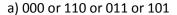
# **Neural Network**

# **Multiple Choice Questions and Answers:-**

1. A 3-input neuron is trained to output a zero when the input is 110 and a one when the input is 111. After generalization, the output will be zero when and only when the input is:



b) 010 or 100 or 110 or 101

c) 000 or 010 or 110 or 100

d) 100 or 111 or 101 or 001

Answer: c

Explanation: The truth table before generalization is:

**Inputs Output** 

000\$

001\$

010\$

011\$

100\$

101\$

1100

111

where \$ represents don't know cases and the output is random.

After generalization, the truth table becomes:

**Inputs Output** 

0000

# 2. A perceptron is:

- a) a single layer feed-forward neural network with pre-processing
- b) an auto-associative neural network
- c) a double layer auto-associative neural network
- d) a neural network that contains feedback

# Answer: a

Explanation: The perceptron is a single layer feed-forward neural network. It is not an auto-associative network because it has no feedback and is not a multiple layer neural network because the preprocessing stage is not made of neurons.

- 3. An auto-associative network is:
- a) a neural network that contains no loops

- b) a neural network that contains feedback
- c) a neural network that has only one loop
- d) a single layer feed-forward neural network with pre-processing

Answer: b

Explanation: An auto-associative network is equivalent to a neural network that contains feedback. The number of feedback paths(loops) does not have to be one.

4. A 4-input neuron has weights 1, 2, 3 and 4. The transfer function is linear with the constant of proportionality being equal to 2. The inputs are 4, 10, 5 and 20 respectively. The output will be:

- a) 238
- b) 76
- c) 119
- d) 123

Answer: a

Explanation: The output is found by multiplying the weights with their respective inputs, summing the results and multiplying with the transfer function. Therefore:

- 5. Which of the following is true?
- (i) On average, neural networks have higher computational rates than conventional computers.
- (ii) Neural networks learn by example.
- (iii) Neural networks mimic the way the human brain works.
- a) All of the mentioned are true

- b) (ii) and (iii) are true
- c) (i), (ii) and (iii) are true
- d) None of the mentioned

### Answer: a

Explanation: Neural networks have higher computational rates than conventional computers because a lot of the operation is done in parallel. That is not the case when the neural network is simulated on a computer. The idea behind neural nets is based on the way the human brain works. Neural nets cannot be programmed, they cam only learn by examples.

- 6. Which of the following is true for neural networks?
- (i) The training time depends on the size of the network.
- (ii) Neural networks can be simulated on a conventional computer.
- (iii) Artificial neurons are identical in operation to biological ones.
- a) All of the mentioned
- b) (ii) is true
- c) (i) and (ii) are true
- d) None of the mentioned

#### Answer: c

Explanation. The training time depends on the size of the network; the number of neuron is greater and therefore the number of possible 'states' is increased. Neural networks can be simulated on a conventional computer but the main advantage of neural networks – parallel execution – is lost. Artificial neurons are not identical in operation to the biological ones.

- 7. What are the advantages of neural networks over conventional computers?
- (i) They have the ability to learn by example

- (ii) They are more fault tolerant
- (iii) They are more suited for real time operation due to their high 'computational' rates
- a) (i) and (ii) are true
- b) (i) and (iii) are true
- c) Only (i)
- d) All of the mentioned

#### Answer: d

Explanation: Neural networks learn by example. They are more fault tolerant because they are always able to respond and small changes in input do not normally cause a change in output. Because of their parallel architecture, high computational rates are achieved.

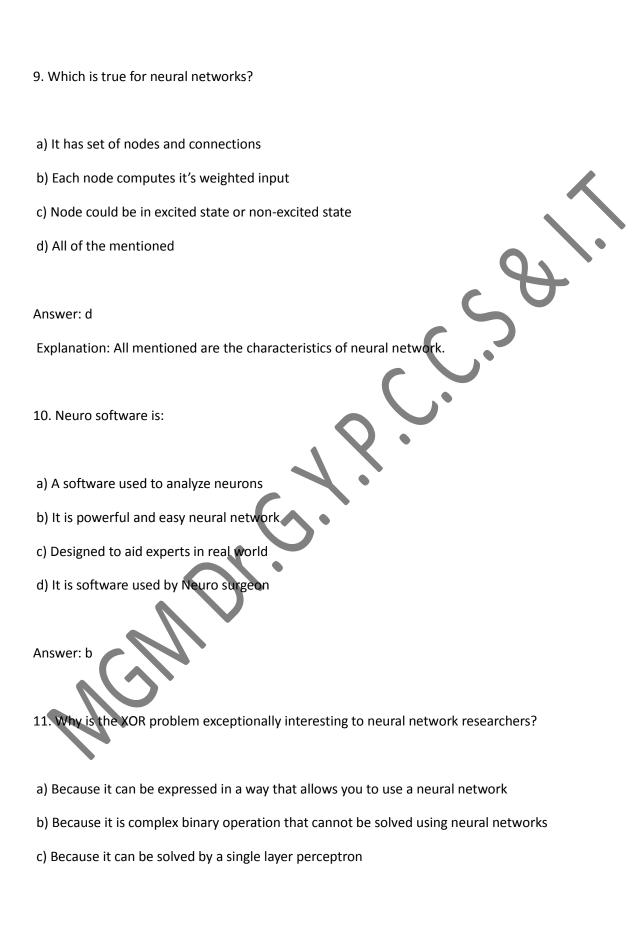
8. Which of the following is true?

Single layer associative neural networks do not have the ability to:

- (i) perform pattern recognition
- (ii) find the parity of a picture
- (iii)determine whether two or more shapes in a picture are connected or not
- a) (ii) and (iii) are true
- b) (ii) is true
- c) All of the mentioned
- d) None of the mentioned

## Answer: a

Explanation: Pattern recognition is what single layer neural networks are best at but they don't have the ability to find the parity of a picture or to determine whether two shapes are connected or not.



d) Because it is the simplest linearly inseparable problem that exists.

Answer: d

# 12. What is back propagation?

- a) It is another name given to the curvy function in the perceptron
- b) It is the transmission of error back through the network to adjust the inputs
- c) It is the transmission of error back through the network to allow weights to be adjusted so that the network can learn.
- d) None of the mentioned

Answer: c

Explanation: Back propagation is the transmission of error back through the network to allow weights to be adjusted so that the network can learn.

- 13. Why are linearly separable problems of interest of neural network researchers?
- a) Because they are the only class of problem that network can solve successfully
- b) Because they are the only class of problem that Perceptron can solve successfully
- c) Because they are the only mathematical functions that are continue
- d) Because they are the only mathematical functions you can draw

Answer: b

Explanation: Linearly separable problems of interest of neural network researchers because they are the only class of problem that Perceptron can solve successfully

14. Which of the following is not the promise of artificial neural network?
a) It can explain result
b) It can survive the failure of some nodes
c) It has inherent parallelism
d) It can handle noise
Answer: a
Explanation: The artificial Neural Network (ANN) cannot explain result.
15. Neural Networks are complex with many parameters.
a) Linear Functions
b) Nonlinear Functions
c) Discrete Functions
d) Exponential Functions
Answer: a
Explanation: Neural networks are complex linear functions with many parameters.
16. A perceptron adds up all the weighted inputs it receives, and if it exceeds a certain value, it outputs a 1, otherwise it just outputs a 0.
a) True
b) False
c) Sometimes – it can also output intermediate values as well

ď	Can't	say

Answer: a

Explanation: Yes the perceptron works like that.

- 17. The name for the function in question 16 is
- a) Step function
- b) Heaviside function
- c) Logistic function
- d) Perceptron function

# Answer: b

Explanation: Also known as the step function – so answer 1 is also right. It is a hard thresholding function, either on or off with no in-between.

