**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**P.O. Box 972-60200 – Meru-Kenya.**

 **Tel: 020-2069349, 061-2309217. 064-30320 Cell phone: +254 712524293, +254 789151411**

**Fax: 064-30321**

**Website:** [**www.must.ac.ke**](http://www.must.ac.ke) **Email:** **info@must.ac.ke**

**University Examinations 2015/2016**

SECOND YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELORS OF COMMERCE.

AND

SECOND YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELORS OF PURCHASING AND SUPPLIES MANAGEMENT.

**BEC 3200: INTERMEDIATE MICRO- ECONOMIC THEORY.**

**DATE: AUGUST 2016 TIME: 2 HOURS**

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

**QUESTION ONE (30 MARKS)**

1. Given that the utility a consumer derives from consuming different quantities of Omena and (x1) and chapatis (x2) is given by the following utility function.

$u(x1, x2$)=

The consumer income is y=200 ksh

The price of Omena is 10 ksh

The price of Chapati is 15 ksh

Find the optimal quantities of the two commodities the consumer will buy to maximize utility. (10 marks)

1. Distinguish between partial and general equilibrium. (4 marks)
2. The firm has complete monopoly over the production of lighting bulbs. The following information is given

Total revenue=1000Q-10Q2

Marginal cost = 100+10Q

Where Q is the output of bulbs per unit of time.

1. Determine the number of bulbs that would be sold and the price charged if the firm was to set its price as a monopoly. (10 marks)
2. Discuss the factors that give rise to natural monopolies. (6 marks)

**QUESTION TWO (20 MARKS)**

1. Given the following Cobb Douglas production function 

Required:

1. Calculate the marginal product of capital and labour (4 marks)
2. Calculate the marginal rate of technical substitution. (2 marks)
3. Determine the returns to scale. (2 marks)
4. Compute the elasticity of substitution. (4 marks)
5. Explain the main conditions required in order to achieve pareto efficiency. (4 marks)
6. Distinguish between a budget constraint and a budget line. (4 marks)

**QUESTION THREE (20 MARKS)**

1. Consider an economy characterized by two consumers and two commodities. Citing relevant assumptions show how general equilibrium of exchange is attained. (10 marks)
2. Explain the objectives of economic theory (6 marks)
3. Distinguish between economies of scale and economies of scope. (4 marks)

**QUESTION FOUR (20 MARKS)**

1. A producer of cabbage is faced with two markets with the following demand functions

Market A 5Q1=80-P1

Market B 20Q2=180-P2

The producer’s cost function is given as C=50+2Q

1. Find the optimal quantities the producer will sell in each market, the equilibrium prices and the maximum profit attainable. (10 marks)
2. Calculate the price elasticity of demand at equilibrium level for the two markets and comment on your results. (6 marks)
3. Define a contract curve. Explain what determines the final location of the two parties on the contract curve. (4 marks)

**QUESTION FIVE (20 MARKS)**

1. Given the following production function



Given that the prices for input X1=20 KSH and the of input X2=30KSH.

1. Determine the quantities of X1 and X2 that minimizes costs. (8 marks)
2. Determine the level of output at minimum costs. (4 marks)
3. Consider the following cost function ; Find
4. Variable cost c(y)= (1 mark)
5. Fixed costs (1 mark)
6. Average variable costs (1 mark)
7. Average fixed costs (1 mark)
8. Average total costs (2 marks)
9. Marginal costs (2 marks)