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	**A21+A22+A23/0058**
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 Minimax Algorithm? Solve the following graph using Minimax.
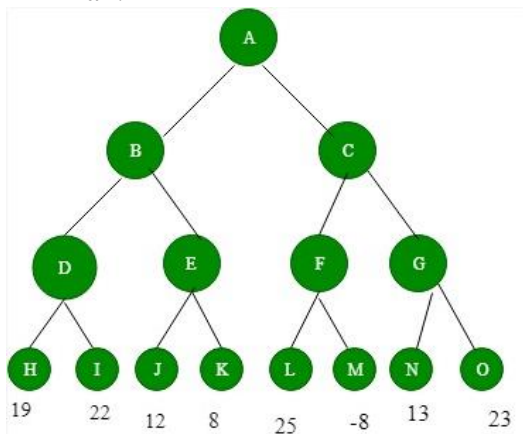
10

OR

(b)   i.   What is PEAS representation? Explain the PEAS representation of a self-driving car and a vacuum cleaner.   **7**

ii.   Explain the Alan Turing test.   **3**

2 (a) Convert the following statements into FOL and prove by resolution graph 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 negotiation and bargaining in software agents.

10

3 (a) Write a program to generate a range of numbers between initial to last values using loop concept in prolog.

For example, A sample *function* shown below can generate numbers between 1 to 4.
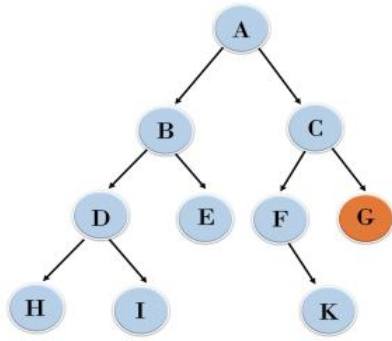
```
| ?- funtion(1, 4).
1
2
3
4
End of the Loop
```

10

OR

(b) What is Regression? Explain simple linear and simple non-linear regression techniques with an example.

10

Part - B – (2 x 10 = 20 Marks)

4 Solve the following graph using Depth first search algorithm with help of stack 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 fuel consumption is 10.6.

	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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