- 18. Having multiple perceptrons can actually solve the XOR problem satisfactorily: this is because each perceptron can partition off a linear part of the space itself, and they can then combine their results.
- a) True this works always, and these multiple perceptrons learn to classify even complex problems.
- b) False perceptrons are mathematically incapable of solving linearly inseparable functions, no matter what you do
- c) True perceptrons can do this but are unable to learn to do it they have to be explicitly hand-coded
- d) False just having a single perceptron is enough

Answer: c

19. The network that involves backward links from output to the input and hidden layers is called as
·
a) Self organizing maps
b) Perceptrons
c) Recurrent neural network
d) Multi layered perceptron
Answer: c
Explanation: RNN (Recurrent neural network) topology involves backward links from output to the input and hidden layers.
20. Which of the following is an application of NN (Neural Network)?
a) Sales forecasting
b) Data validation
c) Risk management
d) All of the mentioned
Answer: d
Explanation: All mentioned options are applications of Neural Network.
21. Different learning method does not include:
a) Memorization
b) Analogy

c) Deduction
d) Introduction
Answer: d
Explanation: Different learning methods include memorization, analogy and deduction.
22. Following are the advantage/s of Decision Trees. Choose that apply.
a) Possible Scenarios can be added
b) For data including categorical variables with different number of levels, information gain in decision trees are biased in favor of those attributes with more levels
c) Worst, best and expected values can be determined for different scenarios
d) Use a white box model, If given result is provided by a model
Answer: a, c, d
23. Which of the following is the model used for learning?
a) Decision trees
b) Neural networks
c) Propositional and FOL rules d) All of the mentioned
Answer: d
Explanation: Decision tress, Neural networks, Propositional rules and FOL rules all are the models of learning.

24. Automated vehicle is an example of
a) Supervised learning
b) Unsupervised learning
c) Active learning
d) Reinforcement learning
Answer: a
Explanation: In automatic vehicle set of vision inputs and corresponding actions are available to learner hence it's an example of supervised learning.
25. Following is an example of active learning:
a) News recommendation system
b) Dust cleaning machine
c) Automated vehicle
d) None of the mentioned
Answer: a
Explanation: In active learning, not only the teacher is available but the learner can ask suitable perception action pair example to improve performance.
26. In which of the following learning the teacher returns reward and punishment to learner?
a) Active learning

b) Reinforcement learning
c) Supervised learning
d) Unsupervised learning
Answer: b
Explanation: Reinforcement learning is the type of learning in which teacher returns award or punishment to learner.
27. Decision trees are appropriate for the problems where:
a) Attributes are both numeric and nominal
b) Target function takes on a discrete number of values.
c) Data may have errors
d) All of the mentioned
Answer: d
Explanation: Decision trees can be used in all the conditions stated.
28. Which of the following is not an application of learning?
a) Data mining
b) www
c) Speech recognition
d) None of the mentioned
Answer: d

Explanation: All mentioned options are applications of learning.
29. Which of the following is the component of learning system?
a) Goal
b) Model
c) Learning rules
d) All of the mentioned
Answer: d
Explanation: Goal, model, learning rules and experience are the components of learning system.
30. Following is also called as exploratory learning:
a) Supervised learning
b) Active learning
c) Unsupervised learning
d) Reinforcement learning
Answert c
Explanation: In unsupervised learning no teacher is available hence it is also called unsupervised learning.
31. A is a decision support tool that uses a tree-like graph or model of decisions and their possible consequences, including chance event outcomes, resource costs, and utility.

a) Decision tree
b) Graphs
c) Trees
d) Neural Networks
Answer: a
Explanation: Refer the definition of Decision tree.
44
32. Decision Tree is a display of an algorithm.
a) True
b) False
Answer: a
33. Decision Tree is
a) Flow-Chart
b) Structure in which internal node represents test on an attribute, each branch represents outcome of
test and each leaf node represents class label
c) Both a) & b)
d) None of the mentioned
Answer: c
Explanation: Refer the definition of Decision tree.

34. Decision Trees can be used for Classification Tasks.
a) True
b) False
Answer: a
35. How many types of learning are available in machine learning?
a) 1
b) 2
c) 3
d) 4
Answer: c
Explanation: The three types of machine learning are supervised, unsupervised and reinforcement.
36. Choose from the following that are Decision Tree nodes
a) Decision Nodes
b) Weighted Nodes
c) Chance Nodes
d) End Nodes
Answer: a, c, d

37. Decision Nodes are represented by,
a) Disks
b) Squares
c) Circles
d) Triangles
Answer: b
38. Chance Nodes are represented by,
a) Disks
b) Squares
c) Circles
d) Triangles
Answer: c
39. End Nodes are represented by,
a) Disks
b) Squares
c) Circles
d) Triangles

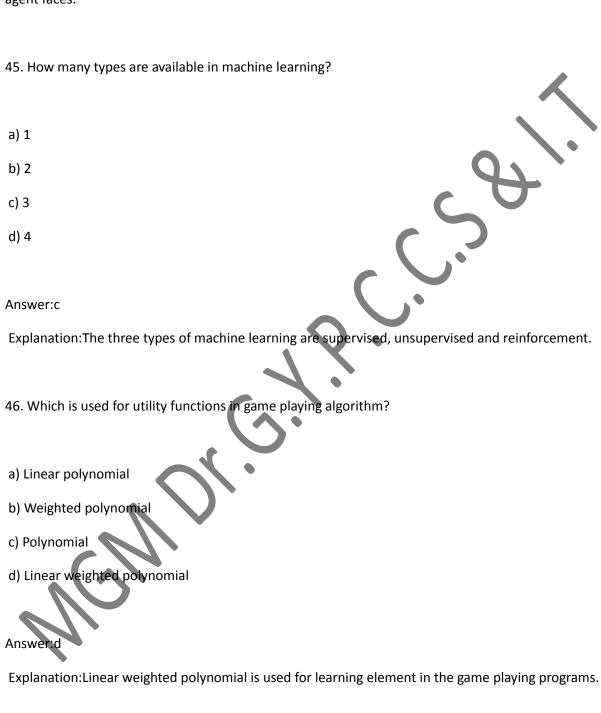
Answer: d
40. How the decision tree reaches its decision?
a) Single test
b) Two test
c) Sequence of test
d) No test
Answer: c
Explanation: A decision tree reaches its decision by performing a sequence of tests.
41. What will take place as the agent observes its interactions with the world?
a) Learning
b) Hearing
c) Perceiving
d) Speech
Answer:a
Explanation:Learning will take place as the agent observes its interactions with the world and its own decision making process.

42. Which modifies the performance element so that it makes better decision?

a) Performance element
b) Changing element
c) Learning element
d) None of the mentioned
Answer:c
Explanation:A learning element modifies the performance element so that it can make better decision.
43. How many things are concerned in design of a learning element?
a) 1
b) 2
c) 3
d) 4
Answer:c
Explanation: The three main issues are affected in design of a learning element are components,
feedback and representation.
44. What is used in determining the nature of the learning problem?
a) Environment
b) Feedback
c) Problem
d) All of the mentioned

#### Answer:b

Explanation: The type of feedback is used in determining the nature of the learning problem that the agent faces.



47. Which is used to choose among multiple consistent hypotheses?

a) Razor
b) Ockham razor
c) Learning element
d) None of the mentioned
Answer:b
Explanation:Ockham razor prefers the simplest hypothesis consistent with the data intuitively.
48. What will happen if the hypothesis space contains the true function?
a) Relizable
b) Unrelizable
c) Both a & b
d) None of the mentioned
Answer:b
Explanation: A learning problem is realizable if the hypothesis space contains the true function.
49. What takes input as an object described by a set of attributes?
a) Tree
b) Graph
c) Decision graph
d) Decision tree

### Answer:d

Explanation: Decision tree takes	input as an ob	ject described by a	a set of attributes	and returns a
decision.				

