

Subject Code: 17MCA4C24

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Objective Type Questions

Department of Computer Science

Semester: IV PG: MCA

Title of the Paper: Core XXIV : Artificial Intelligence and Expert systems

1. Intelligence requires _____.
 - a. Knowledge
 - b. Data
 - c. Information
 - d. Skills
2. The problem of understanding spoken language is a _____ problem.
 - a. Ignorable
 - b. Perceptual
 - c. Recoverable
 - d. Irrecoverable
3. Which of the following problem is solved by expert task?
 - a. Robot control
 - b. Integral calculus
 - c. Geometry
 - d. Medical diagnosis
4. _____ provides a way of solving problem by exploiting the structure of the object that are involved.
 - a. Use of knowledge
 - b. Search
 - c. Abstraction
 - d. Information
5. _____ is a program that analyses organic compounds to determine their structure.
 - a. Mycin
 - b. Dendral
 - c. Prospector
 - d. Design Advisor
6. Who proposed a method for determining whether a machine can think?
 - a. Alan Turing
 - b. John McCarthy
 - c. Elaine Rich
 - d. Kevin Knight
7. A method for determining whether a machine can think is known as _____.
 - a. System test
 - b. Machine test
 - c. Turing test
 - d. Code test
8. A program that can themselves produce formal description from informal ones, this process is called _____.
 - a. Operationlization
 - b. Conceptualization
 - c. Systematization
 - d. Formalization
9. _____ search requires less memory.
 - a. Breath-first
 - b. Linear
 - c. Depth-first
 - d. Best-first

10. _____ is a technique that improves the efficiency of search process possibly sacrificing claims of completeness.
 - a. Heuristic
 - b. Abstraction
 - c. Depth-first search
 - d. Breath-first search
11. A general purpose heuristic is useful for a variety of combinatorial problem is _____.
 - a. Breath-first search
 - b. Depth-first search
 - c. Nearest neighbor heuristic
 - d. Bets-first search
12. Which of the following is a non-decomposable problem?
 - a. Symbolic integration
 - b. Blocks world
 - c. Theorem proving
 - d. Chess
13. Which of the following is a ignorable problem?
 - a. Theorem proving
 - b. 8-Puzzle
 - c. Chess
 - d. Blocks world
14. _____ is an example of uncertain-outcome problem.
 - a. Symbolic integration
 - b. Blocks world
 - c. 8-Puzzle
 - d. Bridge
15. The best-path problems in general computationally _____ than any-path problems.
 - a. Harder
 - b. Easier
 - c. Simpler
 - d. Not difficult
16. Many design and planning problems can be attacked with strategy _____.
 - a. Designing
 - b. Planning
 - c. Propose and refine
 - d. Wait and see
17. A _____ production system is a system that both monotonic and partially commutative.
 - a. Monotonic
 - b. Non-monotonic
 - c. Commutative
 - d. Not Partially commutative
18. _____ is also known as British Museum algorithm
 - a. Generate –and-test
 - b. Breath-first search
 - c. Best-first search
 - d. Hill climbing
19. A _____ is a state that is better than all its neighbors but it is not better than some other states further away.
 - a. Local maximum
 - b. Local minimum
 - c. Global maximum
 - d. Global minimum
20. A _____ algorithm is useful for searching AND-OR graphs.
 - a. A*
 - b. AO*
 - c. Breath-first search
 - d. Depth-first search
21. Mini-max is a _____ depth -limited search procedure.
 - a. Depth-first
 - b. Breath-first
 - c. Depth-last
 - d. Best-first
22. Terminating the exploration of sub-tree that offers little possibility for improvement over other known paths is called a _____.
 - a. Alpha cutoff
 - b. Beta cutoff
 - c. Alpha and beta cutoffs
 - d. Futility cutoff

