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**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE IN AGRIBUSINESS MANAGEMENT**

**THIRD YEAR SECOND SEMESTER 2013/2014 ACADEMIC YEAR**

 **REGULAR**

**COURSE CODE: AAE 3321**

**COURSE TITLE: Economics of Crop and Livestock Production**

**EXAM VENUE:LR 7 STREAM: BSc (Agribusiness Management)**

**DATE:8/12/14 EXAM SESSION: 2.00 – 4.00PM**

**TIME: 2.00 HOURS**

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**Instructions:**

1. **Answer ALL question in Section A (compulsory) and ANY TWO questions in Section B.**
2. **Candidates are advised not to write on the question paper.**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room.**

**SECTION A [30 MARKS]**

1. Given the following production function Y=3x+2x2-0.1x3:
2. Calculate the point of diminishing returns. [6 marks]
3. Calculate elasticity of response when x=10.

Which stage of production is this? [4 marks]

1. Given the following production function $Y=2L^{\frac{1}{2}}+3K^{\frac{1}{2}}$ where L is

labour and K is capital, Y is the output and that the price of labor=2,

the price of capital=1 and price of output=8. Supposing that the budget is

limited to only Ksh. 99, such that the budget line is given by 2L+K=99,

find the optimal units of K and L and the maximum profit. [20 marks]

**SECTION B [40 MARKS]**

1. (a) Using a well labeled diagram, describe the three stages of a classical

production function and its relatives. [15 marks]

(b) Using a diagram, explain the properties of an isoquant. [5 marks]

 4. (a) Define the following terms:

1. Production function. [2.5 marks]
2. Law of diminishing returns. [2.5 marks]

 (b). Using a graph, distinguish between economies and diseconomies of size. [7 marks]

 (c). Give two agricultural examples of economies and diseconomies of size. [8 marks]

1. (a) What are the salient features of a pure competition market? [6 marks]
2. Using a graph, describe what is meant by MRTS? [6 marks]
3. A farm engages in wheat production and the total cost function is given by

 TC=100+6Y-0.4Y2+0.02Y3. Given that Y=5, calculate:

1. Average Total Cost (ATC). [2 marks]
2. Average Variable Cost (AVC). [2 marks]
3. Average Fixed Cost (AFC). [2 marks]
4. Marginal Cost (MC). [2 marks]