50. How the decision tree reaches its decision?

- a) Single test
- b) Two test
- c) Sequence of test
- d) No test

#### Answer:c

Explanation: A decision tree reaches its decision by performing a sequence of tests.

51. What will take place as the agent observes its interactions with the world?

- a) Learning
- b) Hearing
- c) Perceiving
- d) Speech

#### Answer: a

Explanation: Learning will take place as the agent observes its interactions with the world and its own decision making process.

52. Which modifies the performance element so that it makes better decision?

a) Performance element
b) Changing element
c) Learning element
d) None of the mentioned
Answer: c
Explanation: A learning element modifies the performance element so that it can make better decision.
53. How many things are concerned in design of a learning element?
a) 1
b) 2
c) 3
d) 4
Answer: c
Explanation: The three main issues are affected in design of a learning element are components,
feedback and representation.
54. What is used in determining the nature of the learning problem?
a) Environment
b) Feedback
c) Problem
d) All of the mentioned

Answer: b
Explanation: The type of feedback is used in determining the nature of the learning problem that the agent faces.
55. How many types are available in machine learning?
a) 1
b) 2
c) 3
d) 4
Answer: c
Explanation: The three types of machine learning are supervised, unsupervised and reinforcement.
56. Which is used for utility functions in game playing algorithm?
a) Linear polynomial
b) Weighted polynomial
c) Polynomial
d) Linear weighted polynomial
Answer: d
Explanation: Linear weighted polynomial is used for learning element in the game playing programs.

57. Which is used to choose among multiple consistent hypotheses?

Answer: d
Explanation: Decision tree takes input as an object described by a set of attributes and returns a decision.
60. How the decision tree reaches its decision?
a) Single test
b) Two test
c) Sequence of test
d) No test
Answer: c  Explanation: A decision tree reaches its decision by performing a sequence of tests.
61. Factors which affect the performance of learner system does not include
a) Representation scheme used
b) Training scenario
c) Type of feedback d) Good data structures
Answer: d
Explanation: Factors which affect the performance of learner system does not include good data

structures.

62. Different learning method does not include:
a) Memorization
b) Analogy
c) Deduction
d) Introduction
Answer: d
Explanation: Different learning methods include memorization, analogy and deduction.
63. Which of the following is the model used for learning?
a) Decision trees
b) Neural networks
c) Propositional and FOL rules
d) All of the mentioned
Answer: d
Explanation: Decision trees, Neural networks, Propositional rules and FOL rules all are the models of learning.
64. Automated vehicle is an example of
a) Supervised learning
b) Unsupervised learning
c) Active learning

d) Reinforcement learning
Answer: a
Explanation: In automatic vehicle set of vision inputs and corresponding actions are available to learner hence it's an example of supervised learning.
65. Following is an example of active learning:
a) News Recommender system
b) Dust cleaning machine
c) Automated vehicle
d) None of the mentioned
Answer: a
Explanation: In active learning, not only the teacher is available but the learner can ask suitable perception-action pair example to improve performance.
66. In which of the following learning the teacher returns reward and punishment to learner?
a) Active learning
b) Reinforcement learning
c) Supervised learning
d) Unsupervised learning
Answer: h

Explanation: Reinforcement learning is the type of learning in which teacher returns award or

punishment to learner.

67. Decision trees are appropriate for the problems where:
a) Attributes are both numeric and nominal
b) Target function takes on a discrete number of values.
c) Data may have errors
d) All of the mentioned
Answer: d
Explanation: Decision trees can be used in all the conditions stated.
68. Which of the following is not an application of learning?
a) Data mining
b) www
c) Speech recognition
d) None of the mentioned
Answer: d
Explanation: All mentioned options are applications of learning.
69. Which of the following is the component of learning system?
a) Goal
b) Model

c) Learning rules
d) All of the mentioned
Answer: d
Explanation: Goal, model, learning rules and experience are the components of learning system.
70. Following is also called as exploratory learning:
70. Following is also called as exploratory learning.
a) Supervised learning
b) Active learning
c) Unsupervised learning
d) Reinforcement learning
Answer: c
Explanation: In unsupervised learning no teacher is available hence it is also called unsupervised learning.
74 Which is not a desirable when a first sole to be and a stan 2
71. Which is not a desirable property of a logical rule-based system?
a) Locality
b) Attachment
c) Detachment
d) Truth-Functionality
e) Global attribute
Anguari h
Answer: b

Explanation: Locality: In logical systems, whenever we have a rule of the form A => B, we can conclude B, given evidence A, without worrying about any other rules. Detachment: Once a logical proof is found for a proposition B, the proposition can be used regardless of how it was derived .That is, it can be detachment from its justification. Truth-functionality: In logic, the truth of complex sentences can be computed from the truth of the components. However, there are no Attachment properties lies in a Rule-based system. Global attribute defines a particular problem space as user specific and changes according to user's plan to problem.

- 72. How is Fuzzy Logic different from conventional control methods?
- a) IF and THEN Approach
- b) FOR Approach
- c) WHILE Approach
- d) DO Approach
- e) Else If approach

## Answer: a

Explanation: FL incorporates a simple, rule-based IF X AND Y THEN Z approach to a solving control problem rather than attempting to model a system mathematically.

- 73. In an Unsupervised learning
- a) Specific output values are given
- b) Specific output values are not given
- c) No specific Inputs are given
- d) Both inputs and outputs are given
- e) Neither inputs nor outputs are given

#### Answer: b

Explanation: The problem of unsupervised learning involves learning patterns in the input when no specific output values are supplied. We cannot expect the specific output to test your result. Here the agent does not know what to do, as he is not aware of the fact what propose system will come out. We can say an ambiguous un-proposed situation.

74. Inductive learning involves finding a

- a) Consistent Hypothesis
- b) Inconsistent Hypothesis
- c) Regular Hypothesis
- d) Irregular Hypothesis
- e) Estimated Hypothesis

#### Answer: a

Explanation: Inductive learning involves finding a consistent hypothesis that agrees with examples. The difficulty of the task depends on the chosen representation.

75. Computational learning theory analyzes the sample complexity and computational complexity of

- a) Unsupervised Learning
- b) Inductive learning
- c) Forced based learning
- d) Weak learning
- e) Knowledge based learning

Answer: b

Explanation: Computational learning theory analyzes the sample complexity and computational complexity of inductive learning. There is a tradeoff between the expressiveness of the hypothesis language and the ease of learning.

76. If a hypothesis says it should be positive, but in fact, it is negative, we call it

- a) A consistent hypothesis
- b) A false negative hypothesis
- c) A false positive hypothesis
- d) A specialized hypothesis
- e) A true positive hypothesis

#### Answer: c

Explanation: Consistent hypothesis go with examples, If the hypothesis says it should be negative but infect it is positive, it is false negative. If a hypothesis says it should be positive, but in fact, it is negative, it is false positive. In a specialized hypothesis we need to have certain restrict or special conditions.

77. Neural Networks are complex ——————with many parameters.

- a) Linear Functions
- b) Nonlinear Functions
- c) Discrete Functions
- d) Exponential Functions
- e) Power Functions

#### Answer: b

Explanation: Neural networks parameters can be learned from noisy data and they have been used for

thousands of applications, so it varies from problem to problem and thus use nonlinear functions.

78. A perceptron is a ——————.

- a) Feed-forward neural network
- b) Back-propagation algorithm
- c) Back-tracking algorithm
- d) Feed Forward-backward algorithm
- e) Optimal algorithm with Dynamic programming

Answer: a

Explanation: A perceptron is a Feed-forward neural network with no hidden units that can be representing only linear separable functions. If the data are linearly separable, a simple weight updated rule can be used to fit the data exactly.

