

## Questions on repeated and Bayesian games

1. Define a repeated game.
2. Explain why the prisoners' dilemma repeated finitely many times has a unique subgame perfect Nash equilibrium.
3. Let  $s$  and  $s'$  be two Nash equilibria in a static game  $G$ . If  $G$  is repeated  $T$  times, to play  $s$  the pair periods and  $s'$  the odd ones is a subgame perfect equilibrium. True or false?
4. In a finitely repeated game, for players to obtain payoffs above the ones in the Nash equilibria it is necessary that the game has more than one Nash equilibrium. True or false? Explain.
5. Describe the "trigger strategy" in a prisoners' dilemma with infinitely many repetitions.
6. In an infinitely repeated game, explain why to add a constant probability that the game is repeated does not substantially change the analysis.
7. Cooperation is the only equilibrium result in the prisoners' dilemma repeated infinitely many times. True or false?
8. In a finitely repeated game one can always find a SPNE in which the payoffs are Pareto optimal. Is that statement true? Why?
9. Define the elements of a Bayesian game.
10. If a player in a static Bayesian game has two types, each of which has to take one out of three actions, how many pure strategies does this player have?
11. In a Bayesian game, what does it mean that a player has several types? What aspect of reality does this concept try to capture?