



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road- 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code: AI (13A05707)

Course & Branch: B.Tech- CSE

Year & Sem: IV-B.Tech & I-Sem

Regulation: R13

UNIT- I

Introduction

- | | |
|--|-----|
| 1. a) What are the applications of Artificial Intelligence? | 5M |
| b) Explain Foundations of Artificial Intelligence? | 5M |
| 2. Explain the following uninformed search strategies with examples. | 10M |
| a) Breadth First Search. b) Depth First Search | |
| 3. Explain Exhaustive Searches? Discuss Space Search. | 10M |
| 4. Explain in Alpha-Beta Pruning. | 10M |
| 5. Explain how a problem solving agent works? | 10M |
| 6. Explain Bounded Look-ahead Strategy. | 10M |
| 7. Explain uses of Evaluation functions. | 10M |
| 8. Explain Control Strategy with example. | 10M |
| 9. Discuss iterative-deepening A*. with an example. | 10M |
| 10. a) Mention the categorization of intelligent systems. | 2M |
| b) Define components of AI program. | 2M |
| c) What are the foundations of AI? | 2M |
| d) Characteristics of a problem. | 2M |
| e) Write about the analysis of search methods. | 2M |

Prepared by: G. Hari Prasad.



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (OBJECTIVE)

Subject with Code: AI (13A05707)

Course & Branch: B.Tech- CSE

Year & Sem: IV-B.Tech & I-Sem

Regulation: R13

UNIT – I

Introduction

1. The main task of a problem-solving agent is []
 - A) Solve the given problem and reach to goal
 - B) To find out which sequence of action will get it to the goal state
 - C) Both a) and b) D) Neither a) nor b)
2. What is state space? []
 - A) The whole problem B) Your Definition to a problem
 - C) Problem you design D) Representing your problem with variable and parameter
3. A search algorithm takes ___ as an input and returns ____ as an output. []
 - A) Input, output B) Problem, solution C) Solution, problem D) Parameters, sequence of actions
4. A problem in a search space is defined by []
 - A) Initial state B) Goal test C) Intermediate states D) All of the above
5. The Set of actions for a problem in a state space is formulated by a _____. []
 - A) Intermediate states B) Initial state
 - C) Successor function, which takes current action and returns next immediate state
 - D) None of the mentioned
6. The process of removing detail from a given state representation is called __ []
 - A) Extraction B) Abstraction C) Information Retrieval D) Mining of data
7. A problem solving approach works well for []
 - A) 8-Puzzle problem B) 8-queen problem
 - C) Finding a optimal path from a given source to a destination D) Mars Hover (Robot Navigation)
8. The _____ is a touring problem in which each city must be visited exactly once. The aim is to find the shortest tour.
 - A) Finding shortest path between a source and a destination
 - B) Travelling Salesman problem
 - C) Map coloring problem
 - D) Depth first search traversal on a given map represented as a graph
9. What is the action of task environment in artificial intelligence? []
 - A) Problem B) Solution C) Agent D) Observation
10. What is the expansion if PEAS in task environment? []
 - A) Peer, Environment, Actuators, Sense B) Perceiving, Environment, Actuators, Sensors
 - C) Performance, Environment, Actuators, Sensors D) None
11. What kind of observing environments are present in artificial intelligence? []
 - A) Partial B) Fully C) Learning D) Both a & b
12. What kind of environment is strategic in artificial intelligence? []
 - A) Deterministic B) Rational C) Partial D) Stochastic
13. What kind of environment is crossword puzzle? []
 - A) Static B) Dynamic C) Semi-dynamic D) None
14. What kind of behavior does the stochastic environment possess? []
 - A) Local B) Deterministic C) Rational D) Primary