79. Which of the following statement is true?

- a) Not all formal languages are context-free
- b) All formal languages are Context free
- c) All formal languages are like natural language
- d) Natural languages are context-oriented free
- e) Natural language is formal

Answer: a

Explanation: Not all formal languages are context-free.

80. Which of the following statement is not true?
a) The union and concatenation of two context-free languages is context-free
b) The reverse of a context-free language is context-free, but the complement need not be
c) Every regular language is context-free because it can be described by a regular grammar
d) The intersection of a context-free language and a regular language is always context-free
e) The intersection two context-free languages is context-free
Answer: e
Explanation: The union and concatenation of two context-free languages is context-free; but intersection need not be.
81. The process by which you become aware of messages through your sense is called
a) Organization
b) Sensation
c) Interpretation-Evaluation
d) Perception
Answer: d
82. Susan is so beautiful; I bet she is smart too. This is an example of
a) The halo effect
b) The primary effect
c) A self-fulfilling prophecy

d) The recency effect
Answer: a
83 prevents you from seeing an individual as an individual rather than as a member of a group.
a) Cultural mores
b) Stereotypes
c) Schematas
d) Attributions
Answer: c
84. When you get fired from your job and you determine it is because your boss dislikes you, you are most likely exhibiting
a) Self-promotion
b) Fundamental attribution error
c) Over-attribution
d) Self-serving bias Answer: d
85. Mindless processing is
a) careful, critical thinking

b) inaccurate and faulty processing
c) information processing that relies heavily on familiar schemata
d) processing that focuses on unusual or novel events
Answer: c
86. What kind of perception is used in printing?
· **
a) Optical character recognition
b) Speech recognition
c) Perception
d) None of the mentioned
Answer: a
Explanation: In When perception is used in printing means, It is called as optical character recognition.
87. Selective retention occurs when
a) we process, store, and retrieve information that we have already selected, organized, and interpreted
b) we make choices to experience particular stimuli
c) we make choices to avoid particular stimuli
d) we focus on specific stimuli while ignoring other stimuli
Answer: a

competence?	ategies would NOT be effective at improving your communication
a) Recognize the people, obje	ects, and situations remain stable over time
b) Recognize that each persor	n's frame of perception is unique
c) Be active in perceiving	
d) Distinguish facts from infer	rence
Answer: a	584
89 is measur	red by the number of mental structures we use, how abstract they are, and
how elaborate they interact to	shape our perceptions.
a) intrapersonal structure	
b) perceptual set	
c) self-justification	
d) None of the above	
Answer: d	
90. A perception check is	
a) a cognitive bias that makes	s us listen only to information we already agree with.
b) a method teachers use to r	reward good listeners in the classroom.
c) any factor that gets in the v	way of good listening and decreases our ability to interpret correctly.
d) a response that allows you interpretation is correct.	to state your interpretation and ask your partner whether or not that

93. What is the study of light?

a) Biology	
b) Lightology	
c) Photometry	
d) All of the mentioned	
Answer: c	
94. How to increase the brightness of the pixel?	
a) Sound	
b) Amount of light	
c) Surface	
d) Waves	
Answer: b	
Explanation: The brightness of a pixel in the image is proportional to the amount of light directed	d
towards the camera.	
95. How many kinds of reflection are available in image perception?	
a) 1 b) 2	
c) 3	
d) 4	
Answer: b	

Explanation: There are two kinds of reflection. They are specular and diffuse reflection.
96. What is meant by predicting the value of a state variable from the past?
a) Specular reflection
b) Diffuse reflection
c) Gaussian filter
d) Smoothing
Answer: d
Explanation: Smoothing meant predicting the value of a state variable from the past and by given evidence and calculating the present and future.
97. How many types of image processing techniques are there in image perception?
a) 1
b) 2
c) 3
d) 4 Answer: c
Explanation: The three image processing techniques are smoothing, edge detection and image segmentation.
98. Which is meant by assuming any two neighboring that are both edge pixels with consistent orientation?

a) Canny edge detection
b) Smoothing
c) Segmentation
d) None of the mentioned
Answer: a
Explanation: Canny edge detection is assuming any two neighboring that are edge pixels with consistent orientation.
OTTERILIZATION.
99. What is the process of breaking an image into groups?
a) Edge detection
b) Smoothing
c) Segmentation
d) None of the mentioned
a) Notice of the mentioned
Answer: c
Explanation: Segmentation is the process of breaking an image into groups, based on the similarities of
the pixels.
100. How many types of 3-D image processing techniques are there in image perception?
21.2
a) 3
b) 4
c) 5
d) 6

## Answer: c

Explanation: The five types of 3-D image processing techniques are motion, binocular stereopsis, texture, shading and contour.

101. Which condition is used to cease the growth of forward chaining?

- a) Atomic sentences
- b) Complex sentences
- c) No further inference
- d) All of the mentioned

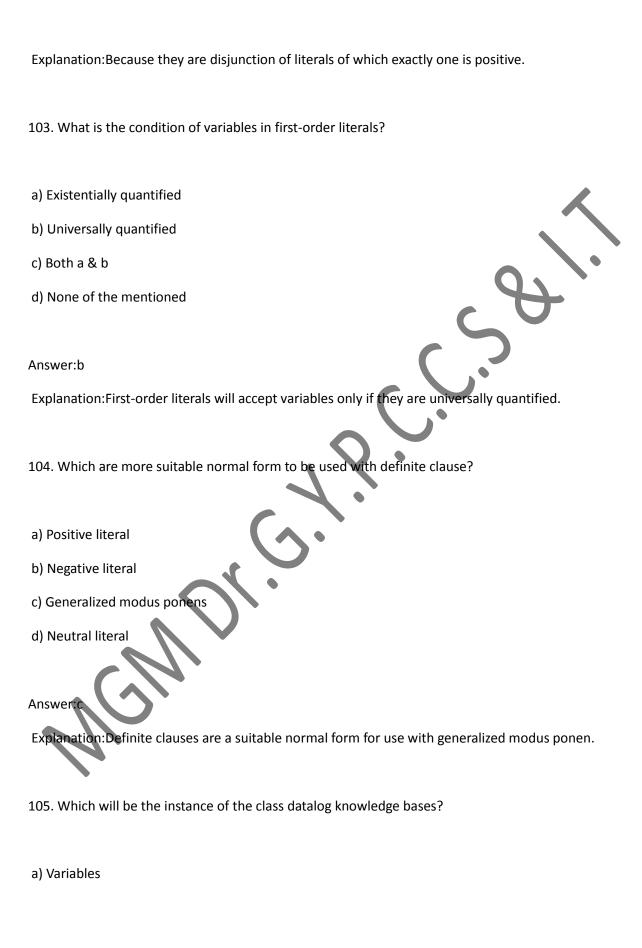
## Answer:c

Explanation: Forward chain can grow by adding new atomic sentences until no further inference is made.

102. Which closely resembles propositional definite clause?

- a) Resolution
- b) Inference
- c) Conjuction
- d) First-order definite clauses

Answer:d



b) No function symbols
c) First-order definite clauses
d) None of the mentioned
Answer:b
Explanation:If the knowledge base contains no function symbols means, it is an instance of the class datalog knowledge base.
106. Which knowledge base is called as fixed point?
a) First-order definite clause are similar to propositional forward chaining
b) First-order definite clause are mismatch to propositional forward chaining
c) Both a & b
d) None of the mentioned
Answer:a
Explanation: Fixed point reached by forward chaining with first-order definiteclause are similar to those
for propositional forward chaining.
107. How to eliminate the redundant rule matching attempts in the forward
chaining?
a) Decremental forward chaining
b) Incremental forward chaining
c) Data complexity
d) None of the mentioned

## Answer:b

Explanation: We can eliminate the redundant rule matching attempts in the forward chaining by using incremental forward chaining.

