

## Sample Paper for Artificial Intelligence

Explain the following terms.

- a. Physical symbol system hypothesis
- b. Turing test.
- c. Heuristic.
- d. Computable functions and predicates.
- e. Tautology.
- f. Most General Unifier (MGU)
- g. Herbrand Universe
- h. Closed World Assumption(CWA)
- i. Confidence factors
- j. Horn clause

2. a. Explain the characteristics of an AI technique.

b. Explain the role of cognitive science in modeling human behavior.

3. a. Explain the role of state space approach in solving AI problem.

b. With suitable example explain the characteristics of monotonic and partially commutative production systems.

4. a. Prove each of the following statements:

i. Breadth first search is a special case of uniform cost search.

ii. Breadth first, depth first and uniform cost search are special cases of bestfirst search.

iii. Uniform cost search is a special case of  $A^*$  search.

b. Explain the role of difference tables in Means & Ends analysis.

5. a. With suitable examples, explain the steps needed to convert a WFF in predicate logic to its equivalent clause form.

b. Explain the operation of unification algorithm.