

2074
B.E. (Electrical and Electronics Engineering)
Seventh Semester
OE-EE-704 (ii): Artificial Intelligence

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

I. Answer the following:-

- a) Give the significance of AI for mankind.
- b) For all x and y , if x is a parent of y then y is child of x , write it in predicate logic.
- c) How forward chaining differs from backward chaining.
- d) Write the properties of fuzzy sets.
- e) State the three activities supported by the programs that interact with domain experts to extract expert knowledge. (5x2)

UNIT - I

II. Discuss any two search techniques:

- a) A*search
- b) Memory bounded heuristic search
- c) Greedy best-first search (10)

III. Write the algorithm for Generate and Test and Simple hill climbing. (10)

- IV. a) State how knowledge is represented using structured formats.
- b) Explain about the Alpha Beta pruning. Write alpha beta search algorithm. (2,8)

UNIT - II

- V. a) Explain about the exact inference in Bayesian networks.
- b) Compute $P(B/A)$ if $P(A)$ 0.3, $P(A/B)$ is 0.4 and $P(B)$ is 0.5 (7,3)

VI. What is an agent? Explain the basic kinds of agent programs. Also explain briefly the architecture of intelligent agents. (10)

VII. Write the basic components of an expert system. Write any five applications for expert systems. (10)

x-x-x