TCS–801/TIT–801

B. Tech. (CS/IT) (Eighth Semester)
End Semester EXAMINATION, 2017
ARTIFICIAL INTELLIGENCE

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

Note : (i) This question paper contains *five* questions.

(ii) All questions are compulsory.

(iii) Instructions on how to attempt a question are mentioned against it.

(iv) Total marks assigned to each question are **twenty.**

1. Attempt any *two* questions of choice from (a), (b) and (c).   (2×10=20 Marks)

   (a) What is AI ? What is the difference between weak AI and strong AI ? Explain the tasks of AI.

   (b) What is the difference between informed search and uninformed search ? Explain Hill climbing algorithm. Discuss the problems associated with Hill Climbing.

(c) Write short notes on the following :

   (i) Game Playing

   (ii) Search Tree

   (iii) Production Rule

   (iv) Turing Test

   (v) Heuristic Function

2. Attempt any *two* questions of choice from (a), (b) and (c).   (2×10=20 Marks)

   (a) What do you mean by parsing ? Explain top down and bottom up parser with an example.

   (b) What is transformational grammar ? How is it different from context free grammar ? What is deep structure and surface structure ?

   (c) Write short notes on the following :

      (i) Fillmore's grammar (case grammar)

      (ii) Shanks Conceptual Dependency

3. Attempt any *two* questions of choice from (a), (b) and (c).   (2×10=20 Marks)

   (a) What is FOPL stands for and explain its role in Artificial Intelligence ? What does the language of FOPL consists of ? Give an example.

   (b) Write short notes on the following :

      (i) Forward & Backward Deduction

      (ii) Partitioned Nets

(c) Explain knowledge representation using frames and semantic networks.

4. Attempt any *two* questions of choice from (a), (b) and (c).   (2×10=20 Marks)

   (a) What is an Expert system ? Explain the architecture of an expert system with a neat block diagram.

   (b) Write short notes on any *two* of the following :

      (i) Knowledge Acquisition

      (ii) Meta Knowledge

      (iii) DENDRAL

   (c) What is an Inference Engine ? Give the features of MYCIN.

5. Attempt any *two* questions of choice from (a), (b) and (c).   (2×10=20 Marks)

   (a) What is pattern recognition in artificial intelligence ? Explain the components of pattern recognition.

   (b) What do you mean by machine perception ? Write the features of PROLOG.

   (c) Write short notes on the following :

      (i) Object Identification

      (ii) Speech Recognition

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