

**CHUKA**



**UNIVERSITY**

**COLLEGE**

**UNIVERSITY EXAMINATIONS**

**EXAMINATION FOR THE AWARD OF DEGREE OF  
BACHELOR OF COMMERCE**

**BCOM 101: PRINCIPLES OF MICROECONOMICS**

**STREAMS: BCOM Y1S1**

**TIME: 2 HOURS**

**DAY/DATE: TUESDAY 7/8/2012**

**2.30 P.M. - 4.30 P.M.**

**INSTRUCTIONS:**

Answer question One and any other two questions.  
Do not write on the question paper.

1. (a) Distinguish between ordinal and cardinal utility theory. [2 marks]
- (b) Explain the law of equimarginal principle. [3 marks]
- (c) Given the following information

Number of Units	MU of Apples (A)	MU of Bananas (B)
1	100 utils	80 utils
2	80	60
3	60	40
4	40	20
5	20	10

Suppose the consumer is prepared to spend Ksh12 on the two goods, apple (A) and bananas (B) and whose are Ksh 2 and Ksh 1 respectively. Determine the amount of apples and bananas that the consumer will purchase. [2 marks]

- (d) Assume the following utility function

$$U = 15x^{\frac{1}{3}}y^{\frac{2}{3}}$$

Find

- (i)  $MU_x$  [2 marks]
- (ii)  $MU_y$  [2 marks]
- (iii)  $MRS_x \text{ for } y$  [3 marks]

- (e) The following is a cubic total cost function

$$TC = \alpha_0 + \alpha_1 Q + \alpha_2 Q^2 + \alpha_3 Q^3 \quad (\alpha_0, \alpha_1, \alpha_3 > 0, \alpha_2 < 0)$$

Determine

- (i) Fixed costs (F) [1 mark]
- (ii) Variable costs (VC) [1 mark]
- (iii) Average total costs (ATC) [1 marks]
- (iv) Average fixed costs (AFC) [1 mark]
- (v) Average variable costs (AVC) [1 mark]

- (f) A single commodity market model is defined by the following functions:

$$Q_d = 19 - P^2$$

$$Q_s = -8 + 2P^2$$

Where  $Q_d$  is the quantity of the commodity demanded.  
 $Q_s$  is the quantity of the commodity supplied and  
 $P$  is the price of the commodity

- (i) At what price is the equilibrium attained in this market? [2 marks]
  - (ii) Find the equilibrium quantity and supply. [2 marks]
- (g) Discuss the exceptions to the law of demand. [6 marks]

2. (a) You are provided with the following information regarding a certain firm.

Units of Input (L)	Total Production (TP)
1	100
2	220
3	360
4	460
5	530
6	570
7	595
8	600
9	594
10	560

- (i) Determine the marginal product (MP). [2 marks]
  - (ii) Find the average product (AP). [2 marks]
- (b) With a help of a well labeled diagram, explain the three stages of production.

- (c) Discuss the barriers to entry in a monopoly firm. [8 marks]  
[8 marks]
3. (a) Discuss the various distinguishing characteristic competitive firms. [8 marks]
- (b) Explain how perfect competitive firms achieve equilibrium in the short-run period. [9 marks]
- (c) Describe how a perfect competitive firm attains equilibrium in the long run. [3 marks]
4. (a) Given the following demand function for good a

$$Q_a = -4P_a + 2P_r + 0.2Y$$

Where

$Q_a$  = quantity of good a in demand

$P_a$  = price of good a

$P_r$  = price of related good r

$Y$  = consumer income

Given  $P_a = 20$ ;  $P_r = 24$  and  $Y = 2000$ , find income elasticity of demand, own price elasticity of demand and cross-price elasticity of demand and interpret your results. [9 marks]

- (b) Discuss the factors that determine price elasticity of supply. [6 marks]
- (c) Distinguish between arc and point elasticity of demand giving the formulae for calculating each. [4 marks]
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