a complete description of the domain.

Q.7 Which of the following is used for blocking the phage-encoded recombination?
a) Mutation in D gene
b) Mutation in E gene
c) Red mutation
d) Mutation in S gene

Answer: c
Explanation: Red mutation is used for blocking the phage-encoded recombination. It ensures that no recombination or rearrangement takes place while carrying out packaging in vitro.

Q.8 How are input layer units connected to second layer in competitive learning networks?
a) feedforward manner
b) feedback manner
c) feedforward and feedback
d) feedforward or feedback

Answer: a
Explanation: The output of input layer is given to second layer with adaptive feedforward weights.

Q.9 Which layer has feedback weights in competitive neural networks?
a) input layer
b) second layer
c) both input and second layer
d) none of the mentioned

Answer: b
Explanation: Second layer has weights which gives feedback to the layer itself.

Q.10. The update in weight vector in basic competitive learning can be represented by?
a) $w(t + 1) = w(t) + del.w(t)$
b) $w(t + 1) = w(t)$
c) $w(t + 1) = w(t) - del.w(t)$
d) none of the mentioned

Answer: a
Explanation: The update in weight vector in basic competitive learning can be represented by $w(t + 1) = w(t) + del.w(t)$.

Q.11. What is an instar?
a) receives inputs from all others
b) gives output to all others
c) may receive or give input or output to others
d) none of the mentioned

Answer: a
Explanation: An instar receives inputs from all other input units.

Q.12. What is the advantage of basis function over mutilayer feedforward neural networks?
a) training of basis function is faster than MLFFNN
b) training of basis function is slower than MLFFNN
c) storing in basis function is faster than MLFFNN
d) none of the mentioned

Answer: a
Explanation: The main advantage of basis function is that the training of basis function is faster than MLFFNN.

Q.13 Pattern recall takes more time for?
a) MLFNN
b) Basis function
c) Equal for both MLFNN and basis function
d) None of the mentioned

Answer: b
Explanation: The first layer of basis function involves computations.

Q.14 What does PNN do?
a) function approximation task
b) pattern classification task
c) function approximation and pattern classification task
d) none of the mentioned

Answer: b
Explanation: PNN stand for Probabilistic Neural Networks. a fuzzy set

Q.15. What consist of boltzman machine?
a) fully connected network with both hidden and visible units
b) asynchronous operation
c) stochastic update
d) all of the mentioned

Answer: d
Explanation: Boltzman machine consist of fully connected network with both hidden and visible units operating asynchronously with stochastic update.

.Q.16. By using which method, boltzman machine reduces effect of additional stable states?
a) no such method exist
b) simulated annealing
c) hopfield reduction
d) none of the mentioned

Answer: b
Explanation: boltzman machine uses simulated annealing to reduce the effect of additional stable states.

Q.17 For what purpose Feedback neural networks are primarily used?
a) classification
b) feature mapping
c) pattern mapping
d) none of the mentioned

Answer: d
Explanation: Feedback neural networks are primarily used for pattern storage.

Q.17 For practical implementation what type of approximation is used on boltzman law?
a) max field approximation
b) min field approximation
c) hopfield approximation
d) none of the mentioned

Answer: d
Explanation: For practical implementation mean field approximation is used.

Q.18 What happens when we use mean field approximation with boltzman learning?
a) it slows down
b) it get speeded up

c) nothing happens
d) may speedup or speed down

Answer: b
Explanation: Boltzman learning get speeded up using mean field approximation.

Q.19. What is hebbian learning?
a) synaptic strength is proportional to correlation between firing of post & presynaptic neuron
b) synaptic strength is proportional to correlation between firing of postsynaptic neuron only
c) synaptic strength is proportional to correlation between firing of presynaptic neuron only
d) none of the mentioned

Answer: a
Explanation: Folllows from basic definition of hebbian learning

Q.20. Boltzman learning is a?
a) fast process
b) steady process
c) slow process
d) none of the mentioned

Answer: c
Explanation: Boltzman learning is a slow process.

Q.21. Back propagation is a learning technique that adjusts weights in the neural network by propagating weight changes.

A. Forward from source to sink
B. Backward from sink to source
C. Forward from source to hidden nodes
D. Backward from sink to hidden nodes

Answer: (b)
Backward from sink to source

Q.22. Slots and facets are used in
a.semantic network
b.frames
c.rules
d.all of these

answer: (b) frames

Q.23.Match the following:
(1)OLAP   (a)Regression

(2)OLTP   (b) Data Warehouse
(3)Decision Tree   (c)RDBMS
(4)Neural Network   (d)Classification

(A)1-b, 2-c, 3-a, 4-d
(B)1-b, 2-c, 3-d, 4-a
(C)1-c, 2-b, 3-a, 4-d
(D)1-c, 2-b, 3-d, 4-a

answer(B); 1-b, 2-c, 3-d, 4-a

24. What is the Fuzzy Approximation Theorem(FAT) ?
  a) A fuzzy system can model any continuous system
  b) The conversion of fuzzy logic to probability.
  c) A continuous system can model any fuzzy system.
  d) Fuzzy patches covering a series of fuzzy rules.

Answer: a

25. How is Fuzzy Logic different from conventional control methods?
  a) IF and THEN Approach
  b) FOR Approach
  c) WHILE Approach
  d) DO Approach

Answer: a

26. Genetic Algorithm are a part of
  a) Evolutionary Computing
  b) inspired by Darwin's theory about evolution - "survival of the fittest"
  c) are adaptive heuristic search algorithm based on the evolutionary ideas of natural
     selection and genetics
  d) All of the above

Answer: d

27. Boltzman learning is a?
  a) fast process
  b) steady process
  c) slow process
  d) none of the mentioned

Answer: c