23. An algorithm called depth-first iterative deepening combines the best aspects of depth-first and _____ search.
- Best-first
 - Breath-first
 - Depth-limited
 - Depth-last
24. DFID is the acronym of
- Depth-First Iterative Deepening
 - Depth-Final Iterative Deepening
 - Depth-Force Iterative Deepening
 - Depth-Form Iterative Deepening
25. _____ was the first heuristic search algorithm to find optimal solution paths for 15-Puzzle.
- A*
 - AO*
 - Depth-First Iterative Deepening
 - Iterative Deepening-A*
26. The logic symbol \vee is used for _____ operation.
- And
 - Or
 - Not
 - Material implication
27. The logic symbol \rightarrow is used for _____ operation.
- And
 - Or
 - Not
 - Material implication
28. The logic symbol \wedge is used for _____ operation.
- And
 - Or
 - Not
 - Material implication
29. Resolution produces proofs by _____.
- Refutation
 - Induction
 - Reduction
 - Analogy
30. Which of the following technique could be applied to the problem of answering questions?
- Breath-first search
 - Theorem proving
 - Problem reduction
 - Depth-first search
31. _____ logic is easy to determine that two literals cannot be true at the same time.
- Predicate
 - Propositional
 - Non-monotonic reasoning
 - Fuzzy
32. The object of the _____ procedure is to discover at one substitution that causes two literals to match.
- Merging
 - Unification
 - Matching
 - Association
33. _____ has deep mathematical roots and is useful in many AI programs.
- Unification
 - Association
 - Merging
 - Matching
34. $a \rightarrow b$ is equivalent to
- $\neg a \vee \neg b$
 - $\neg a \vee b$
 - $a \vee \neg b$
 - $\neg (a \vee b)$
35. $\neg (a \wedge b)$ is equivalent to
- $\neg a \vee \neg b$
 - $\neg a \vee b$
 - $a \vee \neg b$
 - $\neg a \wedge \neg b$
36. $\neg (a \vee b)$ is equivalent to
- $\neg a \vee \neg b$
 - $\neg a \vee b$
 - $a \vee \neg b$
 - $\neg a \wedge \neg b$

37. _____ procedure compares two literals and discovers a sets of substitutions that makes them identical
- Resolution
 - Refutation
 - Merging
 - Matching
38. $\neg \exists x: P(x)$ is equivalent to
- $\neg \forall x: P(x)$
 - $\exists x: \neg P(x)$
 - $\neg \exists x: \neg P(x)$
 - $\forall x: \neg P(x)$
39. To prove a statement _____ attempts to show that the negation of the statements to produce a contradiction with the known statements.
- Unification
 - Natural deduction
 - Resolution
 - Matching procedure
40. Theoretical basis of the resolution procedure in _____ logic is Herbrand's theorem.
- Propositional
 - Predicate
 - Programming
 - Default
41. A _____ is one in which knowledge is specified but the use to which that knowledge is to be put is not given.
- Declarative representation
 - Procedural representation
 - Formal representation
 - Knowledge representation
42. A _____ is one in which the control information that is necessary to use the knowledge is considered to be embedded in the knowledge itself.
- Declarative representation
 - Procedural representation
 - Knowledge representation
 - Logical representation
43. _____ programming is a programming language in which logical assertions are viewed as programs.
- Computer
 - System
 - Application
 - Logic
44. A Prolog program is described as series of logical assertions, each of which is a _____ clause.
- Horn
 - Empty
 - Resulting
 - Simple
45. A Horn clause is a clause that has at most _____ literal.
- One positive
 - One negative
 - Two positive
 - Two negative
46. There are several logic programming system is use today, the most popular of which is _____.
- Lisp
 - Prolog
 - Java
 - C++
47. Which of following is a Horn clause?
- p
 - $\neg p \wedge \neg q$
 - $\neg p$
 - $\neg q$
48. The object of search procedure is to discover a path through a _____ from an initial configuration to goal state.
- Solution space
 - State space
 - Problem space
 - Search space

49. A method of reasoning backward from the final state is called _____.
 a. Goal-directed reasoning b. Data-driver reasoning
 c. Forward reasoning d. Commonsense reasoning
50. _____ rules which encode knowledge about how to respond to certain input configurations
 a. Backward b. Forward
 c. Encoded d. Decoded
51. _____ rules which encode knowledge about how to achieve particular goals.
 a. Forward b. Backward
 c. Encoded d. Decoded
52. _____ is an example of backward-chaining system.
 a. Java b. C++
 c. Ops5 d. Prolog
53. _____ is the AI program that simulated the behavior of Rogerian therapist.
 a. RETE b. ELIZA
 c. EPAM d. SOAR
54. Knowledge about which paths are most likely to lead quickly to a goal state is often called _____.
 a. Search control knowledge b. Search declarative knowledge
 c. Search procedural knowledge d. Search explicit knowledge
55. Which of the following AI system represents that control knowledge with rules?
 a. SOAR b. ELIZA
 c. EPAM d. STM
56. Search control knowledge is also called _____.
 a. Meta -knowledge b. Explicit knowledge
 c. Procedural knowledge d. Tacit knowledge
57. _____ is a general purpose problem-solving system that incorporates several different learning matching.
 a. SOAR b. PRODIGY
 c. EPAM d. ELIZA
58. The ATMS is an alternative way of implementing _____ reasoning.
 a. Monotonic b. Non-monotonic
 c. Statistical d. Commonsense
59. _____ reasoning in which the rules of inference are extended to make it possible with incomplete information.
 a. Non-monotonic b. Statistical
 c. Commonsense d. Monotonic
60. $CH(h, e) =$ _____.
 a. $MB[h, e] - MD[h, e]$ b. $MB[e, h] - MD[e, h]$
 c. $MD[h, e] - MB[h, e]$ d. $MD[e, h] - MB[e, h]$
61. _____ is computer application that solves complicated problem otherwise requires extensive human expertise.
 a. Open system b. Expert system
 c. Conceptual system d. Closed system
62. _____ system is used to perform complex mathematical analysis.
 a. DENTRAL b. MACSYMA
 c. HEARSAY d. PROSPECTOR