108. From where did the new fact inferred on new iteration is derived?

- a) Old fact
- b) Narrow fact
- c) New fact
- d) All of the mentioned

Answer:c

109. Which will solve the conjuncts of the rule so that the total cost is minimized?

- a) Constraint variable
- b) Conjunct ordering
- c) Data complexity
- d) All of the mentioned

## Answer:b

Explanation:Conjunct ordering will find an ordering to solve the conjuncts of the rule premise so that the total cost is minimized.

110. How many possible sources of complexity are there in forward chaining?
a) 1
b) 2
c) 3
d) 4
Answer:c
Explanation: The three possible sources of complexity are inner loop, algorithm rechecks every rule on
every iteration, algorithm might generate many facts irrelevant to the goal.
111. Which algorithm will work backward from the goal to solve a problem?
a) Forward chaining
b) Backward chaining
c) Hill-climb algorithm
d) None of the mentioned
Answer:b
Explanation:Backward chaining algorithm will work backward from the goal and it will chain the known
facts that support the proof.
112. Which is mainly used for automated reasoning?
a) Backward chaining
b) Forward chaining

c) Logic programming
d) Parallel programming
Answer:c
Explanation:Logic programming is mainly used to check the working process of the system.
113. What will backward chaining algorithm will return?
a) Additional statements
b) Substitutes matching the query
c) Logical statement
d) All of the mentioned
Answer:b  Explanation:It will contains the list of goals containing a single element and returns the set of all
substitutions satisfying the query.
114. How can be the goal is thought of in backward chaining algorithm?
a) Queue b) List
c) Vector
d) Stack
Answer:d
Explanation: The goals can be thought of as stack and if all of them us satisfied means, then current

branch of proof succeeds.
115. What are used in backward chaining algorithm?
a) Conjucts
b) Substitution
c) Composition of substitution
d) None of the mentioned
Answer:c
116. Which algorithm are in more similar to backward chainling algorithm?
a) Depth-first search algorithm
b) Breadth-first search algorithm
c) Hill-climbing search algorithm
d) All of the mentioned
Answer:a
Explanation: It is depth-first search algorithm because its space requirements are linear in the size of the proof.
117. Which problem can frequently occur in backward chaining algorithm?
a) Repeated states
b) Incompleteness

c) Complexity
d) Both a & b
Answer:d
Explanation:If there is any loop in the chain means, It will lead to incompleteness and repeated states.
118. How the logic programming can be constructed?
a) Variables
b) Expressing knowledge in a formal language
c) Graph
d) All of the mentioned
Answer:b
Explanation:Logic programming can be constructed by expressing knowledge in a formal expression and
the problem can be solved by running inference process.
119. What form of negation does the prolog allows?
a) Negation as failure
b) Proposition
c) Substitution
d) Negation as success
Answer:a

120. Which is omitted in prolog unification algorithm?
a) Variable check
b) Occur check
c) Proposition check
d) Both b & c
Answer:b
Explanation:Occur check is omitted in prolog unification algorithm because of unsound inferences.
121. How many issues are available in describing degree of belief?
a) 1
b) 2
c) 3
d) 4
Answer:b
Explanation: The main issues for degree of belief are nature of the sentences and the dependance of
degree of the belief.
122. What is used for probability theory sentences?
a) Conditional logic
b) Logic
c) Extension of propositional logic

d) None of the mentioned
Answer:c
Explanation: The version of probability theory we present uses an extension of propositional logic for its sentences.
semences.
123. Where does the dependance of experience is reflected in prior proability
sentences?
a) Syntactic distinction
b) Semantic distinction
c) Both a & b
d) None of the mentioned
Answer:a
Explanation: The dependance on experience is reflected in the syntactic distinction between prior
probability statements.
124. Where does the degree of belief are applied?
a) Propositions
b) Literals
c) Variables
d) Statements
Answer:a

125. How many formal languages are used for stating propositions?
a) 1
b) 2
c) 3
d) 4
Answer:b
Explanation: The two formal languages used for stating propositions are propositional logic and first-
order logic.
126. What is the basic element for a language?
a) Literal
b) Variable
c) Random variable
d) All of the mentioned
Answer:c
Explanation The basic element for a langauage is the random variable, which can be thought as a part of world and its status is initially unknown.
127. How many types of random variables are available?
a) 1

b) 2
c) 3
d) 4
Answer:c
Explanation:The three types of random variables are boolean, discrete and continuous.
128. Which is the complete specification of the state of the world?
a) Atomic event
b) Complex event
c) Simple event
d) None of the mentioned
Answer:a
Explanation:An atomic event is the complete specification of the state of the world about which the event is uncertain.
129. Which variable cannot be written in entire distribution as a table?
a) Discrete b) Continuous
c) Both a & b
d) None of the mentioned
Answer:b

Explanation:For continuous variables, it is not posible to write out the entire distribution as a table.
130. What is meant by probability density function?
a) Probability distributions
b) Continuous variable
c) Discrete variable
d) Probability distributions for Continuous variables
Answer:d
131. Which is created by using single propositional symbol?
a) Complex sentences
b) Atomic sentences
c) Composition sentences
d) None of the mentioned
Answer:b
Explanation Atomic sentences are indivisible syntactic elements consisting of single propositional symbol.
132. Which is used to construct the complex sentences?
a) Symbols
b) Connectives

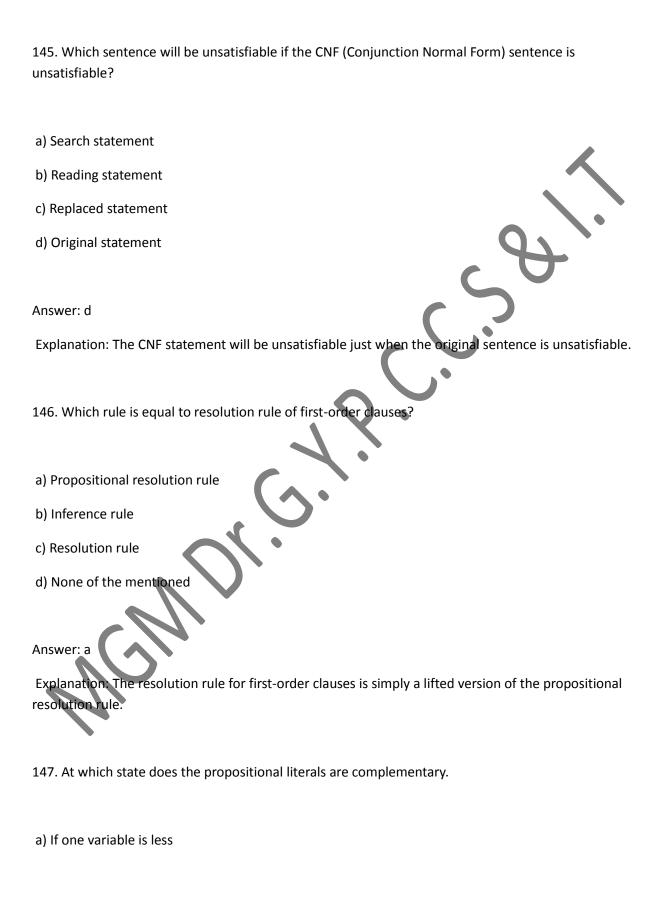
c) Logical connectives
d) All of the mentioned
Answer:c
133. How many proposition symbols are there in artificial intelligence?
a) 1
b) 2
c) 3
d) 4
Answer:b
Explanation: The two proposition symbols are true and false.
134. How many logical connectives are there in artificial intelligence?
a) 2
b) 3
c) 4
d) 5
Answer:d
Explanation: The five logical symbols are negation, conjuction, disjunction, implication and biconditional.
Explanation the logical symbols are negation, conjuction, disjunction, implication and biconditional.

