**AGRICULTURE SCHEMES OF WORK FORM 4**

**TERM 2**

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| **WK** | **LSN** | **TOPIC** | **SUB-TOPIC** | **OBJECTIVES** | **T/L ACTIVITIES** | **T/L AIDS** | **REFERENCE** | **REM** |
| 1 | **Opening and Revision** |
| 2 | 2 | FARM POWER & MACHINERY.  | Electrical system of a tractor.  | By the end of the lesson, the learner should be able to: Name the components in the electrical system of a tractor.Highlight methods of maintaining a tractor battery.  | Refer to diagram for electrical system of a tractor;Brief discussion.  | Chart-  electrical system.  | KLB BK IVPg 65-67Longhorn Bk IVPg 61  |  |
| 3 | FARM POWER & MACHINERY.  | Tractor ignition system.Tractor cooling system.  | By the end of the lesson, the learner should be able to: Name the components of tractor ignition system.Correct some common faults of ignition system.Discuss maintenance practices of the ignition system.Briefly describe air-cooled and water-cooled systems.Discuss proper maintenance of cooling system.  | Refer to a diagram for ignition system of a tractor;Brief discussion.  | Chart - ignition system.Chart- water cooling system.  | KLB BK IVPg 67-69Longhorn Bk IVPg 62-63  |  |
| 4 | FARM POWER & MACHINERY.  | Lubrication system of an engine.  | By the end of the lesson, the learner should be able to: Describe the lubrication system of an engine.Outline importance of maintaining the lubrication system.  | Exposition;Brief discussion.  | diagram of a lubrication system  | KLB BK IVPg 71-72Longhorn Bk IVPg 64-5  |  |
| 3 | 1 | FARM POWER & MACHINERY.  | Power transmission system of an engine.  | By the end of the lesson, the learner should be able to: Explain the function of power transmission system.State the function of the clutch, gearbox and the differential.  | Teacher exposes the parts of power transmission system.Refer to diagrams to identify parts of a power transmission system;Brief discussion. | Chart- power transmissionsystem.  | KLB BK IVPg 72-76Longhorn Bk IVPg 64-65  |  |
| 2 | FARM POWER & MACHINERY.  | Tractor servicing.  | By the end of the lesson, the learner should be able to: Describe tractor servicing and maintenance practices. | Brief discussion.  |  | KLB BK IVPg 776-77Longhorn Bk IVPg 65-6  |  |
| 3 | FARM POWER & MACHINERY.  | Tractor drawn implements.  | By the end of the lesson, the learner should be able to: Classify tractor drawn implements on basis of attachment to the tractor.List down maintenance practices for a trailer. | Teacher?s explanations.Q/A: maintenance practices.  | Charts- Tractor drawn implements.  | KLB BK IVPg 77-80Longhorn Bk IVPg 66-7  |  |
| 4 | FARM POWER & MACHINERY.  | Disc plough. Mould board plough.  | By the end of the lesson, the learner should be able to: Label parts of a disc plough List down maintenance practices for a disc plough.State operational differences between the disc plough and mould board plough.  | Q/A: review primary and secondary cultivation.Drawing labeled diagrams. Q/A & discussion.  | Chart- Disc ploughChart- Mould board plough  | KLB BK IVPg 79-80Longhorn Bk IVPg 68-9  |  |
| 4 | 1 | FARM POWER & MACHINERY.  | Harrows.  | By the end of the lesson, the learner should be able to: Identify types of harrows and their uses.List down maintenance practices for harrows. | Drawing diagrams, Q/A & discussion.  | harrows   | KLB BK IVPg 82-84Longhorn Bk IVPg 72-77  |  |
| 2 | FARM POWER & MACHINERY.  | Other farm implements.  | By the end of the lesson, the learner should be able to: Explain the functional features of subsoilers, ridgers, rotary tillers & mowers.List down maintenance practices for the implements. | Exposition & brief discussion.Excursion & exhibitions.  | illustrative video  | KLB BK IVPg 85-91Longhorn Bk IVPg 78-82  |  |
| 3 | FARM POWER & MACHINERY.  | Animal drawn implements.  | By the end of the lesson, the learner should be able to: Identify parts of animal drawn implements and state their functions.List down maintenance practices for an ox-plough, an ox-plough, and an ox-cart.State merits & demerits of using animal-drawn implements compared to tractor power. | Drawing and labeling an ox-plough;Probing questions;Discussion.  | Chart:An ox-plough.  | KLB BK IVPg 91-94Longhorn Bk IVPg 82-83  |  |
| 4 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Household firm relationship.Gross domestic product (GDP) and Gross National product (GNP). Per Capita Income.  | By the end of the lesson, the learner should be able to: Define a household and a firm as business terms.Describe a household and a firm as producers and consumers and their role in a country's economic growth.Define the terms GDP & GNP.Define the term gross national income (GNI).Define the term per capita income.  | Q/A: review definition of economics, production economics.Exposition & explanations.Q/A & discussion.Calculations.  | resource personcalculator  | KLB BK IVPg 96-97Longhorn Bk 4Pg 20-21  |  |
