

**Q1: A3C, A2C, GAE and DDPG are four important methods for implementing Actor-Critic strategies in Deep Reinforcement Learning. Briefly describe each one of them and o a critical comparative review of these techniques. 5**

**Q2: Make an illustrative diagram of the following keywords that illustrates their working and then comment on individual components of these models/algorithms.**

- a) Autoencoders
- b) Deep Belief Networks
- c) Discriminative and Generative Networks
- d) Multi-Agent Networks
- e) Deep Boltzmann Machines 10

**Q3. Why we use trajectories instead of episodes in policy-based methods. Go into the details and take the example of Video Games or Road traffic to illustrate your point. Use appropriate figures wherever required. 5**

**Q4.a) What is the problem with updating our policy and ignoring the fact that the approximations are not valid anymore. Explain the Policy/Reward Cliff issue. 2.5**

**b) In stochastic Policy Search; differentiate between steepest ascent hill climbing, Simulated annealing and Adaptive Noise Scaling. 2.5**