

UNIVERSITY OF SWAZILAND

DEPARTMENT OF ECONOMICS

FINAL EXAMINATION 2005

TITLE OF PAPER: INTRODUCTION TO MICROECONOMICS

COURSE CODE: ECON 201

INSTRUCTIONS: 1. ANSWER FOUR QUESTIONS: TWO FROM SECTION A AND TWO QUESTIONS FROM SECTION B.

2. ALL QUESTIONS CARRY 25 MARKS EACH

TIME ALLOWED: THREE (3) HOURS

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SECTION A

Question 1

Write short notes on each of the following:

- a) Increasing returns to scale [3 marks]
- b) The law of variable factor proportions [4 marks]
- c) Usefulness of the concept of Cross Price Elasticity of Demand in industry. [6 marks]
- d) Inductive versus Deductive reasoning in economic modelling [6 marks]
- e) Capitalist versus the Capitalist mode of production. [6 marks]

Question 2

a) Mavukuvuku Second-hand Clothing Outlet announces that the price of second-hand clothing will be reduced next year, 2006. Given that this type of clothing is an inferior good, as an economist for the company explain and illustrate the resultant outcome (substitution and income effects) to the sales (output).

[15 marks]

b) For the case of a price increase, showing clearly the income and substitution effects of a price change, demonstrate how the demand curve for a giffen good violates the Law of Demand.

Question 3

Consider the following single good markets:

i) $Q_d = 40 - 4P$
 $Q_s = 25 + P$

ii) $Q_d = -2P^2 - 4P + 14$
 $Q_s = -1 + 3P$

- a) For each market, determine, algebraically the equilibrium values of price and quantity traded.

[14 marks]

- b) For market (i), determine, both graphically and algebraically, the effect of a parallel shift in supply. Explain, in economic terms, how the market adjusts itself after such a change in supply.

[11 marks]

Question 4

Use the Lagrangian approach to solve the following cost minimization problem:

$$\begin{aligned} \text{Min. } C &= wL + rK \\ \text{s.t. } 100 &= L^{1/2} K^{1/2} \end{aligned}$$

where all variables have their usual meaning

- Given that $w = E5$ and $r = E2$, how much labour and capital should the producer use? [14 marks]
- What is the optimum budget for the production of 100 units of output? [5 marks]
- What is the homogeneity of the production function and what kind of returns to scale does it exhibit? [6 marks]

SECTION B**Question 5**

- Discuss the welfare effects of monopoly. [10 marks]
- Mcibisholo is a monopoly firm and has the following operational information;

$$0.75Q^2 + P = 26$$

$$TC = 4 + 2Q - 0.3Q^2$$

Where TC = short run total costs

Q = output for a year

P = price charged by the firm

- Determine the price and quantity that maximizes profits [9]
 - How much profits will the firm make? [4]
- How does a monopoly determine the price it charges? [2]

Question 6

A) For the following classes of Oligopolistic models, using suitable examples describe how prices and output are determined:

- | | |
|-------------------------|------------|
| i) Perfect Collusion | [8 marks] |
| ii) Imperfect Collusion | [8 marks] |
| iii) Independent Action | [9 marks] |

Question 7

Suppose Mhlaba company sells its product in two markets. The demand functions are as follows:

$$Q_1 = 55 - 10 P_1 \quad \text{for Market 1}$$

$$Q_2 = 23 - 2 P_2 \quad \text{for Market 2}$$

Where Q = is in thousands of units per year

P = price per year

Overall Costs of the product is given as

$$C = 800 + 1.5Q$$

Where $Q = Q_1 + Q_2$

a) (i) Calculate the profit-maximizing prices and quantities for Market 1 and Market 2. [13 marks]

(ii) What is the general economic term given to this kind of practice? [2 marks]

b) Suppose a new company, Muhle company enters the industry to produce the same product, now people have a choice to either buy from Mhlaba company or Muhle company. Thus Mhlaba company is forced to charge a single price. Determine the price and output that will maximize profits? In which station is the company better off? [10 marks]

Question 8

a) With the aid of diagrams describe how the employment and pricing of a resource is determined under the following scenarios; indicate clearly the type of exploitation the input is subjected to in each case:

i) Inputs are sourced from a perfectly competitive industry but output is distributed by a monopoly firm. [8 marks]

ii) Both input and output markets are imperfectly competitive [17 marks]