Roll No. .....

24333

B. Tech 6th Semester (IT)

Examination – May, 2016

INTELLIGENT SYSTEMS

Paper : CSE-304-F

Time : Three Hours] *[Maximum Marks : 100*

Before answering the question, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Question no. 1 is ***compulsory***. Attempt ***five*** questions in total selecting ***one*** question from each Unit.

1. Explain the following : $4 \times 5 = 20$

(a) Effect of over-estimation and under-estimation of h'(n) on A* algorithms.

(b) Explain various knowledge representation issues.

(c) Reasoning under uncertainty.

(d) Al applications to robotics.

SECTION – A

2. (a) Write a LISP expression that concatenates two two-element lists. For example, concatenating (a b) and (c d) should return (a b c d). 10

(b) What is alpha and beta pruning ? Explain with example. 10

3. (a) Explain various problems and their solutions in hill climbing algorithm. 10

(b) Discuss the relative merits of BFS and DFS. Suggest some applications to which each is best suited ? 10

SECTION – B

4. (a) What do you mean by knowledge acquisition ? Write different methods used for knowledge acquisition. 10

(b) Draw the procedural as well as declarative frame for the following knowledge. "Replacing a toner of a printer". 10

5. Write notes on :

(a) Statistical reasoning 10

(b) Dempster shafer theory. 10

SECTION – C

6. (a) What do you mean by planning ? Explain various steps in planning process. 10

(b) Describe planning in situational calculus. 10

7. Write notes on : 20

(a) Symbolic reasoning

(b) Fuzzy reasoning

SECTION – D

8. What is an expert system ? Describe various components of an expert system. Compare a human expert with an artificial expert system. 20

9. Write notes on : 20

(a) Knowledge acquisition concepts

(b) Natural language processing

(c) Genetic algorithm