63. _____ system is used for diagnosis of blood diseases.
- MYCIN
 - PROSPECTOR
 - R1
 - DENTRAL
64. _____ system is used to configuring DEC computers.
- MYCIN
 - R1
 - MACSYMA
 - HEARSAY
65. _____ is a computer-based consultation program for mineral exploration.
- HEARSAY
 - MACSYMA
 - MYCIN
 - PROSPECTOR
66. The presence of _____ knowledge is fundamental to the design of expert system.
- New
 - Existing
 - Domain-specific
 - Search control
67. _____ system is used to perform natural language interpretation for subset language.
- DENTRAL
 - MACSYMA
 - HEARSAY
 - MYCIN
68. _____ is the person who acquires the knowledge from the domain expert and stores it in the knowledge base.
- Computer engineer
 - Domain engineer
 - Knowledge engineer
 - Expert engineer
69. The presence of _____ contributes greatly to the power and flexibility of expert system.
- Facts
 - Procedural rules
 - Heuristics
 - Knowledge
70. _____ is the user who provides additional knowledge to system or modifies knowledge already present in the system.
- Customer
 - Tester
 - Tutor
 - Pupil
71. _____ is the user who may apply system's expertise to a specific knowledge.
- Tester
 - Pupil
 - Tutor
 - Customer
72. _____ is the user who attempts to verify the system's behavior.
- Tester
 - Pupil
 - Tutor
 - Customer
73. _____ is the user who may develop personal expertise relative to the subject domain by extracting knowledge from the system.
- Tester
 - Pupil
 - Tutor
 - Customer
74. _____ is the store house of the knowledge primitives.
- Knowledge base
 - Data base
 - Information base
 - Data Warehouse
75. _____ is the software system that locates knowledge and infers new knowledge from knowledge base.
- Inference engine
 - Search technique
 - Heuristic
 - Explanation
76. _____ is the process of acquiring domain specific knowledge and building it into the knowledge base.
- Computer engineering
 - Software engineering
 - Knowledge engineering
 - Domain engineering

77. The _____ facility in an expert system the system's reasoning to the user.
- User interface
 - Inference
 - Search
 - Explanation
78. _____ is a hypothetical expert system that diagnoses problems in automotive systems.
- FIXIT
 - PRESS
 - CLEAR
 - XPLAIN
79. _____ is an example of system that was specifically designed to support rationalization of the system's reasoning process.
- FIXIT
 - PRESS
 - CLEAR
 - XPLAIN
80. _____ is an expert system that resolves software problems that occur in GCOS, an operating system for mainframe computer.
- CLEAR
 - FIXIT
 - PRESS
 - XPLAIN
81. Expert system implementation is a _____ development process.
- User
 - Software
 - Customer
 - System
82. _____ planning activity focuses on defining the elements required to verify the validity of the system after the system is developed.
- Test
 - Product
 - Support
 - Implementation
83. _____ planning deals with activities necessary to produce a final product from the initial implementation.
- Test
 - Product
 - Support
 - Implementation
84. The components of the semantic networks are nodes and _____.
- Vertices
 - Edges
 - Links
 - Lines
85. A link in semantic networks is _____ relation.
- Binary
 - Instance
 - Isa
 - Partof
86. A _____ is structure for organizing knowledge with an emphasis on default knowledge.
- Frame
 - Script
 - Semantic net
 - Window
87. A _____ represents a specific example of a class is an instance of that class.
- Link
 - Node
 - Frame
 - Script
88. _____ is a structure that is used to store prototypes of expected sequence of events.
- Frame
 - Script
 - Semantic net
 - Slot
89. _____ are conditions that will be true after the events in the scripts have occurred.
- Props
 - Roles
 - Scenes
 - Script results
90. _____ are the specific sequence of events that make up the script.
- Scenes
 - Roles
 - Props
 - Script results