| 5 | 1 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Contribution of Agriculture to national development.  | By the end of the lesson, the learner should be able to: Explain contribution of Agriculture to development. | Brain storming;Discussion.  |  | KLB BK IVPg 98-9Longhorn Bk 4Pg 90-91  |  |
| 2 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Land as a factor of production.  | By the end of the lesson, the learner should be able to: Describe the economic value of production of crops and livestock and space for construction of farm buildings, agro-industries & infrastructure.List down methods of land acquisition.  | Exposition of new concepts;Probing questions to elicit responses;Brief discussion.  | student book  | KLB BK IVPg 99-100Longhorn Bk 4Pg 92-3  |  |
| 3 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Labor as a factor of production.  | By the end of the lesson, the learner should be able to: Define the term labor as used in production.Explain ways of improving labor productivity.Identify types of labor.  | Oral questions & discussion.  | chart  | KLB BK IVPg 100-2Longhorn Bk 4Pg 93-4  |  |
| 4 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Capital.Management as a production factor.  | By the end of the lesson, the learner should be able to: Define the term capital.Identify types of capital.List sources of capital.State functions of a manager in a farm.Identify good qualities of a manager.  | Oral questions, exposition & discussion.Q/A & discussion.  |  | KLB BK IVPg 102-3Longhorn Bk 4Pg 94-95  |  |
| 6 | 1 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Production function.  | By the end of the lesson, the learner should be able to: Define production function.State characteristics of variable and fixed inputs.  | Q/A: examples of inputs & outputs; variable and fixed inputs;Brief discussion. |  | KLB BK IVPg 104-6Longhorn Bk 4Pg 96-7  |  |
| 2 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Production function curves.  | By the end of the lesson, the learner should be able to: Illustrate and interpret input-output relationship graphically.  | Worked examples: supervised practice.  | Graph papers.  | KLB BK IVPg 106-7Longhorn Bk 4Pg 98  |  |
| 3 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Increasing returns production functions.  | By the end of the lesson, the learner should be able to: Illustrate and interpret Increasing returns production functions.Give empirical examples where increasing returns production functions are experienced.  | Tabulate inputs and outputs.Graphical representation of increasing returns production functions.  | Graph papers.  | KLB BK IVPg 107-8Longhorn Bk 4Pg 99  |  |
| 4 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Constant returns production functions.  | By the end of the lesson, the learner should be able to: Constant returns production functions.Give empirical examples where Increasing returns production functions are experienced.  | Tabulate inputs and outputs.Graphical representation of constant returns production functions.  | charts  | KLB BK IVPg 108-9Longhorn Bk 4Pg 99  |  |
| 7 | 1 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Decreasing returns production functions.Law of diminishing returns.  | By the end of the lesson, the learner should be able to: Decreasing returns production functions.Give empirical examples where decreasing returns production functions are experienced.State the law oh diminishing returns.  | Tabulate inputs and outputs.Graphical representation of decreasing returns production functions.Refer to illustrative tables.Plot graphs from the tables;Discuss shape of the curve.  | graphs  | KLB BK IVPg 109-10  |  |
| 2 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Zones of a PF curve.  | By the end of the lesson, the learner should be able to: Divide a production function into three zones.Identify rational zones of production.  | Q/A: review AP, MP.Guided discovery of the three zones.  | Chart - Curve showing 3 zones of PF.  | KLB BK IVPg 113-5Longhorn Bk 4Pg 101-2  |  |
| 3 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | The principles of substitution. Input-input relationship.  | By the end of the lesson, the learner should be able to: State the principles of substitution.Give examples illustrating principles of substitution.Identify ways of combining inputs.  | Exposition.Illustrative examples, brief discussion.  |  | KLB BK IVPg 115-6Longhorn Bk 4Pg 102  |  |