15. Which is used to select the particular environment to run the agent? []
 A) Environment creator B) Environment Generator C) Both a & b D) None
16. Which environment is called as semi dynamic? []
 A) Environment does not change with the passage of time B) Agent performance changes
 C) Environment will be changed D) Both a & b
17. Where does the performance measure is included? []
 A) Rational agent B) Task environment C) Actuators D) Sensor
18. Which is used to provide the feedback to the learning element? []
 A) Critic B) Actuators C) Sensor D) None of the mentioned
19. Which search strategy is also called as blind search? []
 A) Uninformed search B) Informed search C) Simple reflex search D) All of the mentioned
20. How many types are available in uninformed search method? []
 A) 3 B) 4 C) 5 D) 6
21. Which search is implemented with an empty first-in-first-out queue? []
 A) Depth-first search B) Breadth-first search C) Bidirectional search D) None of the mentioned
22. When breadth-first search is optimal? []
 A) When there is less number of nodes B) When all step costs are equal
 C) When all step costs are unequal D) Both a & c
23. How many successors are generated in backtracking search? []
 A) 1 B) 2 C) 3 D) 4
24. What is the space complexity of Depth-first search? []
 A) $O(b)$ B) $O(bl)$ C) $O(m)$ D) $O(bm)$
25. How many parts do a problem consists of ___? []
 A) 1 B) 2 C) 3 D) 4
26. Which algorithm is used to solve any kind of problem? []
 A) Breath-first algorithm B) Tree algorithm
 C) Bidirectional search algorithm D) None
27. Which search algorithm imposes a fixed depth limit on nodes? []
 A) Depth-limited search B) Depth-first search
 C) Iterative deepening search D) Bidirectional search
28. Which search implements stack operation for searching the states? []
 A) Depth-limited search B) Depth-first search C) Breadth-first search D) None of the mentioned
29. A heuristic is a way of trying []
 A) To discover something or an idea embedded in a program
 B) To search and measure how far a node in a search tree seems to be from a goal
 C) To compare two nodes in a search tree to see if one is better than another
 D) Only A and B
30. A* algorithm is based []
 A) Breadth-First-Search B) Depth-First –Search C) Best-First-Search D) Hill climbing
31. The search strategy the uses a problem specific knowledge is known as []
 A) Informed Search B) Uniform-Cost Search C) Heuristic Search D) Best First Search
32. Best-First search is a type of informed search, which uses _____ to choose the best next node for expansion. []
 A) Evaluation function returning lowest evaluation
 B) Evaluation function returning highest evaluation
 C) Both a & b can be used D) None of them is applicable
33. Best-First search can be implemented using the following data structure. []
 A) Queue B) Stack C) Priority Queue D) Circular Queue
34. Heuristic function $h(n)$ is ____ []
 A) Lowest path cost B) Cheapest path from root to goal node

- C) Estimated cost of cheapest path from root to goal node D) Average path cost
35. What kind of environment is strategic in artificial intelligence? []
A) Deterministic B) Rational C) Partial D) Stochastic
36. What kind of environment is crossword puzzle? []
A) Static B) Dynamic C) Semi dynamic D) None of the mentioned
37. Components of AI program are Knowledge base, Inference mechanism and ____ []
A) Control System B) Control flow C) Control Strategy D) None
38. System that thinks like human requires ____ modeling approach? []
A) Rational B) Cognitive C) Conjunctive D) Controllable
39. System which's thinks rationally relies on Logic rather than human to ____ []
A) Measure correctness B) Measure rationality C) Measuring Logic D) Predicate Logic
40. System that acts ____ is the mean doing the right thing, even if the method is illogical. []
A) Rationally B) Humanly C) Rightfully D) Logically

Prepared by: G. Hari Prasad.



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road- 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code: AI (13A05707)

Course & Branch: B.Tech- CSE

Year & Sem: IV-B.Tech & I-Sem

Regulation: R13

UNIT- II

Logic Concepts and Logic Programming

- | | |
|--|-----|
| 1. Differentiate propositional & predicate logic. | 10M |
| 2. What is Natural Deduction System? Explain in detail. | 10M |
| 3. Define Propositional calculus. Explain its Operators. | 10M |
| 4. List some of the rules of Axiomatic system. | 10M |
| 5. What is resolution/ refutation? | 10M |
| 6. Define unification. | 10M |
| 7. What are semantic nets? | 10M |
| 8. What are frames? How do they differ from semantic nets? | 10M |
| 9. Explain Semantic Tableau system. | 10M |
| 10. a) Write the distributive and commutative laws. | 2M |
| b) Give the 3 Axioms in Axiomatic system. | 2M |
| c) Write about Iterative computation. | 2M |
| d) Recursive data types in PROLOG. | 2M |
| e) Write the absorption law. | 2M |

Prepared by: G. Hari Prasad.



