

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
(2064)

14729

B. Tech 6th Semester Examination

Artificial Intelligence

IT-6003

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt one question each from sections A, B, C, and D of the question paper and all the subparts of section E.

SECTION - A

1. (a) Describe the resolution method used in predicate logic by giving a suitable example. (10)
- (b) Differentiate between depth first search and breadth first search methods. (10)
2. (a) What are the necessary condition associated with A*method? Explain A*method with a suitable example. (10)
- (b) Discuss the min-max method to play tic-tac-toe game. Also state the advantages and disadvantages of min-max method. (10)

SECTION - B

3. (a) Write a program in Prolog for merging two un-ordered lists. (10)
- (b) Describe Prolog unification mechanism with example. (10)

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4. (a) Discuss the use of Horn Clauses in logic programming. (10)
- (b) What are the various types of control structure used in LISP? Explain with example. (10)

SECTION - C

5. Discuss different techniques that deal with uncertainty in AI systems. Also give examples of each. (20)
6. Describe the role of each component of a general learning model. Write the applications of Hopfield neural networks. (20)

SECTION - D

7. (a) How does the expert system infer the facts in rule based system? Explain. (10)
- (b) Differentiate between Hierarchical planning and Conditional planning. (10)
8. (a) How the natural language processing is different than processing of high level languages? Explain. (10)
- (b) Describe the tools available to acquire knowledge and to update knowledge automatically in expert system. (10)

SECTION - E

9. (a) What are the limitations of MYCIN? Explain.
- (b) What is the importance of planning in AI?
- (c) What are the applications of FAIL predicate of prolog in AI?
- (d) What do you understand by conflict resolution?
- (e) Describe the properties of Modus Ponens.
- (f) Differentiate between monotonic and non-monotonic reasoning.
- (g) State AI technique with example.
- (h) What do you understand by frame? Explain. (8×2½=20)