

**MA-867 Reinforcement Learning**

**Lab Work: 1**

Date: 16-03-2015

1. Find the optimal policy and optimal value function for the problem given below:



Figure 1:

- Consider the environment as given in Figure 1:
  - Reward: for (3,4) cell = 1, for (2,4) cell = -1, for the remaining cells = 0.2
  - Transition probability = 0.8, in the direction you want the agent to go, Transition probability = 0.1, for the agent to move either left or right to the direction you want the agent to go
  - (2,2) cell is blocked (no movement is allowed through that cell)
  - (1,1) is the starting position
  - Discount factor  $\gamma = 1$ .

Last date of submission: 20-03-2015.