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (OBJECTIVE)

Subject with Code: AI (13A05707)

Course & Branch: B.Tech- CSE

Year & Sem: IV-B.Tech & I-Sem

Regulation: R13

UNIT- II

Logic Concepts and Logic Programming

1. Which is created by using single propositional symbol? []
A) Complex sentences B) Atomic sentences C) Composition sentences D) None of the mentioned
2. Which is used to construct the complex sentences? []
A) Symbols B) Connectives C) Logical connectives D) All of the mentioned
3. How many proposition symbols are there in artificial intelligence? []
A) 1 B) 2 C) 3 D) 4
4. How many logical connectives are there in artificial intelligence? []
A) 2 B) 3 C) 4 D) 5
5. 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
6. Which are needed to compute the logical inference algorithm? []
A) Logical equivalence B) Validity C) Satisfiability D) All of the mentioned
7. From which rule does the modus ponens are derived? []
A) Inference rule B) Module rule C) Both a & b D) None
8. Which is also called single inference rule? []
A) Reference B) Resolution C) Reform D) None
9. 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
10. What can be viewed as single lateral of disjunction? []
A) Multiple clauses B) Combine clause C) Unit clause D) None
11. A heuristic is a way of trying []
A) To discover something or an idea embedded in a program
B) To search and measure how far a node in a search tree seems to be from a goal
C) To compare two nodes in a search tree to see if one is better than another
D) Only a) and b)
12. A* algorithm is based on []
A) Breadth-First-Search B) Depth-First –Search C) Best-First-Search D) Hill climbing
13. The search strategy the uses a problem specific knowledge is known as []
A) Informed Search B) Uniform-Cost Search C) Heuristic Search D) Best First Search
14. Best-First search is a type of informed search, which uses ___ to choose the best next node for expansion. []
A) Evaluation function returning lowest evaluation
B) Evaluation function returning highest evaluation
C) Both a & b can be used D) None
15. Best-First search can be implemented using the following data structure. []
A) Queue B) Stack C) Priority Queue D) List
16. Heuristic function $h(n)$ is, []
A) Lowest path cost B) Cheapest path from root to goal
C) Estimated cost of cheapest path from root to goal node D) Average path cost

17. Which search is equal to minimax search but eliminates the branches that can't influence the final decision? []
A) Depth-first search B) Breadth-first search C) Alpha-beta pruning D) None of the mentioned
18. Which values are independent in minimax search algorithm? []
A) Pruned leaves x and y B) Every states are dependent C) Root is independent D) None
19. To which depth does the alpha-beta pruning can be applied? []
A) 10 states B) 8 States C) 6 States D) Any depth
20. Which search is similar to minimax search? []
A) Hill-climbing search B) Depth-first search C) Breadth-first search D) All of the mentioned
21. Knowledge and reasoning also play a crucial role in dealing with _____environment. []
A) Completely Observable B) Partially Observable C) Neither a nor b D) Only a and b
22. Treatment chosen by doctor for a patient for a disease is based on []
A) Only current symptoms B) Current symptoms plus some knowledge from the textbooks
C) Current symptoms plus some knowledge from the textbooks plus experience
D) Only a and b
23. A) Knowledge base (KB) is consists of set of statements. []
B) Inference is deriving a new sentence from the KB.
Choose the correct option.
A) A is true, B is true B) A is false, B is false C) A is true, B is false D) A is false, B is true
24. Wumpus World is a classic problem, best example of []
A) Single player Game B) Two player Game
C) Reasoning with Knowledge D) Knowledge based Game
25. Which is created by using single propositional symbol? []
A) Complex sentences B) Atomic sentences C) Composition sentences D) None
26. Which is used to construct the complex sentences? []
A) Symbols B) Connectives C) Logical connectives D) All of the mentioned
27. How many proposition symbols are there in artificial intelligence? []
A) 1 B) 2 C) 3 D) 4
28. How many logical connectives are there in artificial intelligence? []
A) 2 B) 3 C) 4 D) 5
29. Flexible CSPs relax on ____ []
A) Constraints B) Current State C) Initial State D) Goal State
30. Language/Languages used for programming Constraint Programming includes []
A) Prolog B) C++ C) C D) Fortrun
31. Which search agent operates by interleaving computation and action? []
A) Offline search B) Online search C) Breadth-first search D) Depth-first search
32. Backtracking is based on, []
A) Last in first out B) First in first out C) Recursion D) Both a & c
33. Which search algorithm will use limited amount of memory? []
A) RBFS B) SMA* C) Hill-climbing search algorithm D) Both a & b
34. How many the new states are generated in backtracking algorithm? []
A) 1 B) 2 C) 3 D) 4
35. When do we call the states are safely explored? []
A) A goal state is unreachable from any state B) A goal state is denied access
C) A goal state is reachable from every state D) None
36. Which of the following algorithm is generally used CSP search algorithm? []
A) Breadth-first search algorithm B) Depth-first search algorithm
C) Hill-climbing search algorithm D) None

