

Admission Examination in Economics

Instructions:

1. Do not turn this page until told to do so.
2. You have **one hour and fifteen minutes** to answer the questions.
3. The exam consists of two parts: Macroeconomics and Microeconomics. Each part consists of 5 problems that are all **equally weighted** but have varying difficulty levels.
4. Answers in any language other than English will receive **zero** credit.
5. No dictionaries are allowed.
6. No calculators or other similar devices are permitted. Mobile phones must be switched off for the duration of the exam.
7. **Positively no cheating. If caught cheating, you will be asked to leave the room immediately, and your grade for this exam will be zero.**

Part II – Microeconomics

1. *Complete the following sentences using the words in brackets:*

In a monopolistically competitive market, there is/are _____ (A: many; B: few; C: one) seller(s), products are _____ (A: similar; B: differentiated), _____ (A: price; B: non-price) competition is important, and barriers to entry and exit are _____ (A: high; B: low). The price charged by monopolistically competitive firms is _____ (A: higher than; B: lower than; C: equal to) the marginal costs. In the long run, the monopolistically competitive firm earns zero profit because _____ (A: the firm can set its own price; B: it is easy to enter and exit the industry; C: the firm has excess capacity.)

2. Suppose that a consumer chooses an optimal bundle of goods X and Y. The price of a unit of good Y is \$2. The marginal utilities are $MU_X=5$ and $MU_Y=4$. The income of the consumer is \$60. What is the price of good X if both goods are consumed in equal amounts?

3. Consider a firm owned and operated by three entrepreneurs who contribute to the firm's activities and share its profits equally. Suppose that one of them has a chance to enroll in a training program consisting of up to 10 classes (any number of classes up to 10 can be chosen). Each class costs \$1000. The increase in entrepreneur's productivity due to this training results in a 10% increase in firm's profits per class (relatively to the pre-training profit level of \$20000).
- a) If the entrepreneur has to pay for this training out of his own pocket, how many classes will he choose to take? Explain briefly.
- b) If the firm's profits were distributed in proportion to each owner's productivity contribution, how many classes will the entrepreneur choose to take (assume that he still pays for this training out of his own pocket)? Explain briefly.
- c) If the profits are shared equally, there is a "market failure" problem. Which market has "failed" in this example? Why?
- d) Suggest a way to correct for this market failure problem (assume that the profits are still shared equally).

4. The supply function for apartments is $Q=20+2P$. The demand function for apartments is $Q=100-2P$. The civic authorities impose a price ceiling of \$15 per week. To avoid a housing shortage, the authorities agree to pay landlords a large enough quantity subsidy so that supply equals demand. How much is the weekly subsidy per apartment needed to eliminate excess demand from the price ceiling? Explain your calculations.
5. Using supply and demand diagrams, explain what happens in the market of margarine if the price of its substitute such as butter rises.