

Total number of printed pages-2

53 (IT 715) ARIN

2018

ARTIFICIAL INTELLIGENCE

Paper : IT 715

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

Answer **any five** questions.

1. (a) What is Heuristic ? Explain A* search with one example. 10
(b) What is Minimax algorithm ? How Alpha-beta pruning optimizes minimax algorithm ? When will Alpha-beta pruning be equally efficient as Minimax ? 3+5+2=10

2. Explain soundness and completeness of an inference rule. Explain DPLL algorithm. Compare DPLL and WALKSAT algorithm. 5+10+5=20

3. What are different types of agents ? Explain in details. 20

4. What is non-determinism in searching ? How And/Or graph handles non-determinism ? Explain searching with partial observation. 3+7+10=20

5. (a) What is Partial-order planning ? Explain with an example. 10

(b) What is Bayes' rule ? Explain the use of Bayesian Network with one example. 10

6. What is DFS ? What are the merits and demerits of DFS ? How IDFS stands in comparison to DFS ? Explain the role of searching algorithms in AI. 2+4+4+10=20

7. Write short notes on : 2×10=20

(a) Genetic Algorithm

(b) Applications of AI.