37. What do we mean by simulated annealing in artificial intelligence? []
A) Returns an optimal solution when there is a proper cooling schedule
B) Returns an optimal solution when there is no proper cooling schedule
C) It will not return an optimal solution when there is a proper cooling schedule D) None
38. _____ are the idempotence law? []
A) $A \vee A \equiv A, A \wedge A \equiv A$ B) $A \vee B \equiv A, A \wedge B \equiv B$
C) $P \vee Q \equiv A, A \wedge A \equiv A$ D) $R \vee S \equiv A, P \wedge S \equiv A$
39. Formal logic has been studied in the context of foundations of mathematics and also []
called as _____ logic
A) Constant B) Symbolic C) Predicate D) Propositional
40. A formula α is said to be valid iff it is a _____. []
A) Tautology B) Satisfiable C) Unsatisfiable D) None



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road- 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code: AI (13A05707)

Course & Branch: B.Tech- CSE

Year & Sem: IV-B.Tech & I-Sem

Regulation: R13

UNIT- III

Expert System and Applications

- | | |
|---|-----|
| 1. What is Expert system? Explain its Phases. | 10M |
| 2. Differentiate between Expert systems Vs Traditional Systems. | 10M |
| 3. Define List of shells and explain its tools. | 10M |
| 4. What is Uncertainty Measure? Explain briefly. | 10M |
| 5. What is Probability Theory? Explain briefly. | 10M |
| 6. Explain Architecture of expert systems. | 10M |
| 7. Explain Bayesian Belief Networks? | 10M |
| 8. List the application of Expert systems. | 10M |
| 9. Explain certainty factor theory. | 10M |
| 10. a) Phases in building expert systems. | 2M |
| b) Characteristics of expert systems. | 2M |
| c) What is MYCIN expert system? | 2M |
| d) What are Blackboard systems? | 2M |
| e) Mention some Shells and Tools. | 2M |

Prepared by: G. Hari Prasad.



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (OBJECTIVE)

Subject with Code: AI (13A05707)

Course & Branch: B.Tech- CSE

Year & Sem: IV-B.Tech & I-Sem

Regulation: R13

UNIT- III

Expert System and Applications

1. Expert system also called as _____ []
A) Expertized System B) Knowledge System
C) Knowledge based Expert System D) None
2. _____ system is developed using the expertise of best diagnosticians of bacterial infections whose performance was found to be better than the average clinician. []
A) MYCIN B) MICIN C) BASIN D) MARIN
3. A _____ handles the responsibility of extracting this knowledge and building Expert System knowledge base. []
A) Expert Engineer B) Knowledge Engineer C) ES Engineer D) None
4. The process of gathering knowledge from a domain expert and codifying it according to the formalism is called []
A) Expert Engineering B) Knowledge Engineering C) Power engineering D) None
5. In _____ Phase, the knowledge engineer determines important features and the problem with the help of human domain expert []
A) Identification Phase B) Conceptualization Phase C) Testing phase D) None
6. In _____ phase, knowledge engineer and domain expert decide the concept, relations, and control system needed []
A) Identification Phase B) Formalization phase C) Conceptual Phase D) None
7. In _____ phase, involves expressing the key concepts and relations in some framework supported by ES Building tool []
A) Formalization Phase B) Conceptual phase C) Implementation Phase D) Testing phase
8. In _____ phase, formalized knowledge is converted to a working computer program []
A) Formalization Phase B) Conceptual phase C) Implementation Phase D) Testing phase
9. In _____ phase involves evaluating the performance and utility of prototype system and revising the system. []
A) Formalization Phase B) Conceptual phase C) Implementation Phase D) Testing phase
10. In ES Architecture _____ engine used to reason with the expert knowledge as well as the data specific to problem being solved. []
A) Control Engine B) Inference Engine C) UI engine D) None
11. _____ Knowledge consist of rules and facts or any other form of knowledge representation which may be compiled as part of the system and doesn't change during the execution. []
A) Dynamic B) Static C) Expert D) None

