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**University Examinations 2016/2017**

THIRD YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR

OF COMMERCE

**BEC 3253: PRODUCTION ECONOMICS**

**DATE: DECEMBER 2016 TIME: 2HOURS**

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

**QUESTION ONE (30 MARKS)**

1. Explain the key assumptions involved in production economics (6 marks)
2. Explain the key objectives of production economics (4 marks)
3. With the aid of diagram explain the law of variable proportion as applied in production economics (10 marks)
4. Find the degree of homogeneity of the following functions and state their returns to scale

(6 marks)

1. +y
2. 
3. Q=K3+K2L2

L3

1. Distinguish between technical efficiency and allocative efficiency (4 marks)

**QUESTION TWO (20 MARKS)**

1. A firm has a production function of this nature



Where K represents capital

L represents labour

The cost of each unit of labour is 100 shilling per hour while the cost of capital is 200 ksh per machine hour

The firm has 20,000 ksh to spend on capital and labour

1. Determine the least cost combination of capital and labour (8 marks)
2. Determine the optimal production level for this firm (4 marks)
3. State and explain the Bulers’ theorem as applied in production economics (4 marks)
4. Explain the concept of ridge lines (4 marks)

**QUESTION THREE (20 MARKS)**

1. A firm produces two products X and Y and has the following profit function



The firm must observe a production limit of



1. Determine the output mix which will maximize profits subject to the limit restriction

(8 marks)

1. Determine the level of profits attained by the firm (4 marks)
2. Explain the causes of increasing at an increasing rate in the short-run production function

(8 marks)

**QUESTION FOUR (20 MARKS)**

1. Distinguish between comparative advantage and absolute advantage (6 marks)
2. Explain the meaning and causes of internal and external economics of scale (10 marks)
3. Explain the advantages and disadvantages of labor division (4 marks)

**QUESTION FIVE (20 MARKS)**

1. With the aid of diagrams explain the various types of returns to scale (9 marks)
2. Discuss the key properties of cob-douglas production function (6 marks)
3. Given the following profit function



Determine the term of output of the two products that will maximize profits (5 marks)