91. _____ refer to objects that are involved in the script.
 - a. Props
 - b. Roles
 - c. Script results
 - d. Scenes
92. _____ refer to agents that perform actions in the script.
 - a. Props
 - b. Roles
 - c. Script results
 - d. Scenes
93. A production system uses _____ for knowledge representation.
 - a. Data
 - b. Facts
 - c. Information
 - d. Rules
94. The _____ memory area used to track the current systems state which consists of a series of individual memory elements.
 - a. Local
 - b. Global
 - c. Main
 - d. Random
95. The _____ action adds a new element to global memory.
 - a. Read
 - b. Call
 - c. Modify
 - d. Make
96. Which action is used to delete an element form global memory?
 - a. Drop
 - b. Cut
 - c. Remove
 - d. Delete
97. _____ action is used to execute a specific user-defined procedure.
 - a. Call
 - b. Request
 - c. Run
 - d. Execute
98. _____ resolution is the process of dominant instantiation.
 - a. Negative
 - b. Disagreement
 - c. Conflict
 - d. Dispute
99. _____ is an example of expert system shell.
 - a. EMYCIN
 - b. MYCIN
 - c. PROPECTOR
 - d. HEARSAY
100. KAS is the knowledge system of _____.
 - a. HEARSAY
 - b. MYCIN
 - c. CASNET
 - d. PROSPECTOR

Core XXIV : Artificial Intelligence and Expert systems
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Answer with Expansion

1. a. Knowledge
2. b. Perceptual
3. d. Medical diagnosis
4. a. Use of knowledge
5. b. Dendral
6. a. Alan Turing
7. c. Turing test

8. a. Operationlization
9. c. Depth-first
10. a. Heuristic
11. c. Nearest neighbor heuristic
12. b. Blocks world
13. a. Theorem proving
14. d. Bridge
15. a. Harder
16. c. Propose and refine
17. c. Commutative
18. a. Generate –and-test
19. a. Local maximum
20. b. AO*
21. a. Depth-first
22. d. Futility cutoff
23. b. Breath-first
24. a. Depth-First Iterative Deepening
25. d. Iterative Deepening-A*
26. b. Or
27. d. Material implication
28. a. And
29. a. Refutation
30. b. Theorem proving
31. b. Propositional
32. b. Unification
33. a. Unification
34. b. $\neg a \vee b$
35. a. $\neg a \vee \neg b$
36. d. $\neg a \wedge \neg b$
37. d. Matching
38. d. $\forall x : \neg P(x)$
39. c. Resolution
40. b. Predicate
41. a. Declarative representation
42. b. Procedural representation
43. d. Logic
44. a. Horn
45. a. One positive
46. b. Prolog
47. a. p
48. c. Problem space
49. a. Goal-directed reasoning
50. b. Forward
51. b. Backward
52. d. Prolog
53. b. ELIZA
54. a. Search control knowledge

- 55. a. SOAR
- 56. a. Meta –knowledge
- 57. b. PRODIGY
- 58. b. Non-monotonic
- 59. a. Non-monotonic
- 60. a. MB [h, e] – MD [h, e]
- 61. b. Expert system
- 62. b. MACSYMA
- 63. a. MYCIN
- 64. b. R1
- 65. d. PROSPECTOR
- 66. c. Domain-specific
- 67. c. HEARSAY
- 68. c. Knowledge engineer
- 69. c. Heuristics
- 70. c. Tutor
- 71. d. Customer
- 72. a. Tester
- 73. b. Pupil
- 74. a. Knowledge base
- 75. a. Inference engine
- 76. c. Knowledge engineering
- 77. d. Explanation
- 78. a. FIXIT
- 79. d. XPLAIN
- 80. c. PRESS
- 81. b. Software
- 82. a. Test
- 83. b. Product
- 84. c. Links
- 85. a. Binary
- 86. a. Frame
- 87. b. Node
- 88. b. Script
- 89. d. Script results
- 90. a. Scenes
- 91. a. Props
- 92. b. Roles
- 93. d. Rules
- 94. b. Global
- 95. d. Make
- 96. c. Remove
- 97. a. Call
- 98. c. Conflict
- 99. a. EMYCIN
- 100. d. ROSPECTOR

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