National University of Computer and Emerging Sciences, Lahore Campus

Course:	Artificial Intelligence	Course Code:	AI-2002
Program:	BS(Computer Science)	Semester:	Spring 2024
Duration:	30 Minutes	Total Marks:	10
Paper Date:	18-March-23	Weight	3.33 %
Section:	D/F/F	Page(s):	2
Exam:	Quiz 2C	Roll No.	

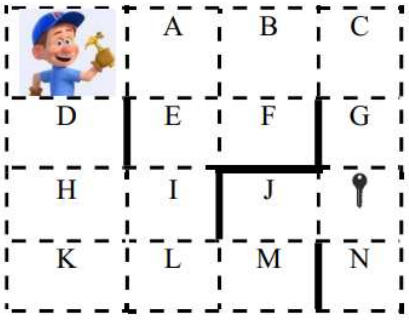
Instruction/Notes:

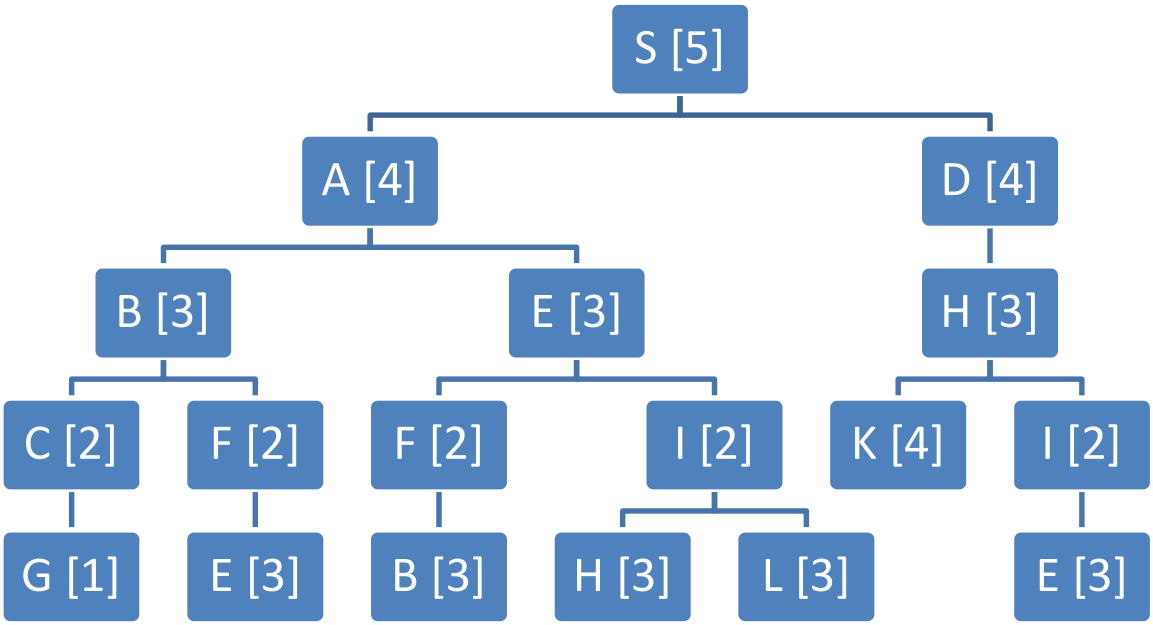
- Provide your solution on this sheet. You may use an extra page for rough work.

Problem#1 (CLO-2) **5 Points**

Draw a complete state space search tree that will be used by the agent to plan a path from the start to the goal state assuming that implementation of the agent uses Hill Climbing algorithm with the heuristic function.

h(n) = Horizontal Distance of cell n from key cell + Vertical Distance of n from key cell (ignoring the blocked walls).





Possible Solutions:

S A B C G Key

S A B F

S A E F

S A E I

S D H I

Problem#2(CLO-2) **5 Points**

Perform the alpha beta pruning on the following min-max tree and clearly mention the alpha and beta values for each node.