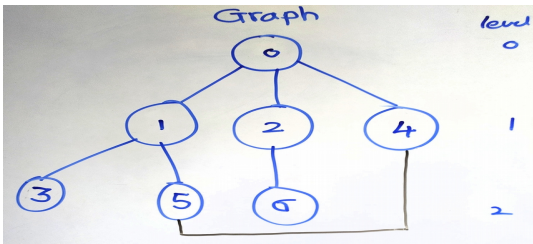| UI	AI MCQ by Prof. Sarang Joshi
	1. Programming = Data Structures + –---- a> Algorithms, b> Coding, c> Arithmetic, d> non of these
	2. PCAG means a> Personification Coding Action Goal, b> Personification Coding Algorithms Goal, c> Personification Cognition Action Goal, d> all above,
	3. AI means a> Algorithmic Interface, b> Algorithmic Intelligence, c> Artificial Intelligence, d> all above,
	4. Goal of AI is a> Precisely described such that machine can act on it , b> Precisely described for simulation only, c> Precisely described such engineering can act on it, d> all above,
	5. AI is the study of techniques for solving a> sequential Problems, b> Exponentially hard problems in polynomial time c> Coding Problems d> all above
	6. True Programming language for AI is a> C Programming, b. LISP Programming, c> Assembly Programming, d>none above
	7. AI applications include a> C programming, b> Mathematical Problems, c. Trigonometry Problems, d> Variety and diverse domains of applications
	8. Search is Inherent part of AI a> True, b. False
	9. State space is a> A set of states and set of operators for given objective b> A sub state space with start or initial state and final or goal state c> A sub problem space with sequence of states and operator with strategy d> none above
	10. Classical AI problem is a> TSP, b>ToH Problem, c> 8-Queens Problem, d> all of these
	11. Informed search has knowledge of a> search cost, b> search profit, c> error cost, d> all of these
	12. DFS goes down a path until it reaches to a node that has no children a> True, b> False
	13. Depth Bounded DFS limits the depth of search to some l <<d (unknown depth) a> True, b> False
	14. If the goal node is not reached then one more level of the tree is searched in a> Binary search, b> DB-DSF, c> ID-DFS, none of these

15. Performance majors of DFS are
a> Completeness, b> Optimality, c> Complexity d All of these

16. ID-DFS at level 1 is
a> 0,   b> 0,2,4,5, c>0,1,2,4   d> none of these

17. Bounded DFS and ID-DFS are applied when there is a large search space and the depth is not known
a> True, b> False

18. Heuristics is an informed Searching technique
a> True, b> False

19. Heuristic is a function that ranks alternatives in search algorithms at each branching step based on available information to decide which branch to follow
a> True, b>False

20. Pure Heuristic search uses
a> Open List, b> Close List , c> Open and Close Lists ,d None of these

21. The Best First Search uses
a> sequential Search, b> DFS, c> DFS-BFS d> All of these

22. Hill Climbing is a
a> local search algorithm, b> Optimal Algorithm, c> Complete Algorithm, d> All of these

23. SWARM Intelligence is a
a> Heuristics, b> Meta Heuristics, c> DFS,d> all of these

24. Meta-Heuristics is about
a> sequential search, b> improving performance of Heuristic, c> Binary Search, None of these

25. A distant neighborhoods are explored for the current incumbent solution and moved from this to new one if and only if an improvement is possible using
a> VND, b> Binary search, c> Sequential search, d> all of these

26. In VNS, a global minimum is a local minimum with respect to all possible neighborhood structured
a> True, b> False

27. In VNS, local minimum collectively provides the information about global minimum
a> True, b> False

28. Nearest neighborhood Decent is a deterministic method, in which a change of neighborhood is done in deterministic way
a> True. b> False

29. The Beam Search, At the start holds K number of states
a>Sequentially, b>Randomly, c> alternative steps, d> All of these