12. _____ consist of facts related to a particular consultation of the system collected by asking various questions to user who is consulting the ES. []
A) Dynamic B) Static C) Expert D) None
13. The _____ module allows the systems to acquire more knowledge regarding the problem domain from experts. []
A) Knowledge Engineering B) Knowledge Grabbing C) Knowledge Acquisition D) None
14. In the following _____ is the characteristic of Expert Systems []
A) Expertise B) Symbolic Reasoning C) A&B D) None
15. In the Following _____ is the advantage of Expert System []
A) Specialized Knowledge Problem B) High payoff C)A&B D) Provide training
16. In the Following _____ is language for developing ES Systems []
A) C++ B) LISP C) Prolog D) ALL
17. In ES-System Shell in Prolog _____ is used to declare the operator []
A) op(type, no) B) op(Prec, Type, Atom) C) op(Atom, Type) D. None
18. In Prolog Forward Chaining Concept Introduced in the year _____ []
A) 1988 B)1992 C) 1985 D) None
19. The MYCIN Expert System developed at Stanford in the year _____ []
A) 1980's B) 1970's C) 1990's D)None
20. Control component of black board system helps in _____ making []
A) Runtime decision B) Compile time C) A&B D) None
21. The appropriate problem solving technique depends on _____ []
A) Type of problem B) Type of domain C) Both A & B D) None
22. The expert systems belonging to _____ class perform the task of inferring malfunctioning of systems from observations []
A) Diagnosis B) Planning C) Scheduling D) None
23. The experts systems of planning and scheduling class help in _____ before actually solving a given problem []
A) Designing actions B) Designing Plans C) Designing class D) Both A & B
24. The financial services industry has been a prominent user of _____ []
A) Uncertainty theory B) Probability theory C) Conditional theory D) Expert systems
25. Airline scheduling of flights is instance of _____ class []
A) Planning and scheduling B) Diagnosis C) Designing D) Manufacturing
26. Which among the following is example of planning and scheduling class? []
A) Manufacture process planning B) Gene clothing C) manufacturing D) Both B & C
27. In _____ class a solution to a problem is configured by a given set of objects under a set of constraints. []
A) Planning and scheduling B) Diagnosis C) Design and manufacturing D) Prediction
28. I. Share market comes under prediction class
II. Foreign exchange trading comes under financial Debugging class []
A) Both I & II are true B) Only I is true C) Only II is true D) Both I & II are false
29. Automated reasoning tool is an ES tool, Which is based on _____ []
A) Python B) Perl C) Java D) LISP
30. Methods available for handling uncertain information such as _____ []
A) Probability theory B) Fuzzy logic C) Both A & B D) None

31. _____ is designed to estimate the degree of uncertainty []
A) Probability theory B) Fuzzy logic C) Temporal logic D) None
32. _____ Probability is defined as the probability of occurrence of two independent events in conjunction. []
A) Joint B) Conditional C) Axiom D) Unconditional
33. _____ theory provides another way of measuring uncertainty by describing a practical way of compromising on pure Bayesian system. []
A) Certainty factor B) Dempster-Shafer C) Probability D) none
34. Certainty factor is used for _____ []
A) Chaining rule B) Training rule C) Conditioning rule D) Chained rule
35. MYCIN rule is typically _____ rule []
A) For B) Join C) if-then D) Bi-Conditional
36. Dempster-Shafer theory was developed by _____ in 1968 []
A) Dempster B) Shafer C) Dempster and Shafer D) None
37. Dempster-Shafer theory was extended by _____ in 1976 []
A) Dempster B) Shafer C) Dempster and Shafer D) None
38. A Certainty factor is a number lying between _____ []
A) 1 and n B) -1 and 1 C) 1 and 100 D) 0 and 100
39. The system of _____ class prescribes remedies for malfunctioning devices. []
A) Debugging B) Prediction C) Instruction D) Financial decision making
40. _____ is an expert-system development toolkit for scheduling, design, and configuration applications. []
A) Knowledge craft B) GURU C) FLEX D) MailBot



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR

Siddharth Nagar, Narayanavanam Road- 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code: AI (13A05707)

