[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
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17219(N)

B. Tech 5th Semester Examination

Artificial Intelligence and Expert System (CBS)

CS-504

Time : 3 Hours Max. Marks : 60

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 five question in all, selecting one question from each of the sections A, B, C and D and all the subparts of the question in section E.

SECTION - A

1. (a) Discuss on different types of Agent Program. (6)

   (b) Describe the A* search and give the proof of optimality of A*. (6)

2. (a) Give the algorithm for solving constraint satisfaction problems by local search. (6)

   (b) What is depth limited search? Give the recursive implementation of depth limited search. (6)

SECTION - B

3. (a) Illustrate the use of First order logic to represent the knowledge. (6)

   (b) Explain the Forward chaining and backward chaining algorithm with example. (6)

4. (a) Explain about Decision tree learning with example. (6)

   (b) Explain the explanation based learning in detail with example. (6)

SECTION - C

5. (a) Describe the process involved in communication using the example sentence "The wumpus is dead". (6)

   (b) Write short notes on semantic interpretation with example. (6)

6. (a) How searching is used to provide solutions and also describe some real world problems. (6)

   (b) Describe Alpha-Beta pruning and it's effectiveness (6)

SECTION - D

7 (a) Explain the Knowledge characteristics of Expert system with an example. (6)

   (b) Explain how forward chaining is different from backward chaining expert system with suitable example. (6)

8 (a) Discuss the different design issue to be solved to use HMM for real world application. (6)

   (b) Write the difference between skill and knowledge characteristics of expert system with example. (6)

SECTION - D

9 (a) Define a data type to represent problems and nodes?

   (b) Joe, Tom and Sam are brothers-represent using first order logic symbols.

   (c) List the canonical forms of resolution.

   (d) Give the semantic representation of "John loves Marry"

   (e) List the issues that affect the design of an learning element

   (f) What is the difference between uninformed and informed search strategies? (6×2=12)