1. Autonomous Agents rely entirely on built-in knowledge about the environment.

   a)True b)False

2. When the edge costs equal to the depths of nodes, the Uniform-Cost Search method is the same as the Breadth First Search method.

   a) True b) False

3. Which of the following search algorithms CANNOT return the optimal path if the costs are all a fixed cost C > 0?

   a) Uniform Cost Search

   b) Breadth First Search

   c) Depth First Search

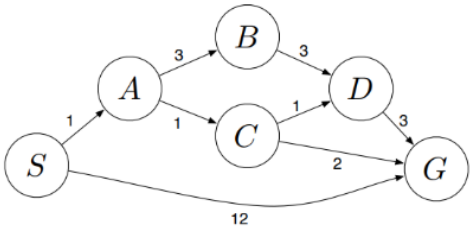
   d) Iterative Deepening

4. Four actions can be chosen for a robot. The Utility Function (U) and Outcome Probability (P) are shown in the Table 1. Which action can maximize the Expected Utility?

| | | | |
|---|---|---|---|
| Turn Right | P = 0.5, U = 5 | Stay | P = 0.3, U = 1 |
| | P = 0.5, U = 7 | | P = 0.7, U = 4 |
| Turn Left | P = 0.1, U = 4 | Move forward | P = 0, U = 0 |
| | P = 0.9, U = 10 | | P = 1, U = 8 |

   a)Turn Right
   b)Turn Left
   c)Stay
   d)Move forward

5. What path would Breadth-First Search return for this search problem (initial state is S and the goal state is G)?




   a) S - G

   b) S - A - C - G

   c) S - A - B - D - G

   d) S - A - C - D – G