

29/5/2023

[3 hrs]

[80 Marks]

- Note: 1. Question 1 is compulsory
2. Answer any three out of remaining question
3. Assume suitable data where required

Q1 Solve any 4

- Explain applications of AI in the field of healthcare? 5
- Draw and explain architecture of Expert System 5
- Compare goal-based agent with knowledge-based agent. 5
- Write a PROLOG program for factorial of given number. 5
- Write PEAS for English Speaking Tutor 5

Q2

- Explain the steps involved in converting the propositional logic statement into CNF with suitable example 10
- Define chromosome, selection, fitness function, cross over and mutation as used in Genetic Algorithm. Explain how Genetic Algorithm in works. 10

Q3

- Explain bayes theorem with example. 10
- Explain Hill Climbing algorithm. Explain problems faced by hill climbing algorithm. 10

Q4

- "As per the law, it is a crime for an American to sell weapons to hostile nations. Country A, an enemy of America, has some missiles, and all the missiles were sold to it by Robert, who is an American citizen." Prove that "Robert is criminal." Using forward and backward Chaining. 10
- Enlist different types of environments and Explain environment for 8 queen problem. 10

Q5

- Explain Alpha Beta pruning with example. 10
- Explain Iterative Deepening Search Algorithm based on performance measure. 10

Q6

- Explain Utility Based Agents with diagram. 10
- Explain partial order planner with an example. 10