



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

**SECOND YEAR SEMESTER TWO EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE IN AGRIBUSINESS MANAGEMENT AND BACHELOR OF
SCIENCE AGRICULTURAL EDUCATION**

2019/2020 ACADEMIC YEAR

REGULAR

COURSE CODE: BEN 3225

COURSE TITLE: Production Economics

EXAM VENUE:

DATE:

TIME: 2 HOURS

Instructions:

- 1. Answer ALL questions in section A and ANY other TWO Questions in section B.**
- 2. Candidates are advised not to write on question paper.**

Candidates must hand in their answer booklets to the invigilator while in the examination room.

SECTION A [30 MARKS]

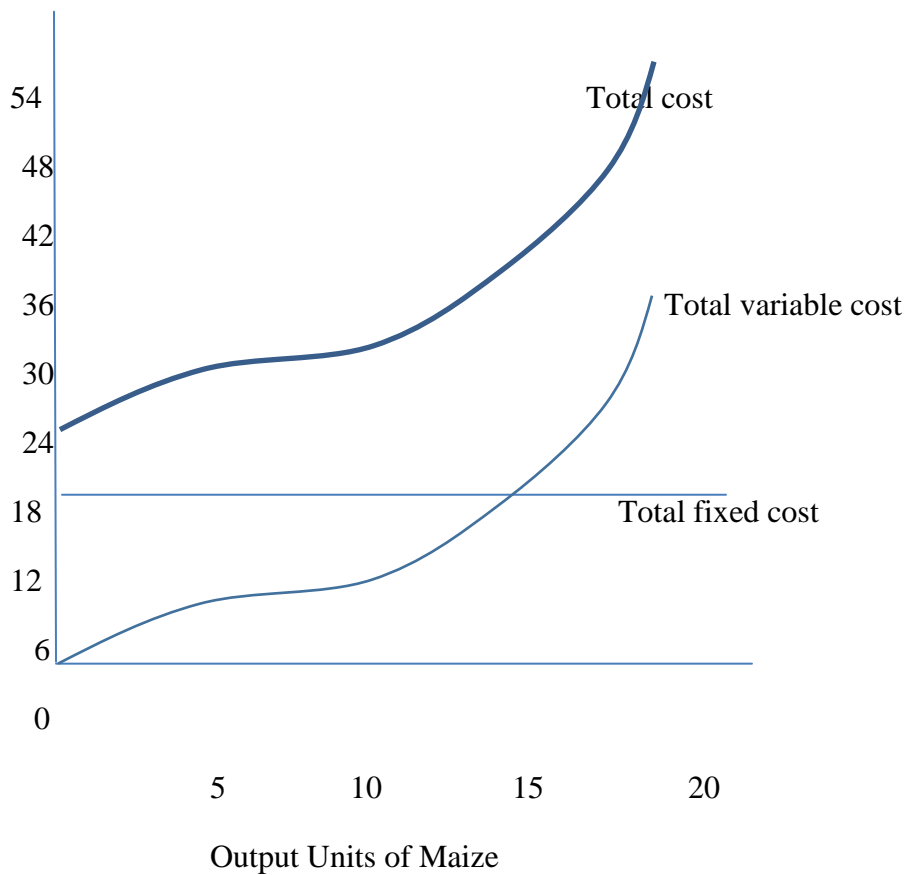
Answer ALL questions from this section

1. Identify and illustrate four ways in which you can represent a Production Function. **(8marks)**

2. Given the following Figure 1:

Figure 1: Costs of Production for Maize

Costs in Ksh



a) Explain why the Total fixed cost line is a straight horizontal line? **(2 marks)**

b) Explain why the Total variable and total cost curves have an S shape, i.e. first increase at a decreasing rate, and then increase at an increasing rate? **(5 marks)**

3. Differentiate between explicit costs and implicit costs that farmers incur in the course of production, and give an example of each. **(3 marks).**
4. Differentiate between the Marginal Rate of Technical Substitution and the Marginal Rate of Product substitution. **(2Marks)**
5. A farmer uses variable input X_1 to produce a product Y_1 . How much X_1 will the farmer use to maximize profit? **(5 marks)**
6. You are a dairy farmer: Why would you not feed your cow as much dairy meal as she would like to eat? **(5marks)**

SECTION B **[40 MARKS]**

Answer any TWO QUESTIONS in this Section.

7. The market for agricultural commodities is perhaps the only market in which reality approximates the economist's definition of 'competitive'. Describe the conditions that produce this competitiveness **(20 marks).**
8. The supply and demand of a product like maize (as opposed to the quantity of maize supplied or demanded) are influenced by a number of factors. Name the factors that influence supply and those that influence demand for maize and briefly explain how they influence the supply or the demand **(20 Marks)**
9. Use the Price Ratio Approach to explain the profit-maximizing conditions for the following production function **(20 marks):**
- $Y_1, Y_2, Y_3, \dots, Y_n = f(X)$