

PRIMEASIA UNIVERSITY
Department of Computer Science & Engineering
Mid-term Examination, Summer Semester, 2020

Course No. : CSE 333

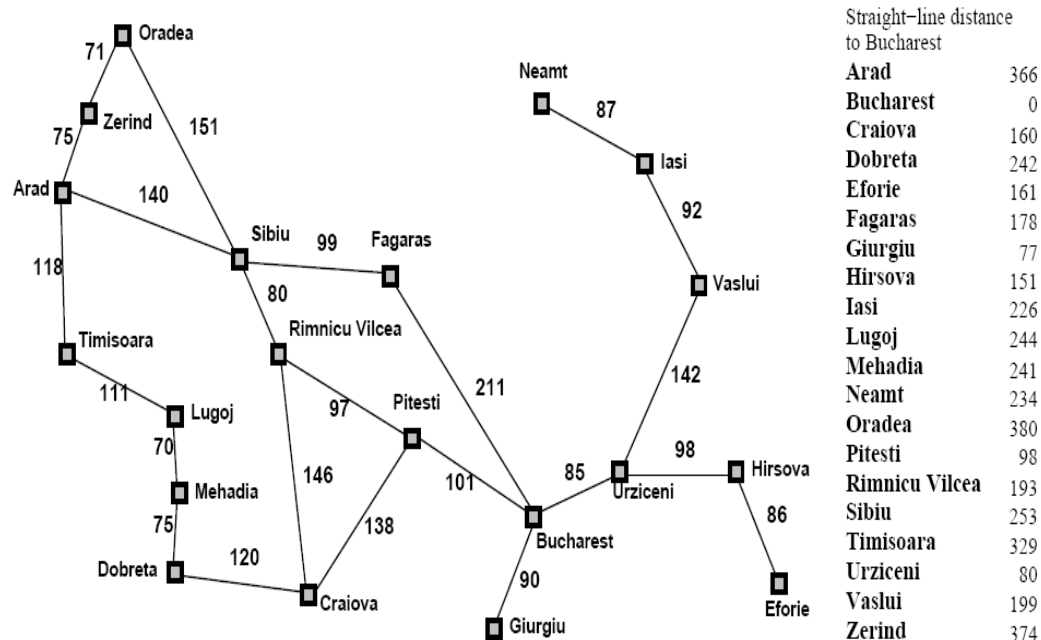
Full Mark: 20

Course Title: Artificial Intelligence

Time: 1 hour

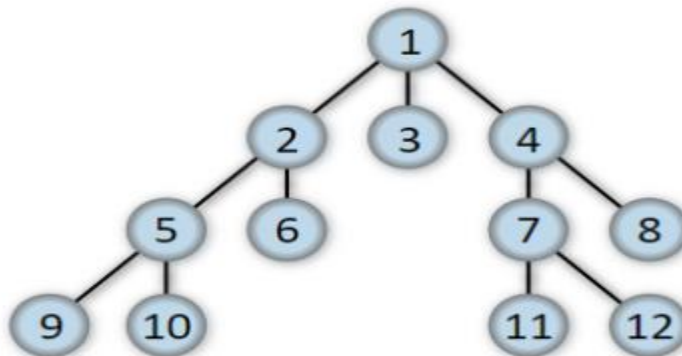
There are **Four** questions listed below. You should answer all the questions. Figures in the right-hand margin indicate full marks.

1. Find the route from **Oradea** to **Bucharest** using **Recursive Best-First Search (RBFS)**. Distances between the cities and estimations are given in the following figure.



2. Show the iterations of **IDS** for the following tree.

[4]



3. If a goal is found at depth 6 and the branching factor is 8, how many nodes will be expanded in iterative deepening search? Also find the maximum memory requirement if a node needs 10KB of memory. [4]
4. Draw an AND – OR search tree for the following erratic vacuum world where the erratic vacuum cleaner has three actions – Left, Right, and Suck. Also, in the erratic vacuum world, the Suck action works as follows: [5]
- When applied to a dirty square the action cleans the square and sometimes cleans up dirt in an adjacent square, too.
 - When applied to a clean square the action sometimes deposits dirt on the carpet.

Start Node	Goal Node
