

## Behavioral Economics – LMEC Exam

### Instructions

You have 2 hours to answer the following 6 questions. Next to each question, you find the associated number of points. By answering all questions correctly, you get 80 points, which will be added to the points you got from the assignments.

The final mark will be determined by the following formula:  
(points from the assignment + points from the exam)/100 \* 31

The number obtained will be rounded to the next whole number. If the number is above 30, you will get the "lode" (award).

### Questions

1. What is the "anchoring effect"? Briefly describe the main features of the experiments run by Ariely and coauthors (QJE 2003) to test for the presence and robustness of such effect, and their results. [8 points]
2. Describe the so called "beauty-contest" game. What is the unique Nash equilibrium of the game? And how do experiments on this game challenge the concepts of rationality and common knowledge of rationality? [8 points]
3. In the  $(\beta - \delta)$  model proposed by O'Donoghue & Rabin (AER 1999), intertemporal preferences can be represented by:

$$U_t(u_t, u_{t+1}, \dots, u_T) \equiv \delta^t u_t + \beta \sum_{\tau=t+1}^T \delta^\tau u_\tau$$

What is the meaning of the parameters  $\beta$  and  $\delta$ ?

And what is the difference between sophisticated and naive agents? [14 points]

4. In the model of inequality aversion proposed by Fehr and Schmidt (QJE 1999), the utility function of player  $i$  is given by

$$U_i(x) = x_i - \alpha_i \frac{1}{n-1} \sum_{j \neq i} \max(x_j - x_i, 0) - \beta_i \frac{1}{n-1} \sum_{j \neq i} \max(x_i - x_j, 0)$$

Explain the meaning of this equation, and describe the assumptions made on  $\alpha_i$  and  $\beta_i$  and their implications. [14 points]

5. What is Prospect Theory? Describe its two main phases, and the characteristics of the weighting and value functions. [18 points]
6. Describe the main features of Belief Learning and Reinforcement Learning, emphasizing the differences between these two models. [18 points]