Course & Branch: B.Tech- CSE

Year & Sem: IV-B.Tech & I-Sem

Regulation: R13

UNIT- IV

Machine-Learning Paradigms

- | | |
|---|-----|
| 1. What is Machine Learning Systems? Explain? | 10M |
| 2. Differentiate Supervised and unsupervised learning. | 10M |
| 3. Define the following | |
| a) Inductive learning. | 5M |
| b) Learning Decision Tree. | 5M |
| 4. What is Artificial Neural Networks? Explain briefly. | 10M |
| 5. What is Single-Layer Feed Forward Networks? Explain briefly. | 10M |
| 6. Explain Multi-Layer Feed-Forward Network. | 10M |
| 7. Explain Radial-Basis Function Networks. | 10M |
| 8. Explain design issues of Artificial Neural Networks. | 10M |
| 9. Explain Recurrent Networks. | 10M |
| 10. a) What are the components of a learning system. | 2M |
| b) Components of ANN. | 2M |
| c) Properties of a clustering algorithm. | 2M |
| d) Explain types of inductive bias. | 2M |
| e) Terms used while studying SVM. | 2M |

Prepared by: G. Hari Prasad.



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (OBJECTIVE)

Subject with Code: AI (13A05707)

Course & Branch: B.Tech- CSE

Year & Sem: IV-B.Tech & I-Sem

Regulation: R13

UNIT- IV

Machine Learning Paradigms

1. ___ Methodology requires rules & patterns that are extracted from massive data sets []
A) Deductive B) Inductive C) Computational D) Customized
2. ___ Methodology involves deducing new knowledge from already existing one []
A) Deductive B) Inductive C) Computational D) Customized
3. Algorithm generates a function that maps inputs to desired outputs falls under ___ []
A) Rote learning B) Supervised learning C) Unsupervised learning D) All
4. ___ learning is also known as *learning by memorization* []
A) Rote learning B) Supervised learning C) Unsupervised learning D) Inductive
5. ___ Learning describes the effect of set of observations (inputs & outputs). []
A) Rote learning B) Supervised learning C) Unsupervised learning D) Inductive
6. Task of constructing class definitions is called _____ learning. []
A) Deductive B) Inductive C) Concept D) Both A&B
7. Decision making systems that receives feedbacks for its action falls under ___ []
A) Deductive B) Reinforcement C) Computational D) Customized
8. ___ Inference is falsity preserving. []
A) Deductive B) Inductive C) Computational D) Customized
9. ___ Framework can be constructed by pre-processing input from sensors []
A) Deductive B) Inductive C) Rote learning D) Customized
10. ___ is described as reasoning of the *form If A then B*. []
A) Deductive B) Inductive C) Rote learning D) Customized
11. Probability based learning is also known as _____. []
A) Greedy B) Clustering C) Rote learning D) Bayesian
12. ___ involves in a design that approximates optimal control over time in noisy, non-linear environments. []
A) Dynamic programming B) Inductive C) Rote learning D) Customized
13. ___ is a type of clustering that is based on union of two nearest clusters. []
A) Hierarchical B) Single linked C) Average linkage D) Customized
14. ___ Method used to train SVM's fast. []
A) CBR B) SVR C) NETL D) SMO
15. ___ Method extracts relevant knowledge from previous experiences to solve a problem []
A) Case based B) Support vector C) category based D) Exemplar
16. In category model cases are referred as _____ []
A) Norms B) Links C) Episode D) Exemplar

