Roll No												

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF MANAGEMENT

MAKE UP EXAMINATION – JAN 2023

Course Code: CSE 3006

Course Name: Artificial Intelligence & Neural Network

Program : B.tech

Date: 28-JAN-2023

Time: 01:00PM – 04:00PM

Max Marks: 100

Weightage: 50%

Instructions:

(i) Read the all questionscarefully and answer accordingly.

(ii) x

Part A[Memory Recall Questions]

Answer all the Questions. Each question carries SIX marks. (5Qx 6M=30M)

1) Define the following Terms I) Artificial Intelligence ii) Agent iii) Percept Sequence (CO.No.1)[Knowledge]

2) List any three applications of Artificial Neural Networks (ANN). (CO.No.3)[Knowledge]

3) Differentiate between supervised and unsupervised learning? (C.O.No.4)[Knowledge]

4) What are Quantifiers? Ordering of quantifier is important in FOL in which scenario. Discuss. (CO.No.2)[Knowledge]

5) Write the name of three activation function which can be used in perceptron with their formulas. (CO.No.4) [Knowledge]

Part B [Thought Provoking Questions]

Answer all the Questions. Each question carries TEN marks. (4Qx10M=40M)

6) Differentiate between Inductive, abductive and Deductive reasoning with example of each. (CO.No.3) [Comprehension]

7) Implement AND gate and OR gate Using a Perceptron (Neuron) where Initial weights w1 = 1.2, w2 = 0.6, Threshold = 1 and Learning Rate n = 0.5 are given. Use Threshold function. Show steps. (CO.No.4) [Comprehension]

8) Explain Turing test. Differentiate between goal based agent and simplex agent. (CO.No.1) [Comprehension]

9) Explain Bayes theorem. 1% of a population has a certain disease and the remaining 99% are free from this disease. A test is used to detect this disease. This test is positive in 95% of the people with the disease and is also (falsely) positive in 2% of the people free from the disease. If a person, selected at

random from this population, has tested positive, what is the probability that she/he has the disease? Use Bayes theorem to solve this. (CO.No.2) [Comprehension]

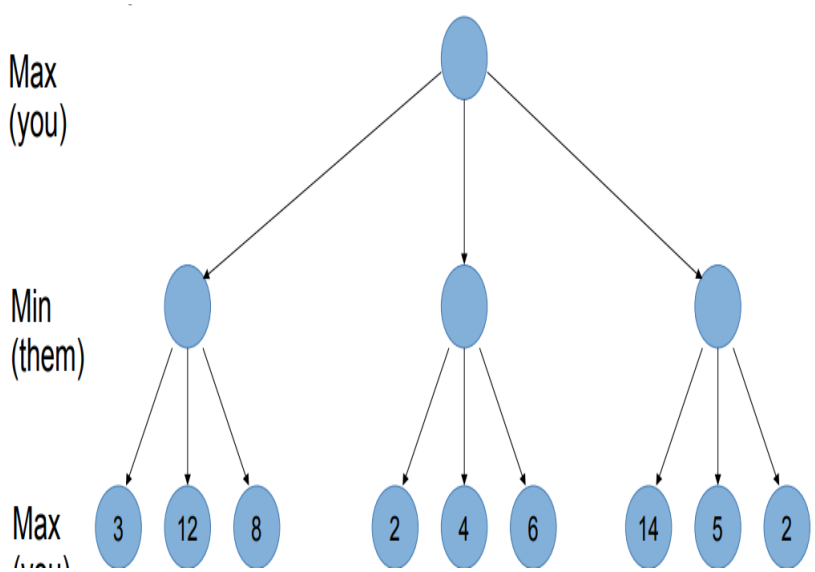
Part C [Problem Solving Questions]

Answer all the Questions. Each question carries FIFTEEN marks. (2Qx15M=30M)

10) (CO.No.2) [Application]

A) Describe need for alpha beta pruning, mention conditions for pruning. [5]

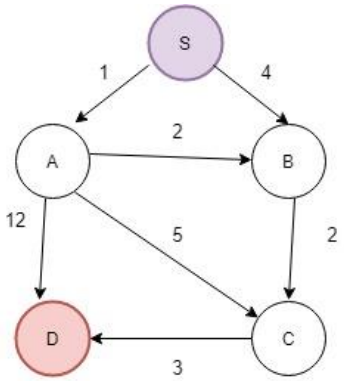
B) Perform Alpha Beta pruning, Draw final graph, update node values, and indicate pruned branches with alpha beta values. Show each step properly.[10]



11.

Answer both the parts below. (C.O.No. 1) [APPLICATION]

A. Solve the below mentioned graph using A star search algorithm. Show each step. [10]



HEURISTIC VALUE	
S	7
A	6
B	2
C	1
D	0

B. Convert Below statement into First order Logic(FOL) statement.[5]

1. John likes all kind of food.
2. Apple and vegetable are food.
3. Anything anyone eats and not killed is food.
4. Anil eats peanuts and still alive.
5. Harry eats everything that Anil eats.