AI QB

1. Describe different types of environments applicable to AI agents
2. Define blind search and informed search. Hence discuss the merits and demerits of each.
3. Compose your opinion about heuristic function
4. Explain any two Informed Search Strategies
5. Define Artificial Intelligence and list the task domains of Artificial Intelligence.
6. State and explain algorithm for the Best First search with an example.
7. Explain A* algorithm and write its pseudo code.
8. Explain hill climbing algorithm. Explain plateau, ridge, local maxima and global maxima.
9. Explain simulated annealing.
10. Explaiin problem reduction with respect to AND-OR graphs.
11. Design a planning agent for a Blocks World problem. Assume suitable initial state and final state for the problem
12. Compare forward and backward state search algorithms with figure.
13. Explain planning and acting in nondeterministic domains.
14. What conclusion can you infer from hierarchical planning?
15. Describe Hill climbing search algorithm, what are the problems face by Hill climbing search?
16. Suggest method for each problem to overcome.
17. Formulate the four necessary things to solve a problem
18. Discuss about the following: i) Greedy best-first search. (ii) A* search (iii) Memory bounded heuristic search.
19. Explain Alpha-Beta pruning in Min-Max search. Why it is suitable for two player game?
20. Show the performance measure of various search algorithms.
21. Formulate the four necessary things to solve a problem
22. What are properties of good system for the representation of knowledge?
23. Explain different approaches to knowledge representation.
24. Distinguish forward and backward reasoning explain with example.
25. Write in detail about the various steps of knowledge process.
26. Translate the following into First Order Logic.
    i. Everyone who saves money earns interest.
    ii. If there is no interest, then nobody saves money.

27. Describe A* algorithm with merits and demerits.
28. How do you examine about Backtracking search for CSP?
29. Explain the steps involved in converting the propositional logic statement into CNF with a suitable example.
30. Translate the following into First Order Logic.
    I. Everyone who saves money earns interest.
    ii. If there is no interest, then nobody saves money.
31. Summarize your views about following.
    i) Syntax of propositional logic ii) Semantics of propositional logic iii) Simple knowledge base iv) Inference
32. Explain in detail about models for predicate logic?
33. Relate first order logic with proposition logic and discuss in detail about the same.
34. How would you identify an example for resolution?
35. Explain the algorithms for planning as state-space search.
36. Explain planning and acting in nondeterministic domains.
37. Explain different forms of learning.
38. Explain the decision trees in learning with a neat tree diagram.
39. Describe the following about Using FOL?
    i) Kinship domain ii) Numbers, sets and lists iii) The wumpus world problem
40. Formulate your opinion about inference rules for propositional logic
41. Explain decision tree learning with an example. What are decision rules?
42. How to use it for classifying samples?
43. Explain in detail about Neural Network Architecture?
44. Can you apply the facts to describe i) Decision tree architecture
45. Explain the structure of learning agent. What is the role of critic in learning
46. what is reinforcement learning? Explain (i) Passive reinforcement learning
47. (ii) Active reinforcement learning.
48. Explain the learning with hidden variables: the EM algorithm.
49. What are the basic building blocks of learning agent? Explain each of them with a neat block diagram.
50. What is Nonparametric machine learning(NML)?Explain any one NML algorithm.
51. Explain passive reinforcement learning agent with algorithm.
52. Explain the applications of Reinforcement learning.
53. Explain the learning with hidden variables: the EM algorithm.