(i) Printed Pages: 3 Roll No. .....

(ii) Questions : 9 Sub. Code : 3615

Exam. Code : 0460

M.Sc. Information Technology 2nd Semester

(2054)

ARTIFICIAL INTELLIGENCE

Paper : M.S.-67

Time Allowed : Three Hours] [Maximum Marks : 80

Note :—Attempt **ONE** question from each Unit & Q. No. 9 is compulsory.

UNIT—I

1. (a) Why is AI important in today's era ? Explain its history and important developments also. 8

   (b) Compare and exemplify Data-driven and goal driven search in detail. 8

2. (a) Which are the important problem characteristics ? Explain its state-space representation also. 8

   (b) How do you perform Heuristic Search ? Explain through Best-First Search. 8

UNIT—II

3. (a) Explain any two knowledge representation methods in detail. 8

   (b) How do you perform game playing by adding Alpha-Beta cutoffs ? 8

4. (a) Why are semantic networks used ? Explain partitioned semantic nets also. 8

   (b) Explain and exemplify Minimax search procedure. 8

UNIT—III

5. (a) Why are expert systems important ? Explain its characteristics along with its architecture. 8

   (b) Write a detailed note on Grammars and Parsers. 8

6. (a) What are neurons ? How does communication and learning take place in Neural Networks ? 8

   (b) How is discourse and pragmatic processing carried out in AI ? Explain. 8

UNIT—IV

7. (a) Explain various data-types along with evaluation of arithmetic expressions. 8

   (b) Exemplify the sorting operation in PROLOG. 8

8. (a) Exemplify "List" and "String" manipulation in PROLOG. 8

   (b) Demonstrate Searching "Graphs" and "MAZE" in PROLOG. 8

(Compulsory Question)

9. Explain :

(a) Problem Reduction

(b) Ao*

(c) Issues in knowledge representation

(d) Conceptual dependencies

(e) MVCIN

(f) Perception

(g) Tower of Hanoi

(h) Controlling program flow. $8 \times 2 = 16$