Exercise Microeconomics II / 4
a) Incomes of the firm, perfect competition, imperfect competition
b) turning point, optimum production point of termination of production
c) profit
d) imperfect competition

examples :

1) There is a given demand equation $P = 900 + 3Q - 4Q^2$. Determine the TR and MR if the company sells 10 units of output.

2) is given a function of demand $P = 90 - 9Q$
a) write the equation MR
b) in which Q is MR = O
c) in which Q is the maximum TR
d) What will be the price elasticity of the sale of 5 units

3) The function of the total costs of the firm producing trekking shoes is $TC = 5\,000\,000 + 20 * q + 0.005 * q^2$. Function of total enterprise revenue is derived from a function of price P = 2000 - 0.0045 Q. Determine the profit of the company made in the quantity sold shoes q = 200,000 and graphically display this situation.

4) What is the price elasticity for product X at the point where MR = 20, where the total incomes of the company are given by the equation $TR = 100Q - 2Q^2$

5) The demand function is given by P = 900 - 0,005 Q.
a / What is the equation of marginal revenue ?
b / at what volume production will be sold marginal revenue neutral ?
c / at what volume production will total income maximum?
d / What is the maximum amount of income of the company

6) Testing market has been inferred that the iron price (P) will evolve according to the formula P = 8,000 – 30q , where q is the number of sold products. Fixed costs of a new product is CZK 300,000, variable costs per l unit counts 770 CZK .
task:
a) What is the critical mass of production (turning points)
b) What amount of product we produce in order to achieve maximum profit
c) production will be at 100 units effective (profitable) if yes what will be the profit

7) The cost function of a perfectly competitive firm is given by the equation $TC = 900 + 18 Q + Q^2$ and the price is 200 CZK .
Determine the optimal level of production, a company's profit, if it was created, and assess the situation.
8) The company manufactures in conditions of perfect competition has a total daily income of 10 000 CZK . At this level of production firm maximizes the profit, AC = 20 CZK , 40 CZK = MC and AVC = 15 CZK . Determine the level of production (in physical units) Next, determine the size of the total profit, if a company creates some.

9) Company in the entertainment industry produces toys in a perfectly competitive market. Price of produced cars is $P = 500$ $VC = 40Q + 2Q^2$ $FC = 500$
a) Determine the equilibrium output
b) Earnings per unit of output
c) Determine whether the volume at 500 units production company will produce , and if not, at what volume production ceases to produce .

1) The company has a monopoly demand curve given by the equation $P = 100 - Q$ and the curve of the total cost $TC = Q^2 – 16$. Determine the quantity and the price at which the firm maximizes profit and determine the amount of the profit.

2) monopolistically competitive firm pursues profit maximization . Determine the size of the profit if you know $AR = 86-4 Q$ and $TC = 3Q^2 + 2Q + 4$. What price the company can fix and is it possible to identify fixed costs?

3) The demand curve for the production of water -producing monopoly is :
$P = 40 - 0.00002 Q$ and AC is $0.00001Q + 10$.
a) What is the price and volume (m^3), which enable to maximize profit? How big is the profit ?
b) Suppose that the government wants to set a price ceiling of P = 20 CZK , which causes the monopolist to produce larger quantities. What will the volume of that amount .

Bibliography:
L. Macáková: Mikroekonomie II cvičebnice
R. Holman, Mikroekonomie
J. Soukupova, Mikroekonomie
P. Sireček, Mikroekonomická teorie I
J. Soukupová a spol, Mikroekonomie pro inženýrské studium
H. Varian, Mikroekonomie