R13

Code No: 117AN

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, November/December - 2017
ARTIFICIAL INTELLIGENCE
(Computer Science and Engineering)

Time: 3 Hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A
(25 Marks)

1.a) Define State Space Search. [2]
b) Why do we go for AI to solve a problem rather than conventional methods? [3]
c) Define semantic nets. [2]
d) Describe refutation in propositional logic. [3]
e) What are the uses of certainity factors? [2]
f) List down the applications of expert system. [3]
g) Define supervised learning. [2]
h) Discuss about recurrent networks. [3]
i) Discuss the role of semantic analysis. [2]
j) Discuss about case grammars. [3]

PART-B
(50 Marks)

2. Explain how to define a problem as a state space search, with a suitable example. [10]

OR

3. Explain A* algorithm with a suitable example. State the limitations in the algorithm. [10]

4. Consider the following facts and represent them in predicate form:
F1. There are 500 employees in ABC Company.
F2. Employees earning more than 5000 pay tax.
F3. Managers earns Rs. 10,000
F4. John is manager in ABC Company.
Converts the facts in predicate form to clauses and then prove by resolution "John pays tax". [10]

OR

5. Give an example to explain the various approaches used for knowledge representation. [10]

6. Explain the use of expert system shells. What are the different ways (support for explanation) to make the expert system effective? [10]

OR

7. Give an example to explain the concept of Bayesian belief network for measuring the uncertainity. [10]

8. Write short note on the following:
   a) Learning by taking advice
   b) Learning in problem solving – learning by parameter adjustment, learning by chunking. [5+5]

OR

9. Describe in detail about the concept of single layer feed forward networks. [10]

10. With an example explain the steps used for processing a natural language sentence.[10]

OR

11. Draw a neat sketch to explain universal networking knowledge. [10]

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