2008-PUNJAB TECHNICAL UNIVERSITY

B.E DEGREE EXAMINATION

ARTIFICAL INTELLIGENCE

(COMPUTER SCIENCE AND ENGINEERING)

TIME-3HOUR
MARKS-100

PART-A [1082=20 MARKS]

1]What is the use of heuristic functions?

2]Define artificial intelligence.

3)How to improve the effectiveness of a search based problem solving technique?

4]What is a constraint satisfication problem?

5]What is a unification algorithm?

6]How can you represent the resolution in predicate logic?

7]List out the advantages of nonmonotonic reasoning.

8]Differentiate between JTMS and LTMS

9]List out the important components of a scipt.

10]What are framesets and instances?

PART-B [5*16=80 MARKS]

11. (a)(i) Give an example of a problem for which breath first search would work better than depth first search.

(ii). Explain the algorithm for steepest hill climbing.

OR

(b). Explain the following search strategies.

(i) .Best first search

(ii) .A* search.

12 .(a) Explain Min Max search procedure

OR

(b) .Describe alpha-beta pruning and give the other modifications to the minmax procedure to improve its performance.

13.. (a) Illustrate the use of predicate logic to represent the knowledge with suitable example.

OR

(b) Consider the following sentences:

John likes all kinds of food.

Apples are food.

Chicken is food

Anything anyone eats and isn't killed alive.

sue eats everything bill eats

(i) .Translate these sentences into formulas in predicate logic.

(ii) .Prove that john likes peanuts using backward chaining

(iii). Covert the formulas of a part into clause form

(iv) .Prove tha tjohn likes peanuts using resolution.

14..(a) With an example explain the logics for nonmonotonic reasoning

OR

(b) Explain how Beyesian statistics provides reasoning under various kinds of uncertainty

15..(a) (i) Construct semantic net representations for th folowing:

pomepeian (Marcus), Blacksmith (marcus)

Mary gave the green flowered vase to her favorite cousin.

(ii) Construct partitioned semantic net represtations for the following:

Every batter hit a ball

All the batters like the pitcher.

OR

(b) (i) .Illustrate the learning fromexamples by induction with suitable examples.