	30. Tabu Search is a Meta Heuristics which uses a> Local Maxima, b> Global Maxima, c> Local Minima, d> all of these
	31. Tabu Search uses a> Flexible attribute based memory Structures b> Fixed Attributes based memory Structures c> Flexible non-memory attributes d> none of these
	32. Tabu Search generates a series of different sets of Integer variables called as a> Tokens, b> Candidates, c> int d> none of these
	33.Tabu Candidates differ by one or few bits from the current best solution a> True, b>False
	34. Tabu search uses Tabu List and Tabu Moves a> True, b> False
	35. Tenancy period is the period used by Tabu List to restrict the Tabu moves a> True, b> False
	36. The A* algorithms is a a> worst case time Algorithm, b> optimal time Algorithm, c> minimum time Algorithm, d> none of these
	37. A* uses a> non-negative edge distance, b> negative edge distance, c> average distance, d> none of these
	38. A* uses a> d(v) = h(v), b> d(v) + h(v), c> d(v)-h(v), d> all of these
	39. If admissible heuristics exits or used, then the A* uses the optimal path distance a> True, b> False
	40. The idea of recursive best first search is to simulate A* search with a> O(bd) memory, b> O(n) memory, c> O(n) space, d> none of these
	41. RBFS is a heuristic search algorithm that expands in best first order the a> end nodes, b> middle nodes, c> Frontier nodes or f-nodes, d> none of these
	42. The major disadvantage of RBFS algorithm that it can visit the same node several times a> True, b> False
UII	**Problem Decomposition and Planning**
	44. Problem decomposition can be illustrated while drawing a character "T" a> drawing standing line and a sleeping line b> pronouncing "T" c> writing a,b,c d> all of these
	45. Major advantage of problem decomposition in AI is

	a> sequential computation, b> Loops and Conditions, c> Concurrent or Parallel execution, d> all of these
	46. Problem decomposition can be done with the help of a> Black box testing, b> white box testing, c> Goal Tree, d> All of these
	47. Goal Tree uses a> And, OR graph, b> inverted graph, c> BFS d> all of these
	48. Rule signify Intelligence a> True, b> False
	49. Rules represents facts in a rule based system a> True, b> False
	50. In a Rule based system, operator can be a> Linguistic, b> Boolean, c> Mathematical d> all of these
	51. Rule based expert system is a> Domain Specific, b> Universal, c> Without data, d> none of these
	52. The blocks of knowledge based expert system include a> Knowledge base, b> Working Memory, c> Interface Engine, d> All of these
	53. AI agent has a set actions with a> no effect, b> deterministic effect, c> non-deterministic effect, d> all of these
	54. STRIPS stands for a> String problem solver, b> Stanford Research Institute problem Solver, c> State space problem Solver, d> all of these
	55. STRIPS has two part actions namely, a> preprocessing, b> loops and conditions, c> pre-conditions and effect, d> all of these
	56. STRIPS uses a> Causal Rules and Frame Rules, b> working Rules, c> conditions and loops, d> all of these
	57. Forward and backward state space planning uses a> Agent based predictable goal planning, b> Simple Planning and Detail Planning, c> Agent based invisible Planning d> All of these
	58. 8-Queens problem can be an example of Forward-Backward Planning a> True, b> False
	59. Constraints uses labeling types such as a> Discrete labeling, b> Probabilistic labeling, c> a and b both, c>none of these
UIII	**Logic and Reasoning** Knowledge Based Reasoning : Agents, Facets of Knowledge
	60. Logical theories in AI are independent of Implementation a> True, b> False
	61. AI uses different logical and reasoning methods such as

	a> Semantic Net, b> logical programming, c> Theorem proving and Modeling, d> all of these
	62. In AI it is important to treat the representation of information using logic and the reasoning that goes along with it as a separate tasks. a> True, b> False
	63. Commonsense reasoning include a> Narrative understanding b> Diagnosis c> Spacial Reasoning d> All of these
	64. Truth Maintenance System(TMS) uses a> Non-monotonic logic, b> non-monotonic reasoning, c> Logical Agents, d> all of these
	65. A knowledge based agent must able to a> Identify and update new levels of Perception b> Sub-divide the problem space and identify and update solution base c> Select action and reach to the goal d> all of these
	66. Knowledge-based agents include a> Declarative KB agent, b> Procedural KB agents, c> class based KB agents, d> All of these
	67. WUMPUS World game represents a> Knowledge based agent, b> Information agents, c> Null agents, d> none of these
	68. Logical interface is about quantizing the knowledge in a manner using a> English grammar, b> AND, OR, NOR logic, c> sequential system, c> all of these
	69. Formal logic is a> Ambiguous, b> simple, c> unambiguous, d> all of these
	70. Proposition is either a> True, b> False, c> True or False, d> True and False
	71. Propositional logic is declarative and pieces of syntax makes declarative fact. a> True, b> False

