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Roll No

IT-7005(2)-CBGS

B.E. VII Semester

Examination, December 2020

Choice Based Grading System (CBGS)

Artificial Intelligence (AI)

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) Define Production system. Also, give its types and characteristics.
b) Write Steepest Hill Climbing algorithm. How it is different from Hill Climbing?
2. a) Write the resolution procedure for propositional logic.
b) Consider the following facts and represent them in predicate form.
 - i) There are 500 employees in ABC Company
 - ii) Employees earning more than Rs. 5000 pay tax
 - iii) John is a manager in ABC Company
 - iv) Manager earns Rs. 10,000Convert the facts in predicate form to clauses and then prove by resolution "John pays tax".
3. a) What are the characteristics of a good knowledge representation technique? Explain each of them in brief.
b) Explain propositional knowledge with suitable examples. Compare it with predicate knowledge.

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4. a) Describe briefly using example monotonic and non-monotonic reasoning?
b) Explain with the help of an example the use of unification algorithm to prove the concept of resolution?
5. a) Explain Bay's Theorem? Show how it is useful to handle uncertain data.
b) Explain the concept of forward and backward reasoning with the help of example.
6. a) Explain alpha-beta search procedure. How to use in tic-tac-toe game.
b) Explain block world problem in robotics with examples.
7. a) Describe some of the refinement techniques used in minimax search procedure?
b) Explain the steps on natural language understanding?
8. Write Short Notes on :
 - i) Alpha beta cut off
 - ii) Fuzzy logic
 - iii) AO* algorithm
