



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND  
TECHNOLOGY**

**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**THIRD YEAR SECOND SEMESTER UNIVERSITY EXAMINATION FOR  
THE DEGREE OF BACHELOR OF AGRIBUSINESS MANAGEMENT**

**2016/2017 ACADEMIC YEAR**

**REGULAR**

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**COURSE CODE: AAE 3321**

**COURSE TITLE: CROP AND LIVESTOCK PRODUCTION ECONOMICS**

**EXAM VENUE: STREAM: AGRIBUSINESS MANAGEMENT**

**DATE: 29/08/16 EXAM SESSION: 9.00 – 11.00 AM**

**TIME: 2 HOURS**

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**Instructions:**

- 1. Answer ALL questions in section A and ANY other 2 Questions in section B.**
- 2. Candidates are advised not to write on question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

**SECTION A [30 MARKS]**

**Answer ALL questions from this Section.**

- Q1.** (a.) Define the term ‘Production Economics’ **(2 Marks)**
- (b) i) Explain what is understood by the term ‘factors of production’. **(2 Marks)**
- ii) Identify the **Four** factors of production **(2 Marks)**
- (c) Using illustrations, describe the term Production function **(3 Marks)**
- Q2.** (a) Giving examples, define the following terms as used in agricultural economics
- (i.) Scarcity **(2 Marks)**
- (ii.) Opportunity cost **(2 Marks)**
- (b) Discuss the law of diminishing returns as applied in production economics, **(2 Marks)**
- (c) Because resources are scarce, choices have to be made in economics, explain **three** major choices to be made in agricultural production **(3 Marks)**
- Q3.** (a) Using illustrations (Equation), define the following terms as used in production economics
- (i.) Marginal Revenue **(2 Marks)**
- (ii.) Marginal Rate of Technical Substitution (MRTS) **(2 Marks)**
- (iii.) Marginal Cost (MC) **(2 Marks)**
- (b) Explain **Three** different ways by which a firm in production can achieve the main objective of profit maximization **(3 Marks)**
- (c) Explain the term Farm Planning **(3 Marks)**

**SECTION B [40 MARKS]**

**Answer ANY TWO questions from this Section.**

**Q4.** The table below shows a weekly feeding record of production of 100 layers with varying units of layers mash (A unit= 10 Kg). The eggs are sold at Kshs.10/= each.

100 layers	Layers mash kgs/week	Total egg production per week	Marginal production per week	Average product per week
100	0	140		
100	10	150		
100	20	180		
100	30	250		
100	40	350		
100	50	440		
100	60	500		
100	70	540		
100	80	540		
100	90	530		
100	100	500		

- a.) Calculate the weekly average product and marginal product in the table above **(6 Marks)**
- b.) Plot a graph of total product, marginal product and average product indicating the three zones of a production function **(8 Marks)**
- c.) Discuss the three zones of the production function in (ii) above **(6 Marks)**

**Q5. a) Briefly discuss four functions of a farm plan **(4 Marks)****

b) Jaramogi Oginga Odinga University of Science and Technology farm have a dairy unit where it does dairy production to supply milk to its cafeteria unit. For a long time it has been a tradition in the dairy unit to replace old dairy cows by raising a heifer in the farm. Recently the JOOUST farm Management are considering to change from the old tradition of raising heifer in the farm and instead purchase a mature heifer to replace the older dairy cows. The JOOUST dairy farm management sought technical advice by provided the following farm records to the third year's crops and livestock production economics students;

Sale of calf born in the farm Kshs.6, 000, purchase of mature replacement Heifer Kshs.30,000.

Cost of raising replacement heifer; maintenance of pasture 5,000, grains fed 3, 000, hay fed 3,000, minerals and supplements 3,000, veterinary services 3,000, labour 4,000

i. Develop a partial budget for the advice sought by the JOOUST dairy farm management above **(10 Marks)**

ii. Discuss whether it is advisable to effect the above adjustment in the farm **(6 Marks)**

**Q6 a)** Discuss and distinguish the following concepts of production economics

i. Partial and Complete budget **(4Marks)**

ii. Explicit Cost and Implicit Cost **(4 Marks)**

iii. Fixed Cost and Variable Cost **(4 Marks)**

b) Discuss the steps involved in cost control in firms **(4 Marks)**

c) i. A farmer produces chicken for meat, which he produces and sells 200 chickens of 2.5kg each per week. He sells his chicken at a price of 150/- per kg, how much does the farmer gets as his total revenue in 5 months? **(2Marks)**

ii. From the above total revenue calculated, calculate the net revenue the farmer earns per month if he uses a fixed cost of 4000/- per month and variable cost of 500/- per week. **(2Marks)**