## Time Allowed: 3 Hours

# Reinforcement Learning Assignment

## Module 1 & 2

**Task 1:** John has a serious medical condition of leg edema. The doctors have suggested 5 different treatments for his situation. You are required to use a RL algorithm to identify which of the five treatments John should opt for. For your reference partial code for this task is available in the file named “John\_Medical\_Codition\_Question.py”.

*Hint:* Places where you have to write the code are denoted by blanks “\_\_\_\_\_\_\_\_\_”.

**Expected Result:** The algorithm at the end of the training should be able to suggest which treatment has a better chance of being successful for John.

**Task 2:** Your favorite mouse Jerry needs your help to win a race with 2 other mouse. The reward is Jerry’s favorite food – cheese! Jerry must act fast and avoid 3 cats that are waiting to eat any mouse they can lay their hands on. Write a simple Python algorithm that first identifies the best policy i.e. state – action pair and then identifies the best path from start to cheese. For your reference partial code for this task is available in the file named “Find\_Best\_Path\_for\_Jerry\_Question.ipynb”.

*Hint:* Places where you have to write the code are denoted by blanks “\_\_\_\_\_\_\_\_\_”.

**Expected Result:** The output of the algorithm should be identification of the best path through which Jerry can immediately reach Cheese and also avoid any cats.