

## CSE 422 (Artificial Intelligence)

Class Test – 1 for Section 16

Time – 20 minutes

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1. Perform a heuristic greedy search to solve the following 8 puzzle problem

Initial State    Goal State

1	3	6	1	2	3
4	2		4	5	6
7	5	8	7	8	

2. The following table shows  $g$  and  $h$  values of different nodes of an  $A^*$  search tree. Now answer the following:

(i) Which is the start node? (ii) Which is the goal node? (iii) What is the optimal path cost from start node to goal node? (iv) Arrange the nodes in order of expansion by  $A^*$  search algorithm (v) which nodes will not be expanded?

Node	$g(n)$	$h(n)$
A	239	176
B	291	380
C	220	193
D	0	375
E	140	253
F	118	329
G	75	374
H	420	0
I	366	160
J	317	100
K	455	160