CS-360 (Fall 2018): Artificial Intelligence

Assignment 05 | Adversarial Search

Punjab University College of Information Technology,

University of the Punjab

Submission Date: Monday-May 14, 2018 10:00 pm

Consider following tree to answer the questions. 20 Marks

A. What will be the maximum utility retrieved from the state space? 2 marks

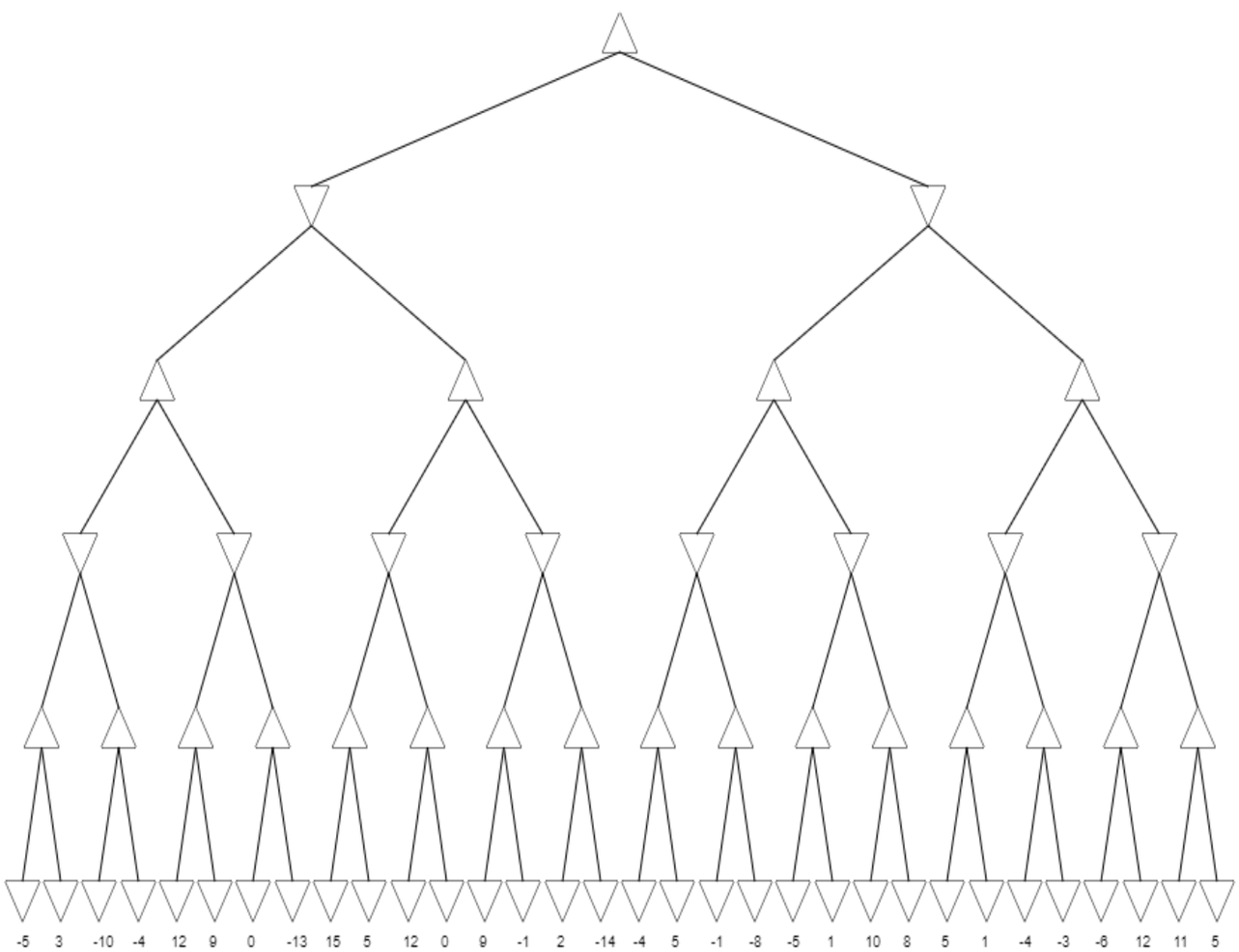
B. Which state(s) won't be visited by alpha-beta pruning? 5 marks

C. If the two agents are rational, which branch will be executed? 3 marks

D. Run the algorithm for alpha-beta pruning on the given tree and determine the values of α and β passed to each state, please also determine value that each state would return. 10 marks

Assumption

States must be named in Left First, Breadth First order.



A.	1
B.	S11,S22,S23,S41,S43,S44,S45,S46,S47,S55,S57,S63
C.	S1->S3->S6->S13->S26->S53

D. Provide value of α, β and v for each state in the following table.

Node	α	β	v	Node	α	β	v
s1				s33			
s2				s34			
s3				s35			
s4				s36			
s5				s37			
s6				s38			
s7				s39			
s8				s40			
s9				s41			
s10				s42			
s11				s43			
s12				s44			
s13				s45			
s14				s46			
s15				s47			
s16				s48			
s17				s49			
s18				s50			
s19				s51			
s20				s52			
s21				s53			
s22				s54			
s23				s55			
s24				s56			
s25				s57			
s26				s58			
s27				s59			
s28				s60			
s29				s61			
s30				s62			
s31				s63			
s32							