

Final Exam

April 2018

First Name: _____

Last Name: _____

Group: _____

Examination rules

1. Pages 2 – 5 contain tasks. Page 6 is intentionally blank and can be used for scratch paper.
2. Answer all tasks. Time: 119 min.
3. The space below each task indicates the *length of the right answer*. Use only this space.
4. Keep your answers *short* and *up-to-the-point*. Points will be taken off for redundant information.
5. Write in neat English handwriting. Anything I cannot read or understand in the first attempt is wrong.
6. Use only *blue* or *black* pen – no other colors.
7. You may use a non-programmable electronic calculator.
8. According to ICEF's rules, for examinations lasting less than 120 min students are NOT allowed to leave the examination room until ready to turn in their paper.
9. During the exam you are not allowed to have within your immediate reach a *phone* or an *peripheral of a phone* or any other *communication device* or any unauthorized by the examiner *written or printed material*. If such material is detected, you will be prosecuted for cheating independently of its function or its relevance or its use or its intention to use.
10. Your paper will be immediately voided in case of *any kind of communication* with another examinee or contact with *another examinee's paper* or for *facilitating access* to your paper. Your paper may be voided *after the fact*, in case cheating is verified by the cameras located in the examination room.

I have read and understood the examination rules. I pledge on my honor that I will not cheat, copy, or use unauthorized materials or devices.

Date and signature: _____

Papers with unsigned honor pledge will receive zero.

Good luck! – Καλή επιτυχία! – Удачу!

1. SuperLeague™ is a professional football association that consists of two tiers of teams: tier A are the teams with a large number of fans and tier B are the teams with small number of fans. Every team in SuperLeague owns the broadcast rights for its home matches. The demands for those rights by fans per tier are: $q_A = a - p_A$ and $q_B = b - p_B$ with $a > b$. If SuperLeague sets up its own broadcast operation it will have zero marginal cost but sunk cost will be equal to $2a$. An already established monopolistic broadcast platform with zero marginal costs is interested in buying the rights to all SuperLeague matches and offers to pay the owner of rights half of the revenue that this owner would make having been able to exploit its market directly.
 - (a) Should A and B set up their own broadcast operation? OR they should pool their intellectual property together and split the total earnings in fair shares: $a/(a + b)$ for A and $b/(a + b)$ for B? OR each tier should sign a separate agreement with the company? Base your answer on specific derivations. [10p]
 - (b) Calculate the profit for the platform if tiers fail to pool their intellectual property together. [5p]
 - (c) Explain why in reality in some professional leagues where pooling is not obligatory, big teams prefer to negotiate their broadcast rights individually, while small teams prefer to negotiate collectively. [5p]
2. What would be different in the Salop's model key result if the costs of withdrawal and rebranding were zero? [5p]

3. Mikhail Varshavski commonly known as Dr. Mike is a Russian national, medical doctor and celebrity personality based in NYC. Dr. Mike is currently the most followed doctor on social media with a combined following of over 4 million. On April 2018, Dr. Mike uploaded a monetized YouTube video, where he watches an episode of the American medical drama series “Grey’s Anatomy” and comments on the medical accuracy of the show. Dr. Mike’s video features a few 10-sec clips from the episode and consequently he criticizes specific medical details he observes in each clip. Is there a potential intellectual property violation by Dr. Mike? What kind of violation and on what basis can this be defended if it ever reaches a court of law? [5p]
4. Consider a market with total demand $q = S - p$, where at stage 1 homogeneous firms make a decision for entry at a fee f and at stage 2 they compete with respect to quantities at an intensity t . Denote the equilibrium number of entrants by N^* .
- (a) Derive dN^*/dt as a function of the differential of firm profit, Π . [9p]
- (b) Explain the mechanism through which t affects N^* . [5p]
- (c) In general, we ought to expect that concentration decreases the intensity of competition in a market. Does your above finding confirm this expectation? Why or why not? [6p]

5. Consider a Rochet-Tirole platform for which the benefit from participation for all users is the same.
- (a) Is it preferable to charge users a subscription fee or a usage fee? Explain. [4p]
- (b) Explain how and why the Lerner's index equality for equilibrium must be modified for this platform. [4p]
6. The demands for two differentiated products are $q_i = 1 - p_i + 0.5p_j$ where $i, j = 1, 2$ and $i \neq j$. Each product is produced at zero cost by a different manufacturer. Each manufacturer can select a single retailer. Retailers cannot price discriminate with consumers. Competition is in prices.
- (a) Find the prices and quantities for each product as a function of the transfer price, w_i . [7p]
- (b) Find the transfer price and each manufacturer's profit assuming that each manufacturer charges a profit maximizing franchise fee. [6p]
- (c) Assume now that manufacturer 1 picks a single retailer and manufacturer 2 picks $n > 1$ retailers. Assess the effect on the profits of the two manufacturers. [4p]

7. Explain which of the following sellers is more likely to not exhibit *perfect price neutrality*: a hardware store, a trendy cocktail bar, an art museum, a bookstore, an IKEA store, a Lada retailer. [4p]
8. “Under the Federal Law No. 135-FZ of 2006 a company with a market share above 50% must be able to prove that its dominance did not result from unfair monopolization practices such as predatory behavior, illegal market segmentation, vertical control etc.” Is this a correct or an incorrect statement? Explain. [4p]
9. Guns are priced above MC while bullets near MC. Printers are priced at MC while ink is priced way above MC. Game consoles are price below MC while games are priced way above MC. All these markets resemble the same model: a prerequisite product and a complementary consumable good. Why are the market outcomes so widely different? [6p]
10. A market with demand $P = 100 - Q$ organizes as follows. In stage 1, firms decide whether they will enter or not. The entry fee is F and production costs are zero. In stage 2, the entrants form a Cournot oligopoly. Disregarding the fact that the number of entrants must be an integer, derive the formula for the Herfindahl–Hirschman Index as a function of F . [7p]
11. In a single sentence explain what a *patent troll* is. [4p]

EXTRA CREDIT [+3p]: What were BRCA-1 and BRCA-2 that Myriad Genetics attempted to patent?

Scrap paper (write your name if you de-attach this page from the booklet): _____