Reg. No.:

Name   :

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TERM END EXAMINATIONS (TEE) – December 2021- January 2022

Programme	**B.Tech – CSE**	Semester	**Fall 2021-2022**
Course Name	**Fundamentals in AI & ML**	Course Code	**CSA2001**
Faculty Name	**Dr. Durga Prasad Bavirisetti**	Slot / Class No	**B11+B12+B13/0046**
Time	**1½ hours**	Max. Marks	**50**

Answer ALL the Questions

Q. No.	Question Description	Marks

PART - A – (3 x 10 = 30 Marks)

1 (a) What is a Constraint Satisfaction Problem (CSP)? Solve the map coloring problem in the following graph using CSP and intelligent backtracking.

Constraint: No neighbour nodes contain the same colour

10

OR

(b)
i. What is an Alan turning test? Discuss various chat boats that attempted this test.

5

ii. Explain the Chinese room test.

5

2 (a) Convert the following statements into FOL and prove by Forward and backward chaining that "*John likes peanuts*".

10

John likes all kind of food.

Apple and vegetable are food
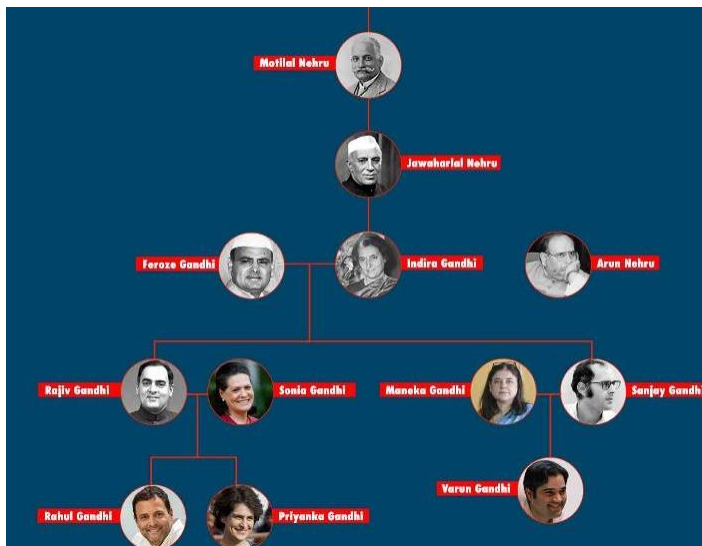
Anyone anything eats and not killed is food.

Anil eats peanuts and still alive

Harry eats everything that Anil eats.

OR

(b) Explain the concept of multi-agent communication in software agents.

10

3 (a) What is recursion? Convert the following family tree using FOL and write the prolog program for recursion.
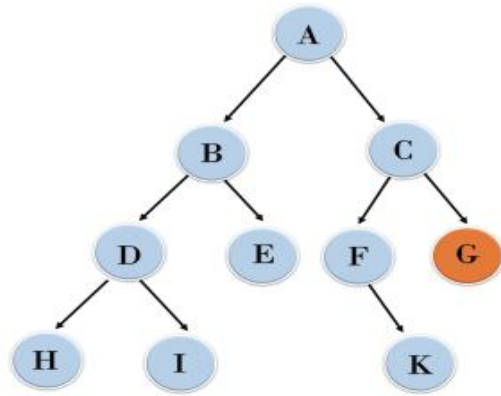

10

OR

(b) What is classification? Explain the logistic regression technique with an example.

10

Part - B – (2 x 10 = 20 Marks)

4 Solve the following graph using Breadth first search algorithm with help of queue data structure.

10

Note: A and G are start and goal nodes respectively.

5   Predict the Co2 Emission of a new Car using the Ordinary least squares mathematical approach when the number of cylinders are given as 4.

	ENGINESIZE	CYLINDERS	FUELCONSUMPTION_COMB	CO2EMISSIONS
0	2.0	4	8.5	196
1	2.4	4	9.6	221
2	1.5	4	5.9	136
3	3.5	6	11.1	255
4	3.5	6	10.6	244
5	3.5	6	10.0	230
6	3.5	6	10.1	232
7	3.7	6	11.1	255
8	3.7	6	11.6	267

10

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