H   **Roll No. ....**

TCS–632

B. TECH. (CSE) (SIXTH SEMESTER) END SEMESTER EXAMINATION, June, 2023

ARTIFICIAL INTELLIGENCE

Time : Three Hours

Maximum Marks : 100

Note : (i) All questions are compulsory.

(ii) Answer any *two* sub-questions among (a), (b) and (c) in each main question.

(iii) Total marks in each main question are twenty.

(iv) Each sub-question carries 10 marks.

1. (a) Explain the simulation of sophisticated and intelligent behavior in real time traffic monitoring.   (CO1)

   (b) What are the main differences between heuristic algorithms and guaranteed algorithms ?   (CO1)

(c) Explain the limitations of Artificial Intelligence with examples.   (CO1)

2. (a) What is the concept of context free and transformational grammar ?   (CO2)

   (b) Explain the concept of transition nets and augmented transition net.   (CO2)

   (c) What is Shanks conceptual dependency ? Explain the concept of sentence generation.   (CO2)

3. (a) What is role of first order predicate calculus in knowledge representation ?

                                                        (CO3)

   (b) What is the concept of forward and backward deduction in knowledge representation ?   (CO3)

   (c) Explain the difference between semantic nets and partitioned nets.   (CO3)

4. (a) Explain the architecture of Expert Systems with proper example.   (CO4)

   (b) Explain the architecture of MYCIN and DENDRAL.   (CO4)

(c) What is Meta knowledge ? Describe self-explaining system with example. (CO4)

5. (a) What are the steps of object detection? What is the concept for target region selection ? (CO5)

(b) How to extract features from voice data ? What are popular deep learning models for speech verification ? (CO5)

(c) Explain the concept of structured description and symbolic description.

(CO5)