D 28423

Name.....

Reg. No. . . . . .

THIRD SEMESTER M.Sc. DEGREE EXAMINATION, FEBRUARY 2007

Computer Science

CS 304—ARTIFICIAL INTELLIGENCE

(2005 admission onwards)

Time : Three Hours Maximum : 80 Marks

Part A

Answer any **five** *questions.*
Each question carries 8 *marks.*

1. Define AI. Mention some typical AI problems. What are AI techniques ?
2. Translate any problem of your choice as state space search. Mention some rules. Indicate the path from start to goal.
3. Discuss procedural and declarative knowledge representation.
4. Differentiate propositional and predicate calculus. Describe resolution with a simple example.
5. What are the demerits of first order predicate logic ? Discuss briefly other (any *two)* reasoning schemes.
6. Illustrate the use of FAIL and CUT in PROLOG.
7. Describe the architecture of expert system. What are the characteristics of expert system ?

(5 x 8 = 40 marks)

Part B

Answer any **four** *questions.*
Each question carries **10** *marks.*

8. Describe DFS and BFS. When are they preferred ? Are these informed searches ? Justify.
9. How is hill climbing different from best first search ? Provide an example.
10. (a) A person ***P*** marries an elderly widow. W. W has a grown up daughter ***D. P's*** father ***F*** marries ***D.*** Using backward reasoning, show that ***P*** is his own grandfather.

    (b) Use resolution to show that ***D*** is her own grandmother.
11. Describe parsing with the aid of example grammar and a sentence.
12. (a) Describe the importance of knowledge engineering.

    (b) Explain the reasoning method in MYCIN.
13. Implement DFS in PROLOG. Discuss the merits of PROLOG as AI programming language.

(4 x 10 = 40 marks)