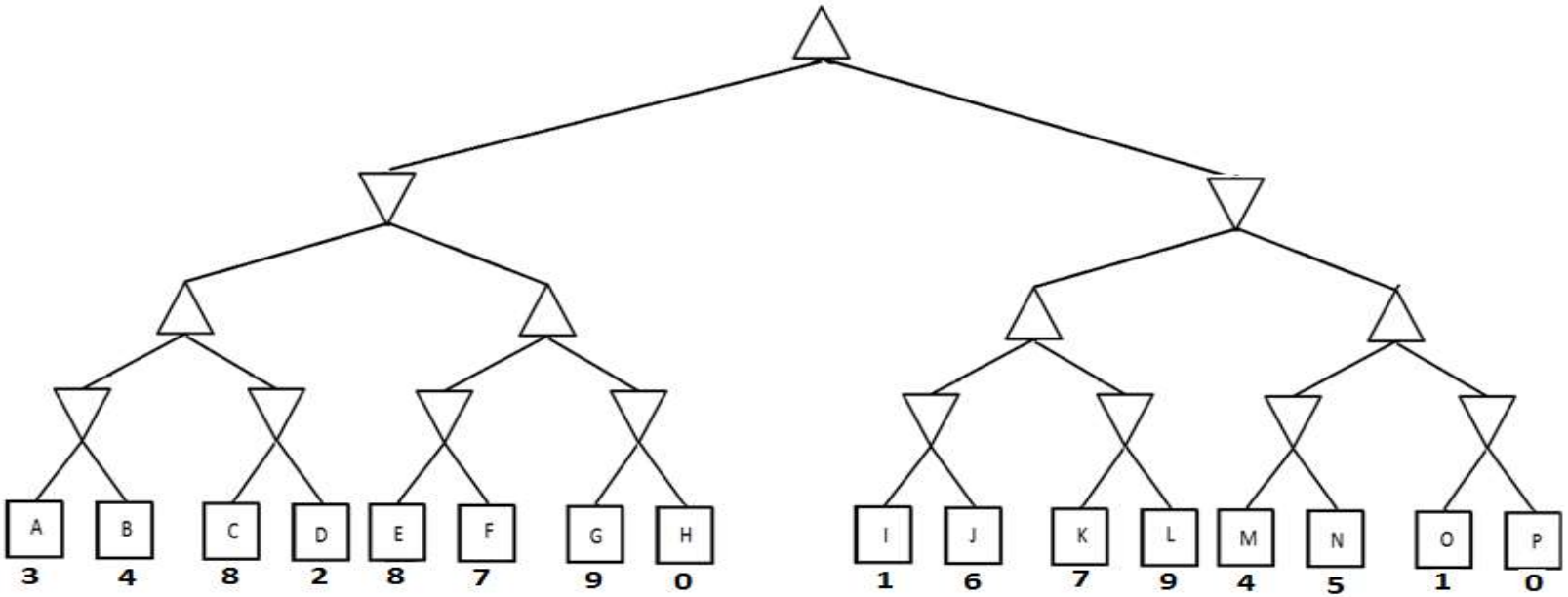
National University of Computer and Emerging Sciences, Lahore Campus

Course Name:	Artificial Intelligence	Course Code:	CS 401
Program:	BS(CS)	Semester:	Spring 2019
Duration:	20 Minutes	Total Points:	10
Paper Date:	Thursday, February 21, 2019	Weight	3%
Section:	C, D	Page(s):	1
Exam Type:	Quiz 1		

Student : Name:_____ Roll No._____ Section:_____

Problem Following figure shows a game tree of a hypothetical game. To find the best move of **MAX** (denoted by upwards pointing triangle) at the root, this game tree is to be searched using **minimax with α-β pruning**. Assume that the minimax search has been implemented such at the child/successors of any node are traversed from left to right order.



If value of each leaf node (specified as a square) is as given on the figure then compute the value of each intermediate node that will be assigned by minimax with prunning. On the figure also mark all branches that will be pruned by **α-β** prunning strategy and specify the corresponding values of **α and β** at the time of prunning **[5 + 5 Points]**

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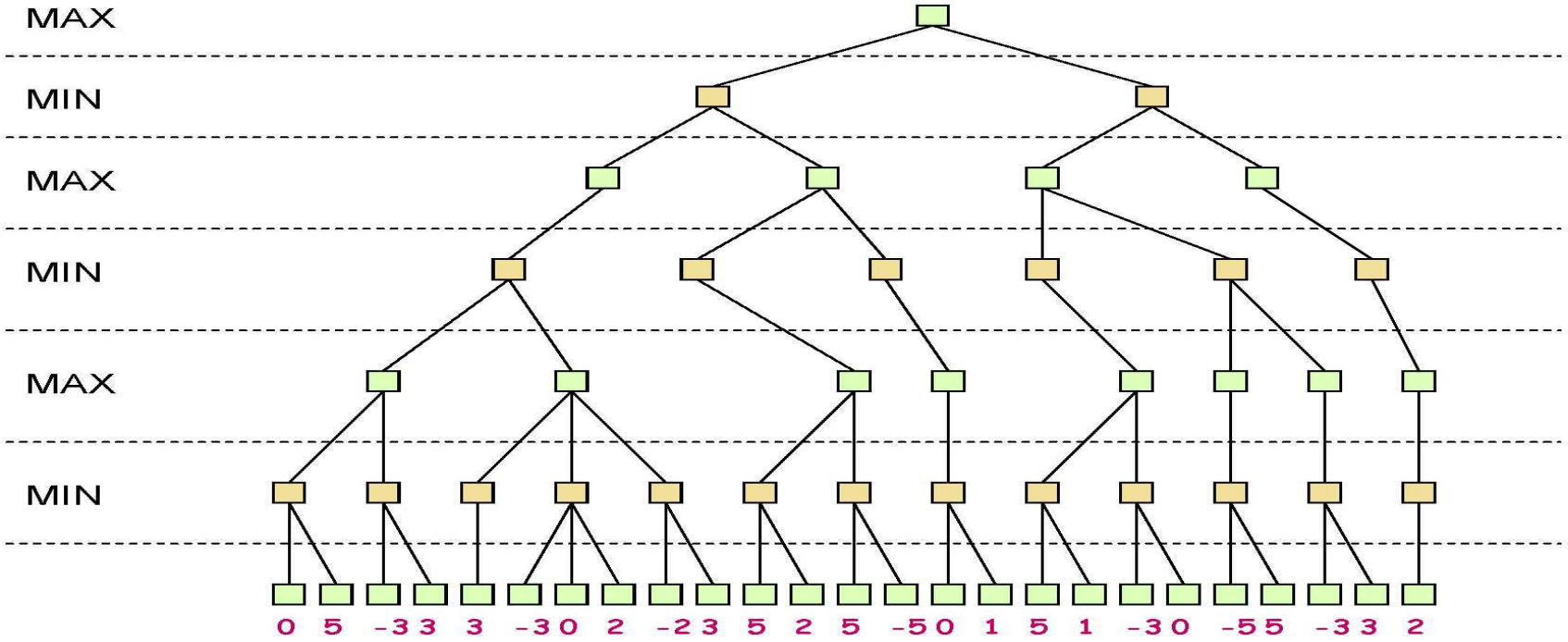
At some point in a two player game the possible actions for the two players are shown in the following tree.



If value of each leaf node is as given on the figure then compute the value of each intermediate node that will be assigned by minimax with prunning. On the figure also mark all branches that will be pruned by **α-β** prunning strategy and specify the corresponding values of **α and β** at the time of prunning **[5 + 5 Points]**