17. Which among the following does not belong to type of clusters? []
 A) Hierarchical B) Single linked C) Average linked D) Complete linked
18. Which one among the following is tool used for CBR? []
 A) Re-Mind B) Esteem C) Induce-it D) All
19. Artificial neural networks are also referred as _____. []
 A) Neural model B) Activated model C) Network model D) Connectionist model
20. Feed forward network falls under which type of learning? []
 A) Rote learning B) Supervised learning C) Unsupervised learning D) All
21. Information processing unit of ANN is _____. []
 A) Neuron model B) Activated model C) Network model D) Connectionist model
22. For limiting the amplitude of neuron network output (Y) _____. []
 A) $\phi(U+b)$ B) $\phi(U-b)$ C) $\phi-(U+b)$ D) None
23. Which function is used for binary classification? []
 A) Step function B) Sign function C) Both A&B D) None
24. Which of the following is a kind of recurrent network? []
 A) Stable network B) Structured network C) Hopfield D) None
25. Which type of network can be trained by using back-propagation algorithm? []
 A) Recurrent B) Stable network C) Structured network D) All
26. _____ networks are acyclic networks. []
 A) Recurrent B) Stable network C) Structured D) Feed forward
27. _____ network is used in Boolean and continuous functions. []
 A) Recurrent B) Stable network C) Structured D) Feed forward
28. Feed forward and radial basis networks are _____. []
 A) Non linear B) universal approximates C) Both D) Feed forward
29. If output depends on the distance of input from stored vector then that is said as _____. []
 A) Radial B) Stable network C) Structured D) Feed forward
30. Training algorithm that is used for FFNN is _____. []
 A) Gradient method B) Bayesian method C) Delta rule D) None
31. Concept of continuous adjustment of weights to reduce difference between actual and computed outputs is _____. []
 A) Gradient method B) Bayesian method C) Delta rule D) None
32. Special form of single layer feed forward network is _____. []
 A) Function B) Perceptron C) Neuron D) None
33. _____ network acts as a content-addressable memory. []
 A) Stable network B) Structured network C) Hopfield D) None
34. In _____ process algorithm work till status becomes stable. []
 A) Stable network B) Parallel relaxation C) Hopfield D) Radial
35. Boltzmann machine is a name given to derivate _____ network. []
 A) Stable network B) Parallel relaxation C) Hopfield D) Radial
36. Analysis of machine learning algorithms, their performance forms branch ___ learning. []
 A) Deductive B) Inductive C) Computational D) Customized
37. External components that are used to receive information and transmit output are _____. []
 A) Critics B) Sensors C) Effectors D) Both C&D

38. Expensive re-computation can be avoided by using _____. []
A) Critics B) Macro operators C) Sensors D) All
39. In _____ learning, a type of machine where manual inputs are not used. []
A) Rote learning B) Supervised learning C) Unsupervised learning D) All
40. In _____ learning, system learns by examples. []
A) Rote learning B) Supervised learning C) Unsupervised learning D) Inductive



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road- 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code : AI (13A05707)

Course & Branch: B.Tech - CSE

Year & Sem: IV-B.Tech & I-Sem

Regulation: R13

UNIT- V

Fuzzy Logic

- | | |
|--|-----|
| 1. What is fuzzy logic? Explain briefly. | 10M |
| 2. Differentiate between Predicate Logic and Fuzzy Logic. | 10M |
| 3. Explain Fuzzy sets with example. | 10M |
| 4. What is Evolutionary Programming? Explain with Example. | 10M |
| 5. List different Genetic algorithm approaches. | 10M |
| 6. Explain the concept of genetic algorithm with neat diagram. | 10M |
| 7. What ant colony algorithm? Describe in detail. | 10M |
| 8. Describe Genetic Programming concept. | 10M |
| 9. What is Swarm Intelligence? Explain briefly. | 10M |
| 10. a) Define probability and fuzzy approach. | 2M |
| b) Write down the Fuzzy set operations | 2M |
| c) Types of membership functions. | 2M |
| d) Give the fuzzy propositions. | 2M |
| e) Define fuzzy quantifiers with types. | 2M |

Prepared by: G. Hari Prasad.



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (OBJECTIVE)

Subject with Code: AI (13A05707)

Course & Branch: B.Tech- CSE

Year & Sem: IV-B.Tech & I-Sem

Regulation: R13

UNIT- V

Fuzzy Logic

1. MAP stands for _____ []
A) Morphological Analysis Process B) Morphological Analysis Pattern
C) Morphological Arrange Process C) Morphological Arrange Pattern
2. Syntactic Analysis is also called _____ []
A) Scanning B) Parsing C) Code generation D) None
3. The main purpose of _____ processing is the creation of target representation of the meaning of sentence []
A) Morphological B) Syntactic C) Semantic D) Pragmatic
4. _____ analysis refers to intended meaning of a sentence used in different contexts []
A) Morphological B) Syntactic C) Semantic D) Pragmatic
5. A large number of computational models for __ & __ analysis have been developed []
A) Syntactic & morphologic B) Syntactic & semantic
C) Semantic & morphologic C) Pragmatic & morphologic
6. _____ is more convenient for visualizing grammar []
A) RTN B) TN C) LR D) LALR
7. _____ is also known as information agent []
A) Hybrid agent B) Internet agent C) Intelligent agent D) Interface agent
8. _____ agent can combine two or more agents philosophies within a singular agent []
A) Hybrid agent B) Internet agent C) Intelligent agent D) Interface agent
9. MAS stands for _____ []
A) Multi-agent system B) Multi-agent structure
C) Multi-analysis system D) Multi-analysis structure
10. Multi-agent application are useful in []
A) E- application B) Decision making C) Finding probability D) None
11. Genetic programming was developed by []
A) John Koza B) Stamer C) Ogawa D) willam yeoh
12. _____ is a set of agent that are capable of communicating directly or indirectly []
A) Swarn B) Hybrid C) Internet D) Interface
13. _____ are social insects that lives in huge groups and sense of vision and moment []
A) Swarn B) Ant C) Lane D) None
14. The colony is built and maintained by _____ ants []
A) Labor B) Sculpt C) Worker D) None
15. Fuzzy sets was developed in mid-60's by professor []
A) Latif zadeh B) Dennis Ritchie C) James gosling D) Von Rossum