	72. a> Propositional Logic is declarative
	   b> Propositional logic allow Disjunctive information
	   c> Propositional logic is compositional
	
	The Odd man out is
	1. a, 2. b, 3. c, 4. none of these

	73. First order logic assumes the world contains, a> Objects, b> relations, c> functions, d> all of these
	74. Connectives in First order logic are a> ∧, b> ∨, c> ⇒ , d> all of these
	75. In logic, Atomic sentence is a type of sentence which a> can be True, b> can be False, c> can not be divided further, d> all of these
	76. Brother(A,B) is a atomic sentence a> True, b> False

77. In first order logic Sibling(A, B) ⇒ Sibling(B, A) is a a> simple statement, b> negative sentence, c> Complex sentence, d> all of these
78. Universal quantifier in first order logic is a> ∀, b> ∃, c> $$, d> none of these
79. Complementary literals are used for resolution in FOL a> True, b> False
80. In FOL, KB = [P→Q , Q→R∧S] ==> new KB, [~P∨Q , ~Q∨~R∨~S , ~P∨R , ~P∨S] a> True, b> False
81. A process in which general premises are used to obtain a specif inference a> Simple reasoning, b> compound reasoning, c> Deductive Reasoning, all of these
82. [A AND (A →B)] →B is a Modus Ponen rule a> True, b> False
83. Backward Chaining is an inference method which implies going backward from a successful result to infer the chain of events, conditions or constraints, or decisions that had lead to the result a> True, b> False
84. In SOL, ∃ P P(b) is possible a> True, b> False
85. In SOL Let "A" and "B" are Cubes, then "A" and "B" share common properties a> Can not share common properties, b> Share common properties, c> share non-common properties, d> none of these
86.The knowledge representation schemes include a> Frames, b> Scripts, c> Frames and Scripts, d> None of these
87. Conceptual Dependency is used for reducing a> Objects, Scenes, c> Multiple Line Stories, d> all of these
88. CD (Conceptual Dependency) is used for a> CNN, b> NLP, c> KNN, d> all of these
89. Identify the CD primitive actions a> ATRANS, b> PTRANS, C> MOVE, d< all of these
90. Govind Ran (PP <==> ACT) can be represented using CD form as following a> Govind <==> PTRANS, b> Govind <==> ATRANS, c> Govind <==> SPEAK, d> none of these
91. Identify the connectors in CD a> O: Object, b> R: Recipient, c> D: Destination, d> all of these
92. Identify the modifiers with Tense of a sentence a> P: Past, b> F: Future, c> ?: interrogative, d> all of these

93. Disadvantages of CD are a> Difficult to find correct set of Primitives b> more inference is required c> Representations are complex for simple actions d> all of these
94. identify the applications of CD a> MARGIE, b> SAM, PAM, d> all of these
95. Semantic NET is also called as a> Knowledge representational Technique b> Semantic Network c> Propositional net d> All of these
96. Semantic Net is also called as labeled directed graph in Mathematics a> True, b> False
97. Semantic Nets are easily translated into PROLOG a> True, b> False
98.Advantages of Semantic net are a> Ability to represent default values b> Meaning is represented in a transparent manner c> It is simple and easy to understanding d> all of these
99. Elephant breath, Fish Breath and humans Breath can be represented using Semantic Frame a> True, b> False
100. Semantic Frames better suitable for example, a> Kiwi is a bird that can not fly b> Elephant is an Animal c> Lion Roars d> all of these

Answer Keys: 1a2c3c4a5b6b7d8a9a10d11a12a13a14c15d16c17a18a19a20c21c22a23b24b 25a26a27a28a29b30c31a32b33a34a35a36b37a38b39a40a41c42a43a44a45c46c47a48a49a 50d51a52d53b54b55c56a57d58a59c60a61d62a63d64d65d66d67a68b69c70c71a72d73d74d 75d76a77c78a79a80a81c82a83a84a85b86c87d88b89d90a91d92d93d94d95d96a97a98d99a 100a