	Reg. No.:	
	Name :	

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Mid-Term Examinations – April 2023

Programme	: B.Tech	Semester	: Summer 2022-23
Course	: Fundamentals in AI & ML / CSA2001	Slot/ Class No.:	: C11+C12+C13
Time	: 1 ½ hours	Max. Marks	: 50

Answer all the Questions

Q.No.	Sub. Sec.	Question Description	Marks
1		What is A.I. technique and discuss its characteristics? Analyze the different problems where A.I. problems are solved by using non A.I. technique?	10
2	(a)	Find the state space representation of 8-puzzle problem.	5
	(b)	In the game shown below, six moves have been made. Mark plays with crosses (X) and Mac plays with circles (0). However, you do not know who started the game. **Who will win the game?**	5

| 3 | | Apply Alpha-Beta pruning to the following tree: | 10 |
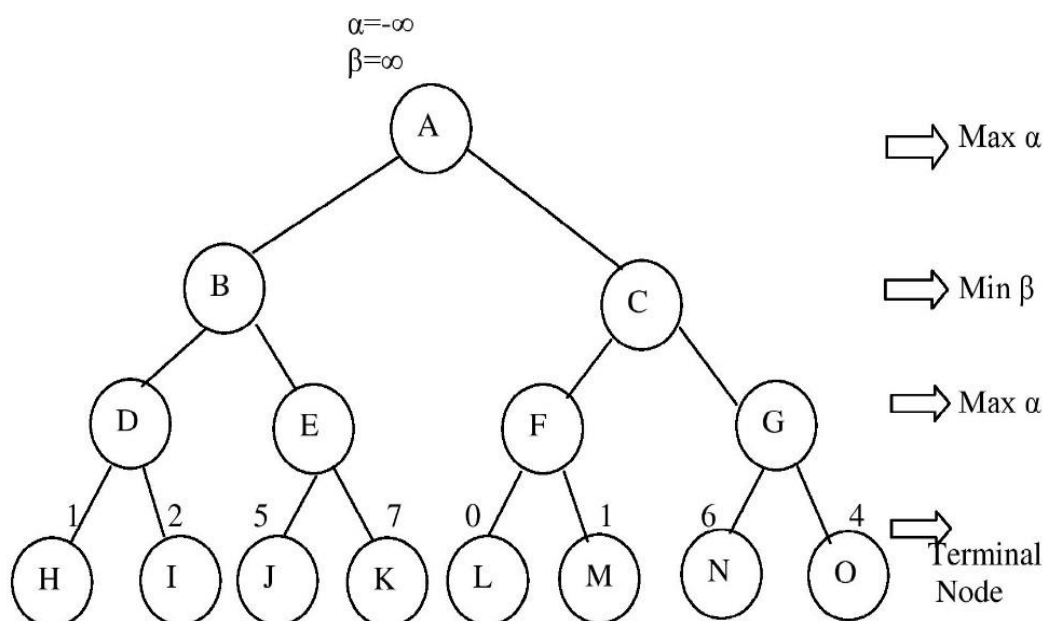
4   Analyze the algorithm for Forward Chaining, Backward Chaining with the given example-

Rule 1: If A and C then F,

Rule 2: If A and E then G, **10**

Rule 3: If B then E,

Rule 4: If G then D prove If A and B true then D

5   Consider the following sentences:

     i.   If X is on top of y then y supports X
     ii.   If X is above y and they are touching each other then x is on top of y.
     iii.   A cup is above a book.
     iv.   A cup is touching a book.

10

Translate these statements in predicate logic. Prove by backward reasoning "Book Support Cup".

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