

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**University Examinations 2014/2015**

FIRST YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF PURCHASING AND SUPPLIES MANAGEMENT, BACHELOR OF COOPERATIVE MANAGEMENT AND BACHELOR OF BUSINESS INFORMATION TECHNOLOGY

**BEC 3101: PRINCIPLES OF MICROECONOMICS**

**DATE: APRIL 2015 TIME:** $2 $**HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE**

Given the following quadratic total cost function.

TC =$∝\_{0}$+$∝\_{1}$Q + $∝\_{2}Q^{2}$ $∝\_{0}$,$∝\_{1}$ , $∝\_{2} $> 0

**Required:**

1. Find the corresponding;
2. ATC (Average Total Cost) (1 Mark)
3. AFC (Average Fixed Cost) (1 Mark)
4. AVC(Average Variable Cost) (1 Mark)
5. A two commodity market model is defined by the following;

Qd1= 4 – P1 + ½ P2

Qd2= 10 +P1 – P2

QS1= -3 + 4P1

QS2 = -18 + 4P2

Where P is price Q is the quantity.

**Required:**

Determine the equilibrium prices and quantities for the two commodities; (6 Marks)

1. With the aid of a diagram determine the consumer surplus for the following demand function.

 Q +P =8 where P4 =3.

**Required:**

1. Graph the function. (3 Marks)
2. What is the quantity of kales supplied at zero price? (1 Mark)
3. What happens to the supply of kales as the price rises? (1 Mark)

**QUESTION TWO (20 MARKS)**

1. Briefly explain the following economic terms;
2. Consumer sovereignity (2 Marks)
3. Scarcity and choice (4Marks)
4. Opportunity cost (2 Marks)
5. Production possibility frontier (2 Marks)
6. Given the following average revenue and total cost function.

 AR1 = 6 – Q1 – 13Q2

 $AR\_{2}$ = 2 – $4Q\_{1}$- $Q^{2}$

 Tc = 2Q12 + 3Q1Q2 + $½Q\_{2}^{2}$

Determine the corresponding profit function. (5 Marks)

1. Explain the functioning of a mixed economic system. (5 Marks)

**QUESTION THREE (20 MARKS)**

You are given the following production function Q = A.$K^{∝}$ $L^{β}$ where Q is output , L and kare labour and capital inputs and A,∝ and β are constants.

1. (i) Determine the Average product of labour and Average product of capital. (4 Marks)

(ii) (a) Express the APL in terms of Q and L (2 Marks)

 (b) Express the APk in terms of Q and K (2 Marks)

(iii) If the corresponding marginal product of labour is MPL= β.$AK^{∝}L^{β-1}$express the MPL in terms of Q,L and β. (3 Marks)

1. With aid of a well labeled diagram distinguish between price floors and price ceilings. (9 Marks)

**QUESTION FOUR (20 MARKS)**

1. Given the following functions;

Qa = 2.5-1.5 Pa + 1.8Pb – 0.8Y

Qb = 2 – Pa – 0.8Pb + 0.5Y

Where, Pa = 4, Pb = 5 Y= 15

a and b are goods.

1. Find the income elasticity of demand for goods a and be respectively. (6 Marks)
2. Determine the nature of good a and good b. (4 Marks)

b) Discuss the application of indifference curve analysis. (10 Marks)

**QUESTION FIVE (20 MARKS)**

1. Briefly explain the following terms;
2. Isoquant lines (2Marks)
3. Isocost lines (2 Marks)
4. Marginal rate of technical substitution (2 Marks)
5. With aid of a diagram, explain how a monopoly market structure maximizes profits. (10 Marks)
6. Discuss the ideal conditions of a perfect competitive market structure. (4 Marks)