

(Please Write your Roll No. immediately)

Mid-Term Examination

B.Tech – VI Semester
Paper Code: ETCS-310
Time: 1.5 hour

April, 2022
Subject – Artificial Intelligence
Max Marks: 30

Note: Q.No. 1 is Compulsory. Attempt any two more Question from the rest.

Q1.

(2*5=10 marks)

- a.) Differentiate Propositional logic and FOPL with example.
- b.) What is PEAS? Specify PEAS for an Aerospace System.
- c.) Obtain disjunctive normal form of:
$$p \vee (\sim p \Rightarrow (q \vee (q \Rightarrow \sim r)))$$
- d.) Explain Turing Test. Why Turing Test was criticised and also explain Chinese room Argument Test.
- e.) Differentiate OR graph and AND-OR graph.

Q2. a.) What is heuristic search? Explain Hill Climbing and its limitations.

(5 marks)

b.) Explain Iterative Deepening Depth First Search with example.

(5 marks)

Q3. a.) Represent the following facts in FOPL:

(5 marks)

- i.) All men are mortal
- ii.) Some pet dogs are dangerous
- iii.) All basketball players are tall
- iv.) Lipton is a tea
- v.) Some employees are sick today.

b.) Check the validity of following argument:

(5 marks)

“If I get the job and work hard, then I will get promoted. If I get promoted, then I will be happy. I will not be happy. Therefore, either I will not get the job or I will not work hard”.

Q4. a.) Solve following cryptographic puzzle using Constraint Satisfaction procedure:

(5 marks)

FOUR
+ MICE

FOUND

a.) Discuss forward and backward chaining with suitable example.

(5 marks)