2122
B.E. (Information Technology)
Fifth Semester
PCIT-503: 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. Any missing data or misprinted data may be assumed suitably. All questions carry equal marks.

x-x-x

I.   Answer the following:-

a. State whether Natural Language Processing can improve the living condition of a person or not? Justify your answer.

b. What is Inheritable knowledge? Compare it with inferential knowledge.

c. Discuss issues faced in a Multi Agent Planning Environment. How they can be overcome?

d. What is Non-monotonic reasoning? What is its role in handling modern day uncertainty?

e. What is the role of Inference Engine in an Expert System? Explain.

UNIT - I

II. a) What is an Intelligent Agent? What characteristics features they should have?

b) Discuss the scenario when Breadth First Search is better than Depth First Search and vice versa.

III. a) With the help of a suitable example , explain FRAMES (Use any hypothetical situation to explain.)

b) What is MIN-MAX algorithm? What is/are its disadvantages? How it can be overcome?

IV. a) Design a PEAS environment for self driving car. (Assume suitable data yourself)

b) Compare Weak and Strong Slot and filler structure.

UNIT - II

V. a) Three persons A, B and C have applied for a job in a private company. The chance of their selections is in the ratio 1 : 2 : 4. The probabilities that A, B and C can introduce changes to improve the profits of the company are 0.8, 0.5 and 0.3, respectively. If the change does not take place, find the probability that it is due to the appointment of C.

b) How Fuzzy Logic is different than Crisp Set Theory? With the help of suitable example, explain Fuzzy Union operation, Fuzzy Intersection operation, Fuzzy Complement operation and Alpha-Cut.

VI. a) What is an expert system? Explain its architecture.

b) Compare various types of planning approaches. Also list the scenarios where they can be used.

VII a) What is GraphPlan Algorithm? Explain with the help of suitable example.

b) Write short notes on

i) Bayesian Network.

ii) Inductive Learning

x-x-x