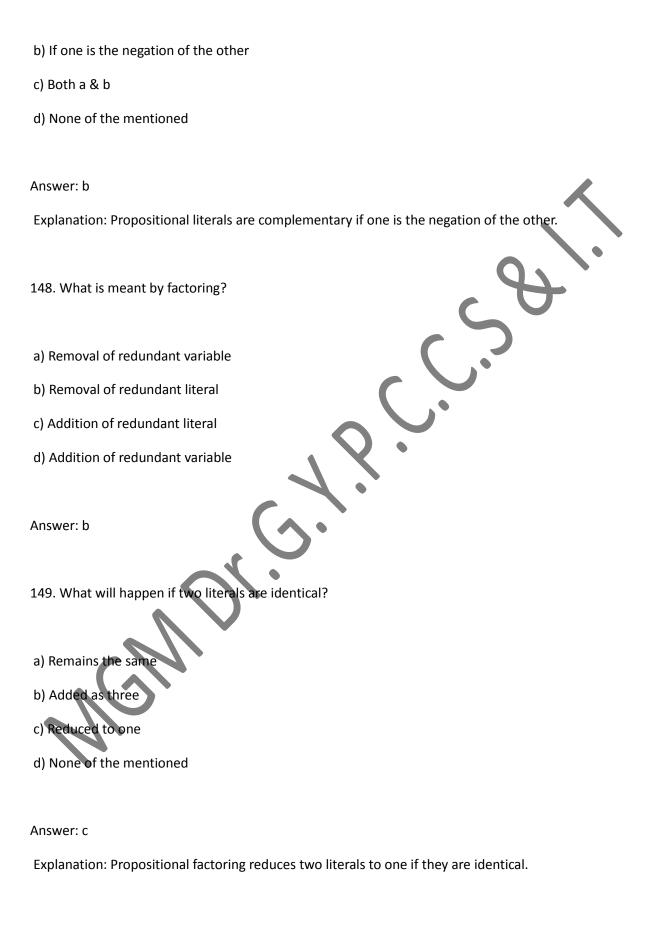
135. Which is used to compute the truth of any sentence?
a) Semantics of propositional logic
b) Alpha-beta pruning
c) First-order logic
d) Both a & b
Answer:a
Explanation:Because the meaning of the sentences is really needed to compute the truth.
136. Which are needed to compute the logical inference algorithm?
a) Logical equivalence
b) Validity
c) Satisfiability
d) All of the mentioned
Answer:d
Explanation: Logical inference algorithm can be solved be using logical equivalence, Validity and satisfiability.
137. From which rule does the modus ponens are derived?
a) Inference rule
b) Module rule
c) Both a & b

d) None of the mentioned
Answer:a
Explanation:Inference rule contains the standard pattern that leads to desired goal. The best form of inference rule is modus ponens.
138. Which is also called single inference rule?
a) Reference
b) Resolution
c) Reform
d) None of the mentioned
Answer:b
Explanation:Because resolution yields a complete inference rule when coupled with any search algorithm.
139. Which form is called as conjunction of disjunction of literals?
a) Conjunctive normal form
b) Disjunctive normal form
c) Normal form
d) All of the mentioned
Answer:a

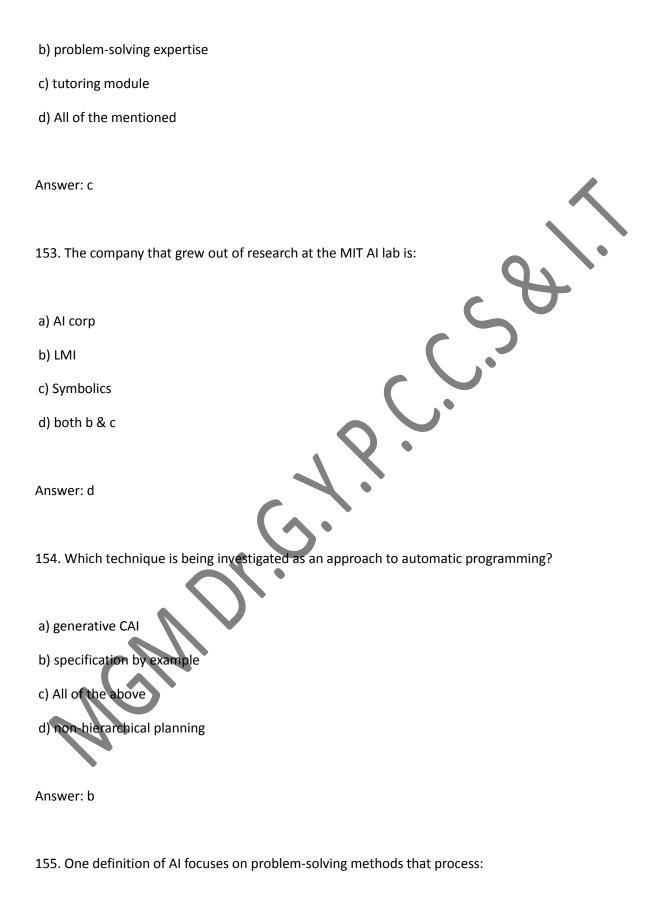
140. What can be viewed as single leteral of disjunction?
a) Multiple clause
b) Combine clause
c) Unit clause
d) None of the mentioned
Answer:c
Explanation: A single literal can be viewed as a disjunction or one literal also, called as unit clause.
141. Which is a refutation complete inference procedure for propositional logic?
a) Clauses
b) Variables
c) Propositional resolution
d) Proposition
Answer: c
Explanation: Propositional resolution is a refutation complete inference procedure for propositional logic.
142. What kind of clauses is available in Conjunctive Normal Form?
a) Disjunction of literals
b) Disjunction of variables
c) Conjunction of literals

d) Conjunction of variables
Answer: a
Explanation: First-order resolution requires the clause to be in disjunction of literals in Conjunctive Normal Form.
143. What is the condition of literals in variables?
a) Existentially quantified
b) Universally quantified
c) Quantified
d) None of the mentioned
Answer: b
Explanation: Literals that contain variables are assumed to be universally quantified.
144. Which can be converted to inferred equivalent CNF (Conjunction Normal Form) sentence?
a) Every sentence of propositional logic
b) Every sentence of inference
c) Every sentence of first-order logic d) All of the mentioned
Answer: c
Explanation: Every sentence of first-order logic can be converted to inferred equivalent CNF(Conjunction
Normal Form) sentence.



