S.No. : 80 BCS 3701

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Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 33230 Roll No. | | | | | | | | | | |

B. Tech. Examination, 2024-25

(Odd Semester)

ARTIFICIAL INTELLIGENCE

Time : Three Hours] *[Maximum Marks : 60*

Note :– Attempt all questions.

SECTION – A

1. Attempt all parts of the following : 8×1=8

   (a) List the four applications of artificial intelligence.

   (b) Differentiate between informed and uniformed search.

   (c) Differentiate btween knowledge acquisition and knowledge representation.

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(b) Explain the process of expertise transfer in artificial intelligence.

(c) Write the note on DENDRAL expert system.

6. (a) What is pattern recognition? Explain various steps involved in the designing of pattern recognition system with the help of a design.

(b) Write a Lisp program to find the sum of all elements in a list.

(c) Write short notes on the following :

(i) Speech recognition and main challenges in speech recognition

(ii) Semantic model

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(d) Define horn clause.

(e) What are the components of expert system?

(f) What do you meanby self explaining system?

(g) Summarize the following sentence into symbolic form (FOL) :

"Everyone has a heart"

(h) What is Lisp? Why is it so popular in artificial intelligence?

SECTION – B

2. Attempt any two parts of the following : 2×6=12

(a) Explain Sstochastic hill climbing algorithm.

(b) Discuss various approaches and issues in knowledge representation. Also discuss various problems in representing knowledge.

(c) Explain the architecture and application of MYCIN expert system and write down the major features of MYCIN expert system.

(d) Compare and contrast functional programming in LISP with imperative programming languages.

SECTION – C

Note :– Attempt all questions. Attempt any two parts from each questions. 8×5=40

3. (a) What is hill climbing? Explain all types of problems faced during hill climing.

(b) Explain N-queens problem with algorithm.

(c) Explain the role of intelligent agent in artificial intelligence. Explain all types of intelligent agents in details.

4. (a) Write about Minskey frames.

(b) Differentiate between forward and backward chaining with examples.

(c) Translate the following into predicate logic :

(i) John likes all kinds of food.

(ii) Apples are good.

(iii) John eats peanuts.

(iv) Jill eats everything Sonu eats.

5. (a) Explain the characteristics of an expert system.

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