



**UNIVERSITY OF MANAGEMENT & TECHNOLOGY, LAHORE CAMPUS**

**SST, Department of Computing (CS)**

**Assignment# 1 – Theory AI: AI V4**

**Instructor: Rana Marwat Hussain**

Name # \_\_\_\_\_ SID # \_\_\_\_\_ Signature# \_\_\_\_\_

**Total Marks: 15**

Note: (A) Attempt all Questions.

(B) Write only in the Given Space no extra sheet or any other material will be allowed/given.

(C) Each question contains different marks as shown on the label.

(D) Cutting/rewriting/overwriting will not accept especially in output questions. Please avoid it.

(E) CLOs & PLOs are mentioned on the questions. Quiz is based on OBE Model as per instruction of HEC.

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**Q1. Find the most cost-effective path to reach the final state from initial state using A\* Algorithm.  
Consider  $g(n)$  = Depth of node and  $h(n)$  = Number of misplaced tiles. (CLO 1) (CLO 2) (CLO 3)**

2	8	3
1	6	4
7		5

**Initial State**

1	2	3
8		4
7	6	5

**Final State**