H   Roll No. ....

TCS/TIT–701

B. TECH. (CS/IT)
(SEVENTH SEMESTER)
END SEMESTER EXAMINATION, 2018
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 do you understand by artificial intelligence ? What are the application areas of AI ?

(b) What is A* algorithm ? Explain with an example.

(c) Explain any *two* of the following :
  (i) Horn Clauses
  (ii) Minskey frames
  (iii) Forward and backward deduction

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

 (a) Differentiate between BFS and DFS with respect to AI.

 (b) Explain Hill climbing search and the problems associated with it.

 (c) Explain (i) Transition Nets (ii) Augmented Transition Nets.

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

 (a) Explain Shanks Conceptual Dependency.

 (b) Explain Uniform Cost Search Algorithm with an example .Throw some light on real world applications of the same algorithm.

 (c) Explain Best First Search algorithm with an example.

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

 (a) What do you mean by Game Playing ? Explain Minimax Algorithm with the help of tic-tac-toe example.

 (b) Explain Fillmore's grammar.

(c) What is Context free grammar ? What is the difference between Context free grammar and Transformational grammar ?

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

 (a) Elaborate any *two* of the following in context of Pattern Recognition :
   (i) Structured description
   (ii) Machine Perception
   (iii) Line Finding.

 (b) Throw some light on informed and uninformed search. Explain each with the help of an example.

 (c) (i) What is an Expert System ? Explain the expert system architecture of Dendral.
   (ii) Explain the Water-Jug problem.

Scanned by CamScanner