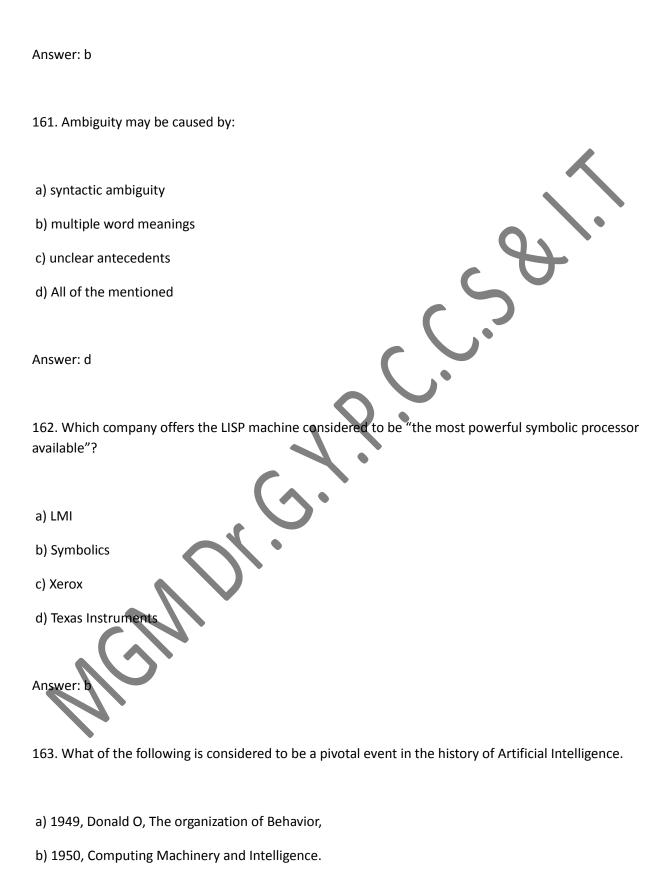


150. When the resolution is called as refutation-complete?
a) Sentence is satisfiable
b) Sentence is unsatisfiable
c) Sentence remains the same
d) None of the mentioned
Answer: b
Explanation: Resolution is refutation-complete, if a set of sentence is unsatisfiable, then resolution will
always be able to derive a contradiction.
151. Computers normally solve problem by breaking them down into a series of yes-or-no decisions
represented by 1s and 0s. What is the name of the logic that allows computers to assign numerical
values that fail somewhere between 0 and 1?
a) Human logic
b) Fuzzy logic
c) Boolean logic
d) Operational logic
Answer: b
152. The component of an ICAI (Intelligent Computer-Assisted Instruction) presenting information to the
student is the:
a) student model

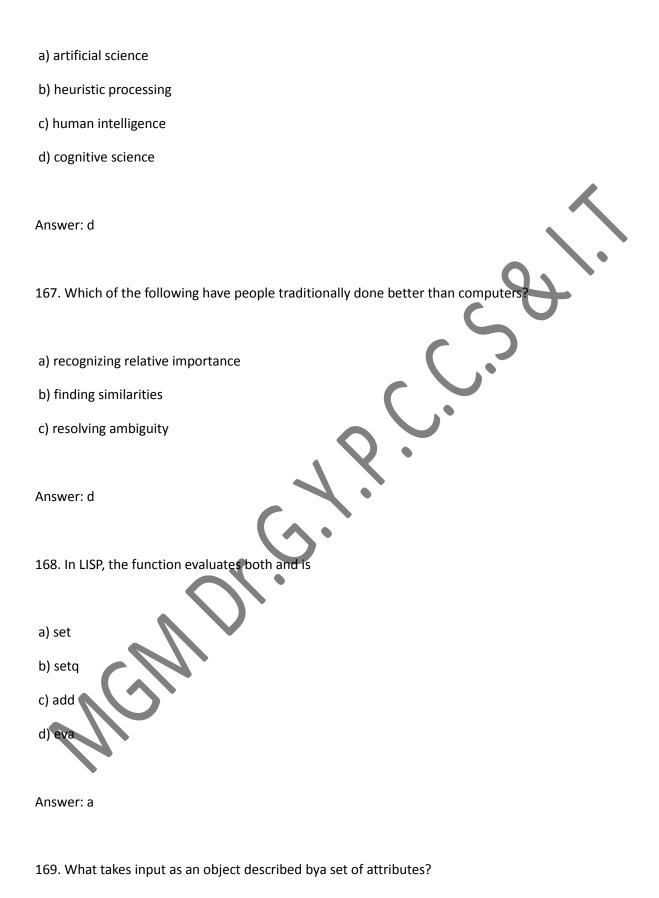


a) smell
b) symbols
c) touch
d) algorithms
Answer: b
156. Artificial intelligence is
a) the embodiment of human intellectual capabilities within a computer.
b) a set of computer programs that produce output that would be considered to reflect intelligence if it were generated by humans.
c) the study of mental faculties through the use of mental models implemented on a computer.
d) All of the mentioned
Answer: d
157. The primary method that people use to sense their environment is:
a) reading
b) writing
c) speaking
d) seeing
Answer: d

158. The Newell and Simon program that proved theorems of Principia Mathematica was:
a) Elementary Perceiver
b) General Problem Solver
c) Logic Theorist
d) Boolean Algebra
Answer: c
159. In LISP, the function assigns . the value of a to b is
a) (setq a b)
b) (setq b a )
c) (b = a)
d) (set b = a)
Answer: b
160. The cray X-MP, IBM 3090 and connection machine can he characterized as
a) SISD
b) SIMD
c) MISD
d) MIMD



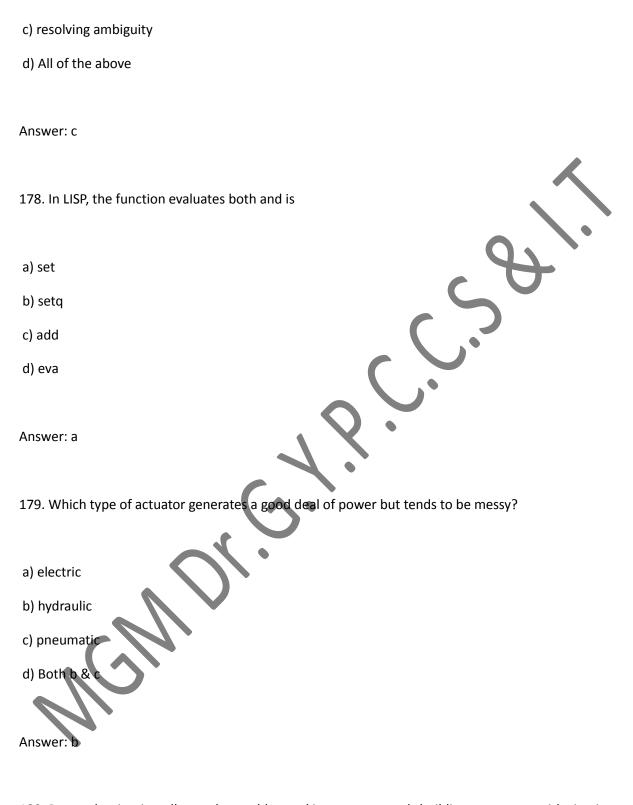
c) 1956, Dartmouth University Conference Organized by John McCarthy
d) 1961, Computer and Computer Sense.
Answer: c
164. Natural language processing is divided into the two subfields of:
a) symbolic and numeric
b) time and motion
c) algorithmic and heuristic
d) understanding and generation
Answer: d
165. High-resolution, bit-mapped displays are useful for displaying:
a) clearer characters
b) graphics
c) more characters
d) All of the mentioned
Answer: d
166. A bidirectional feedback loop links computer modeling with:



a) Tree
b) Graph
c) Decision graph
d) Decision tree
Answer: d
170. How the decision tree reaches its decision?
a) Single test
b) Two test
c) Sequence of test
d) No test
Answer: c
171. Ambiguity may be caused by:
a) syntactic ambiguity
b) multiple word meanings
c) unclear antecedents
d) All of the mentioned
Answer: d

172. Which company offers the LISP machine considered "the most powerful symbolic processor available"?
a) LMI
b) Symbolics
c) Xerox
d) Texas Instruments
Answer: b
173. What of the following is considered a pivotal event in the history of Artificial Intelligence?
a) 1949, Donald O, The organization of Behavior
b) 1950, Computing Machinery and Intelligence
c) 1956, Dartmouth University Conference Organized by John McCarthy
d) 1961, Computer and Computer Sense
Answer: c
174. Natural language processing is divided into the two sub-fields of:
a) symbolic and numeric
b) time and motion
c) algorithmic and heuristic
d) understanding and generation

