1.

a) State space of the RL problem will consist of :

Coordinates of drone

Battery percentage

Obstacle map of the route

Route map of the delivery

b) Action space will consist of :

move forward

move backward

move down

move left

move right

move up

hover

notify

c) Reward function should encourage speedy delivery, avoid collision and efficient use of battery

complete Delivery: positive reward for completing the delivery

Avoid obstacle : negative reward if collided with obstacle

Efficient battery: negative reward for too consuming battery

2.