16. A convenient method that can be used for representing uncertainty []
A) Fuzzy logic B) Fuzzy set C) Fuzzy set operations D) Crisp set
17. 0 indicating absolute []
A) false B) true or false C) true D) Yes
18. 1 indicating absolute []
A) false B) false or true C) true D) None
19. There are dizzy basic operations namely []
A) Fuzzy complement B) Fuzzy union C) Fuzzy intersection D) All the above
20. Operation increases the degree of membership for all members of a fuzzy set by spreading out the curve []
A) fuzzy logic B) fuzzy set C) dilation D) concentration
21. Operation decreases the degree of membership for all members []
A) Dilation B) Concentration C) Fuzzy set D) Fuzzy logic
22. A set refers to the total number of elements in the set []
A) Cardinality B) Dilation C) Concentration D) Fouzzy set
23. Evolutionary programming was invented by []
A) Fuzzy B) Lawrence C) James D) Dennis
24. FSMs means []
A) Fogel used finite state machines B) Finite state machines C) Fuzzy D) Duzzy set
25. Each member of the population generates an offspring by the process of []
A) Create offspring B) Selection C) Mutation D) Swarm
26. A set of agents that are capable of communicating directly/indirectly with each other []
A) Intelligence B) Create offspring C) Swarm D) Ant colony optimization
27. Morphological is also known as []
A) Lexical analysis B) Semantic analysis C) Syntactic analysis D) None
28. A class of optimization algorithms that are modelled on the actions of the members of an ant colony []
A) Anti colony optimization B) Lexical analysis C) Semantic analysis D) None
29. An interesting parameter that can be obtained by studying the biological functioning of social creatures is their []
A) Artificial intelligence B) foraging intelligence C) Lexical analysis D) Semantic analysis
30. Which of the following is not true regarding the principles of fuzzy logic? []
A) Fuzzy logic is a concept of 'certain degree'
B) Fuzzy logic follows the principle of Aristotle and Buddha
C) Japan is currently the most active users of fuzzy logic
D) Boolean logic is a subset of fuzzy logic
31. 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 *a* fuzzy system
D) Fuzzy patches covering a series of fuzzy rules
32. Fuzzy logic is a form of []
A) Two-valued logic B) Crisp set logic C) Many-valued logic D) Binary set logic

33. The values of the set membership is represented by []
A) Discrete Set B) Degree of truth C) Probabilities D) Both b & c
34. Which of the following systems analyzes spatial information? []
A) Neural network B) Genetic algorithm
C) Intelligent agent D) Geographical information system
35. Internet agent is also known as _____ Agent []
A) Flexible B) Transfer C) Information D) None
36. Natural Language Processing (NLP) is field of []
A) Computer science B) Artificial intelligence C) Linguistics D) All the above
37. The major tasks of NLP includes []
A) Automatic Summarization B) Discourse Analysis
C) Machine Translation D) All the above
38. Machine Translation []
A) Converts one human language to another B) Converts human language to machine language
C) Converts any human language to English D) Converts Machine language to human language
39. Morphological Segmentation []
A) Does Discourse Analysis
B) Separate words into individual morphemes and identify the class of the morphemes
C) Is an extension of propositional logic D) None of the above
40. Co-reference Resolution is []
A) Anaphora Resolution
B) Given a sentence or larger chunk of text, determine which words (“mentions”) refer to the same objects (“entities”)
C) Both a) & b) D) Neither a) nor b)