CS 302 – Artificial Intelligence – Quiz 1 – Jan 6, 2022
Max Marks   20   _Weight 15 %_   _Be Concise_

Consider a problem with the move generation function given in the following table where the left hand side refers to a node *N* and the right hand side refers to the list returned by *MoveGen(N).* Let *H* be the goal node.

1. List the nodes visited by Depth First Search, starting with the node S till it terminates.
[4]

S → (P Q C R)
P → (T J Q S)
Q → (P F S)
C → (G H R S)
R → (C Z S)
T → (K J P)
F → (J K Q)
G → (L C)
H → (L M Z C)
Z → (H R)
J → (T F P)
K → (F T)
L → (M H G)
M → (**H** L)

2. What is the path found, if any, by Depth First Search?   [2]

3. List the nodes visited by Breadth First Search, starting with the node S till it terminates.   [4]

4. What is the path found, if any, by Breadth First Search?   [2]

5. Assuming that a CLOSED list is *not* maintained, list the order in which nodes visited by algorithm Iterative Deepening Search (IDS). You may assume that a node already on OPEN is not added again to OPEN if generated again.   [6]

6. What is the path found, if any, by DFID?   [2]