

## Hyperparameters and Neural Network Configuration for all experiments (Across all 3 algorithms)

### 1. Constrained Cooperative Navigation(Number of Agents = 5):

$\alpha = 3$   
 $\beta(t) = 0.00001$   
Seed = 0  
Episode length = 25  
Steps before an update = 50  
Number of updates(performed at each update)= 2  
Number of rollouts= 12  
Buffer length =  $1e6$   
Batch Size = 1024  
Tau = 0.001  
Gamma = 0.99  
Learning rate for all policies and critics = 0.001  
Hidden Dimension for all policies and critics = 128  
Activation Function = Leaky Relu  
Total number of iterations = 200k  
Temperature coefficient = 0.01

### 2. Constrained Cooperative Treasure Collection(Number of Agents = 8)

$\alpha_1 = 12$   
 $\alpha_2 = 0.2$   
 $\beta(t) = 0.00001$   
Seed = 0  
Episode length = 100  
Steps before an update = 100  
Number of updates(performed at each update)= 4  
Number of rollouts= 12  
Buffer length =  $1e6$   
Batch Size = 1024  
Tau = 0.001  
Gamma = 0.99  
Learning rate for all policies and critics = 0.001  
Hidden Dimension for all policies and critics = 128  
Activation Function = Leaky Relu  
Total number of iterations = 100k  
Temperature coefficient = 0.01