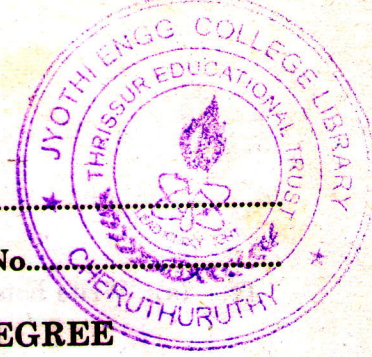


C 5713

(Pages : 2)

Name.....

Reg. No.....



**EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE  
EXAMINATION, JUNE 2005**

**CSE**

**CS 2K 803—ARTIFICIAL INTELLIGENCE**

**(New Scheme)**

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.*

- I. 1 What are called a state-space graph ? What are its advantages ?
- 2 Explain the heuristic repair approach for problem solving.
- 3 What is called PSAT problem ? How can it be solved using conjunctive normal form formulas ?
- 4 What are the various quantifiers in predicate calculus ? Explain their semantics.
- 5 Define the term Genetic programming. Explain the GP process briefly.
- 6 Explain the basic structure of a rule based expert system.
- 7 Explain the use of CAR and CDR functions in LISP.
- 8 "LISP is neither call-by-reference nor call-by-value". Justify this statement.

(8 × 5 = 40 marks)

**Part B**

*Answer one question from each unit.*

**UNIT I**

- II. (a) List and explain some of the ways of representing and implementing action functions.
- Or*
- (b) Write the A\* algorithm and explain its working with an example.

**UNIT II**

- III. (a) Explain with an example how to convert arbitrary wffs to clause form in predicate calculus.
- Or*
- (b) (i) Convert the following propositional calculus wff into clauses.  
$$\neg [(P \vee \neg Q) \supset R] \supset (P \wedge R)$$
  - (ii) Write down the search strategies of resolution regulation.

**Turn over**



## UNIT III

IV. (a) Write notes on neural networks explaining the back-propagation method.

Or

(b) What are Bayes Networks ? Explain the various patterns of inference in Bayes Networks.

## UNIT IV

V. (a) What are arrays ? How to initialise arrays in LISP ? Give an example to illustrate the use of arrays.

Or

(b) Define HILL, a search program that does hill climbing in a tree, such that the new elements of the queue are sorted and then added to the front.

(4 × 15 = 60 marks)