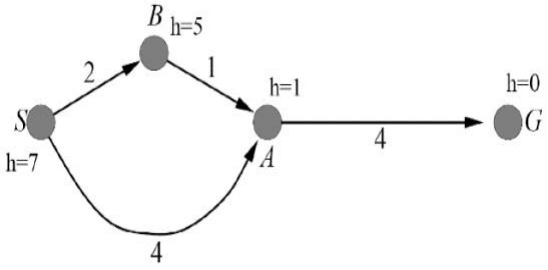
CSE-3201 (AI)

Assignment 1

1. Develop a PEAS description of the task environment:
   (i) Robot playing soccer.
   (ii) Robot dust collector from classroom.
   (iii) Autonomous mars rover.
   (iv) Part-picking robot.

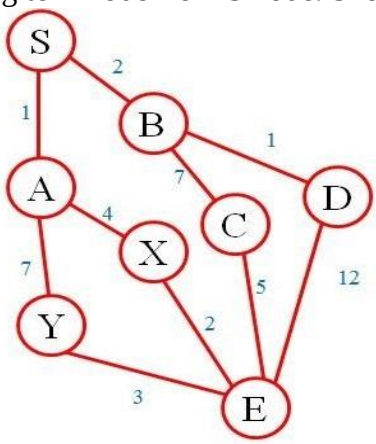
2. You are asked to create an "autonomous car". To create this car, you can choose from either "Model based agent" or "Goal based agent". Which model will you choose for the above system? Provide comparison to establish facts for your answer.

3. For following graph, "The heuristic is consistent but not admissible" – Is the statement true? – Explain.



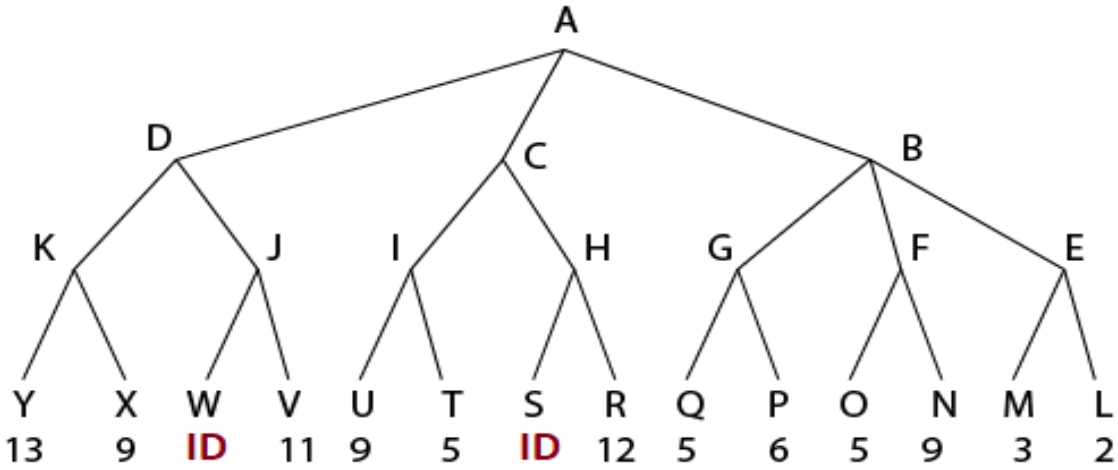
4. Consider the following set of statement:
   (i) Whoever can read is literate
   (ii) Dogs are not literate
   (iii) Some Dogs are intelligent
   (iv) Everyone who is not intelligent is liked by no one
   From the above statements, conclude that "Some who are intelligent cannot read" using Resolution.

5. Apply A* search for going to E node from S node. Show steps and the path.



- Values for h:
  A:5, B:6, C:4, D:15, X:5, Y:8

6. Apply alpha-beta pruning on the following minimax search tree to determine the best move for max at the root position. Specify the branches that should be pruned.



[ID = Last 2 digits of your ID]

- **Mail subject: CSE-3201 (A1)**
- **File name (pdf): Your_ID (A1)**
- **Submission Mail: faysal@cseku.ac.bd**

Submission Deadline: 10th January, 2021.