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THIRD SEMESTER M.Sc. DEGREE EXAMINATION NOVEMBER 2009

Computer Science

CS 304 – ARTIFICIAL INTELLIGENCE

(2005 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A

Answer any **five** *of the following.*
Each question carries 8 *marks.*

1. Define AI. Mention any *two* Al problems. Differentiate between ordinary and AI problems.

2. Transform the problem of Tic Tac Toe into a tree and indicate path from start to goal.

3. Compare depth first and breadth first searches. Give examples (draw portions of the tree) when these are ideal.

4. What are the advantages and disadvantages of predicate logic?

5. Explain Default Logic, CWA, Predicate completion.

6. Differentiate Top down and Bottom up parsing with an example.

7. Draw a block diagram of an expert system and explain the functions of each component.

(5 x 8 = 40 marks)

Part B

Answer any **four** *of the following.*
Each question carries 10 *marks.*

8. Why heuristic searches is preferred in AI? Explain hill climbing. Mention the problems associated with this search and suggest remedies.

9. Write PROLOG programs for DFS and BFS.

10. Convert the following sentences to FOPL :
    (a) Steve only likes easy courses.
    (b) Science courses are hard.
    (c) All courses in basket weaving dept are easy.
    (d) BK301 is a basket weaving course.
    Use resolution to (i) Prove Steve like BK301. (ii) To answer "What course does Steve like?"

11. Discuss Knowledge building tool, Knowledge acquisition, Meta knowledge.

12. Differentiate CD and ATN.

13. (a) What are desirable characteristics of production system?
    (b) Draw a complete tree for cannibal, Missionary. Indicate a solution.

(4 x 10 = 40 marks)