

Answer (a)

By running Breadth First Search (BFS) from the Start node we get:

- 1. **Start** -> Up, Right
- 2. **Start** -> Up, Right -> Up, Right
- 3. **Start** -> Up, Right -> Up, Right -> Up
- 4. **Start** -> Up, Right -> Up, Right -> Up -> Up
- 5. **Start** -> Up, Right -> Up, Right -> Up -> Up -> Up -> Up, Right
- 6. **Start** -> Up, Right -> Up, Right -> Up -> Up -> Up, Right -> Right
- 7.  $\textbf{Start} \mathrel{->} \text{Up}, \text{Right} \mathrel{->} \text{Up}, \text{Right} \mathrel{->} \text{Up} \mathrel{->} \text{Up} \mathrel{->} \text{Up}, \text{Right} \mathrel{->} \text{Right}$
- 8. **Start** -> Up, Right -> Up, Right -> Up -> Up -> Up, Right -> Right -> Right -> Right -> Right
- 9. **Start** -> Up, Right -> Up, Right -> Up -> Up -> Up, Right -> Right -> Right -> Right -> Down, Right

- 10. **Start** -> Up, Right -> Up, Right -> Up -> Up -> Up, Right -> Right -> Right -> Right -> Down, Right, Right
- 11. **Start** -> Up, Right -> Up, Right -> Up -> Up -> Up, Right -> Right -> Right -> Right -> Down, Right, Right, Right, Right
- 12. **Start** -> Up, Right -> Up, Right -> Up -> Up -> Up, Right -> Right -> Right -> Right -> Down, Right -> Down, Right, Right -> Left, Right, Right -> Down, Down, Right
- 13. **Start** -> Up, Right -> Up, Right -> Up -> Up -> Up, Right -> Right -> Right -> Right -> Down, Right -> Down, Right, Right -> Left, Right, Right -> Down, Down, Right -> Down
- 14. **Start** -> Up, Right -> Up, Right -> Up -> Up -> Up, Right -> Right -> Right -> Right -> Down, Right -> Down, Right, Right -> Left, Right, Right -> Down, Down, Right -> Down
- 15. **Start** -> Up, Right -> Up, Right -> Up -> Up -> Up, Right -> Right -> Right -> Right -> Down, Right -> Down, Right, Right -> Left, Right, Right -> Down, Down, Right -> Down, Right -> Down, Right, Down
- 16. **Start** -> Up, Right -> Up, Right -> Up -> Up -> Up, Right -> Right -> Right -> Right -> Down, Right -> Down, Right, Right -> Left, Right, Right -> Down, Down, Right -> Down, Right -

## Answer (b)

By running Depth First Search (DFS) from the Start node we get:

- 1. **Start** -> Up, Right
- 2. **Start** -> Up -> Up
- 3. **Start** -> Up -> Up -> Up
- 4. **Start** -> Up -> Up -> Up -> Up

- 5. **Start** -> Up -> Up -> Up -> Up -> Up, Right
- 6. **Start** -> Up -> Up -> Up -> Up -> Right
- 7. **Start** -> Up -> Up -> Up -> Up -> Right -> Right
- 8. **Start** -> Up -> Up -> Up -> Up -> Right -> Right -> Right
- 9. **Start** -> Up -> Up -> Up -> Up -> Right -> Right -> Right -> Down, Right
- 10. **Start** -> Up -> Up -> Up -> Up -> Right -> Right -> Right -> Down -> Down, Right
- 11. **1Start** -> Up -> Up -> Up -> Up -> Right -> Right -> Right -> Down -> Down -> Right, Left
- 12. **Start** -> Up -> Up -> Up -> Up -> Right -> Right -> Right -> Down -> Down -> Right -> Down, Right
- 13. **Start** -> Up -> Up -> Up -> Up -> Right -> Right -> Right -> Down -> Down -> Right -> Down -> Down
- 14. **1Start** -> Up -> Up -> Up -> Up -> Right -> Right -> Right -> Down -> Down -> Right -> Right -> Down -> Right -> Righ
- 15. **Start** -> Up -> Up -> Up -> Up -> Right -> Right -> Right -> Down -> Down -> Right -> Down -> Right -> Right -> Right -> Right -> Right -> Right -> Down -> Right -> Right -> Right -> Right -> Down -> Right -> Right -> Right -> Right -> Right -> Right -> Down -> Right -> Right
- 16. **Start** -> Up -> Up -> Up -> Up -> Right -> Right -> Right -> Down -> Down -> Right -> Down -> Right -> Goal

## Answer (c)