Answer: c
175. High-resolution, bit-mapped displays are useful for displaying:
a) clearer characters
b) graphics
c) more characters
d) All of the mentioned
Answer: c
176. A bidirectional feedback loop links computer modeling with:
a) artificial science
b) heuristic processing
c) human intelligence
d) cognitive science
Answert c  177. Which of the following have people traditionally done better than computers?
a) recognizing relative importance
b) finding similarities



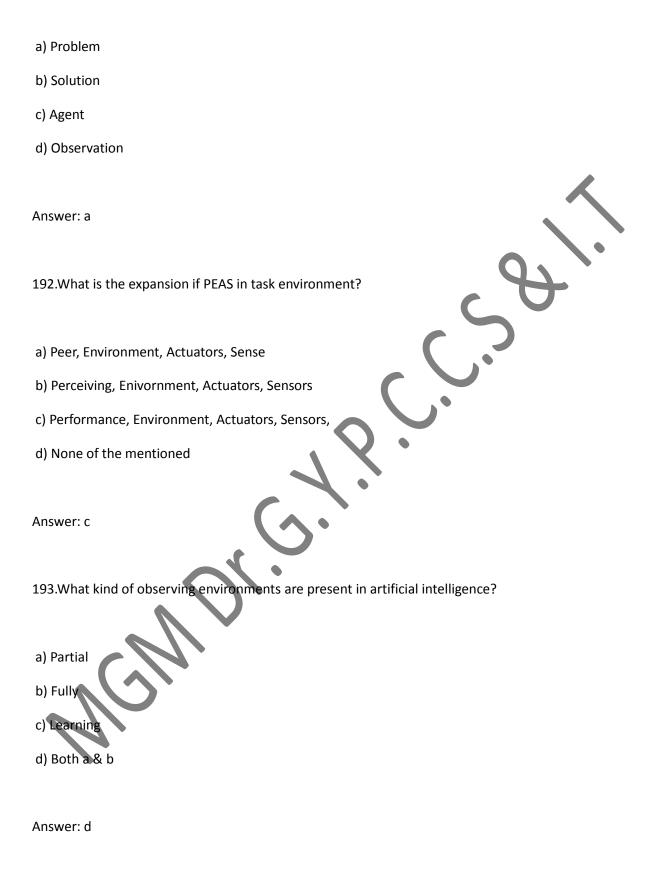
180. Research scientists all over the world are taking steps towards building computers with circuits patterned after the complex inter connections existing among the human brain's nerve cells. What name is given to such type of computers?

a) Intelligent computers
b) Supercomputers
c) Neural network computers
d) Smart computers
Answer: c
181. Which search is equal to minimax search but eliminates the branchesthat can't influence the final decision?
a) Depth-first search
b) Breadth-first search
c) Alpha-beta pruning
d) None of the mentioned
Answer: c
182. Which values are independent in minimax search algorithm?
a) Pruned leaves x and y b) Every states are dependant
c) Root is independant
d) None of the mentioned
Answer: a

183.To which depth does the alpha-beta pruning can be applied?
a) 10 states
b) 8 States
c) 6 States
d) Any depth
Answer: d
184.Which search is similar to minimax search?
a) Hill-climbing search
b) Depth-first search
c) Breadth-first search
d) All of the mentioned
Answer: b
185. Which value is assigned to alpha and beta in the alpha-beta pruning?
a) Alpha = max
b) Beta = min
c) Beta = max
d) Both a & b

Answer: d
186.Where does the values of alpha-beta search get updated?
a) Along the path of search
b) Initial state itself
c) At the end
d) None of the mentioned
Answer: a
187. How the effectiveness of the alpha-beta pruning gets increased?
a) Depends on the nodes
b) Depends on the order in which they are executed
c) Both a & b
d) None of the mentioned
Answer: a
188.What is called as transposition table?
a) Hash table of next seen positions
b) Hash table of previously seen positions

c) Next value in the search
d) None of the mentioned
Answer: b
189.Which is identical to the closed list in Graph search?
205.Which is identical to the closed list in Graph scarcin.
0,
a) Hill climbing search algorithm
b) Depth-first search
c) Transposition table
d) None of the mentioned
Answer: c
190.Which function is used to calculate the feasibility of whole game tree?
a) Evaluation function
b) Transposition
c) Alpha-beta pruning
d) All of the mentioned
Answer: a
191.What is the action of task environment in artificial intelligence?
131. The to the detion of task environment in artificial intelligence.



b) Agent performance changes

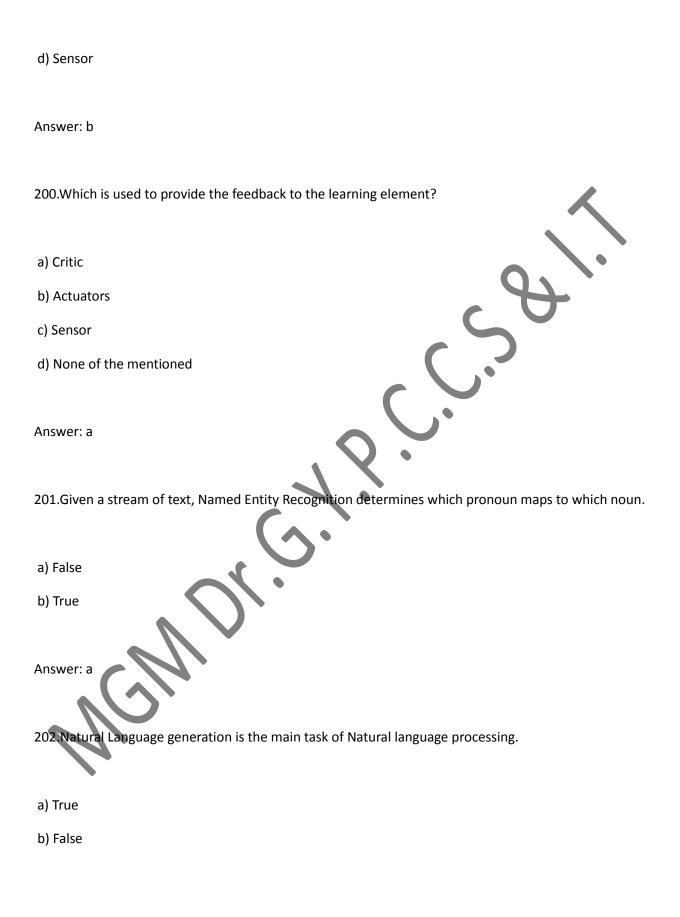
c) Environment will be changed

d) Both a & b

Answer: d

199 Where does the performance measure is included?

- a) Rational agent
- b) Task environment
- c) Actuators



Answer: a
203.OCR (Optical Character Recognition) uses NLP.
a) True
b) False
Answer: a
204.Parts-of-Speech tagging determines
a) part-of-speech for each word
b) part-of-speech for each word dynamically as per sentence structure and meaning
c) all part-of-speech for a specific word given as input
d) all of the mentioned
Answer: b, c
205. Parsing determines Parse Trees (Grammatical Analysis) for a given sentence.  a) True
b) False
Answer: a

206.IR (information Retrieval) and IE (Information Extraction) are the two same thing.
a) True
b) False
Answer: b
207. Many words have more than one meaning; we have to select the meaning which makes the most
sense in context. This can be resolved by
a) Fuzzy Logic
b) Word Sense Disambiguation
c) Shallow Semantic Analysis
d) All of the mentioned
Answer: b
Allswel. b
208. Given a sound clip of a person or people speaking, determine the textual representation of the
speech.
a) Text-to-speech
b) Speech-to-text
Answer: b
209. Speech Segmentation is a subtask of Speech Recognition.

a) True	
b) False	
Answer: a	
210. In linguistic morphology, is the process for reducing in form.	flected words to their root
	4
a) Rooting	)
b) Stemming	
c) Text-Proofing	
d) Both a & b	
Answer: b	