| 4 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Product-product relationship. Supplementary and complementary products.  | By the end of the lesson, the learner should be able to: Give examples of product-product relationship.Give illustrative examples depicting supplementary and complementary products.  | Oral questions: joint products, competitive products.Discussion.  | charts  | KLB BK IVPg 116-7Longhorn Bk 4Pg 103  |  |
| 8 | **Mid Term Exams and Break** |
| 9 | 1 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | The principle of equi-marginal returns. The concept of cost.Types of revenue.  | By the end of the lesson, the learner should be able to: State the principle of equi-marginal returns.Determine the cost of production.Identify the role of cost in production.List types of costs.Compute total revenue, net revenue and marginal revenue given the relevant information.  | Discussion.Exposition;Worked examples.Worked examples;Explanations.  |  | KLB BK IVPg 117-9Longhorn Bk 4Pg 104-5,6  |  |
| 2 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Farm planning.  | By the end of the lesson, the learner should be able to: State factors to consider when drawing a farm plan.  | Exposition, Q/A & discussion.  | charts  | KLB BK IVPg 121-2Longhorn Bk 4Pg 108  |  |
| 3 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Making a farm plan.  | By the end of the lesson, the learner should be able to: Outline steps followed in making a farm plan.  | Exposition, probing questions & discussion.  |  | KLB BK IVPg 122-3Longhorn Bk 4Pg 109  |  |
| 4 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Farm budgeting.  | By the end of the lesson, the learner should be able to: Define a farm budget.Analyse importance of farm budgeting.  | Exposition & discussion.  | chart  | KLB BK IVPg 123Longhorn Bk 4Pg 110 |  |
| 10 | 1 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Types of farm budgets.Farmer?s support services Extension, training & banking.  | By the end of the lesson, the learner should be able to: Describe types of farm budgets.Give examples of contexts where certain types of budgets are used.Draw a partial budget.Draw a complete budget.Describe extension, training & banking as support services to the farmers.  | Exposition & discussion,Worked examples;Supervised practice;Written exercises.Exposition & explanations.  | chart  | KLB BK IVPg 124-7Longhorn Bk 4Pg 110-1  |  |
| 2 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Credit. Sources of credit.  | By the end of the lesson, the learner should be able to: Define the term credit.Identify types of credit.Differentiate between hard & soft credit.List down sources of credit.Identify problems associated with credits.  | Detailed discussion& exposition of new concepts.  | student book  | KLB BK IVPg 128-130Longhorn Bk 4Pg 113-5  |  |
| 3 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Artificial insemination & Agricultural research.  | By the end of the lesson, the learner should be able to: Describe A.I. services provided to farmers.Identify objectives of Agricultural research.Give examples of Agricultural research centers in Kenya. | Detailed discussion& exposition of new concepts.  | student book  | KLB BK IVPg 130-2Longhorn Bk 4Pg 115-6  |  |
| 4 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Marketing. Farm input suppliers Tractor hire service  | By the end of the lesson, the learner should be able to: Cite examples of organizations that help farmers in marketing their produce.Cite organizations where farmers can obtain farm inputs.State merits & demerits of tractor hire service.Cite points of tractor hire service. | Writing initials in full e.g. KPCU.Brief discussion  | resource person  | KLB BK IVPg 132-4Longhorn Bk 4Pg 112-3 |  |
| 11 | 1 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS)  | Risks and uncertainties in farming.  | By the end of the lesson, the learner should be able to: Define the terms risk and uncertainty.List types of risk and uncertainties. | Brain storming;Detailed discussion.  |  | KLB BK IVPg 134-5Longhorn Bk 4Pg 116-7  |  |
| 2 | AGRIC. ECONOMICS III (PRODUCTION ECONOMICS) AGRICULTURE ECONOMIC IV (FARM ACCOUNTS)  | Adjusting to uncertainties and risks.Financial documents.  | By the end of the lesson, the learner should be able to: Outline ways of adjusting to risks and uncertainties.Outline details contained in an invoice, receipt, delivery note and a purchase order.  | Brain storming;Detailed discussion.Oral questions & brief discussion.  | Invoice, receipt, delivery note and a purchase order.  | KLB BK IVPg 135-6Longhorn Bk 4Pg 118-9  |  |
| 3 | AGRICULTURE ECONOMIC IV (FARM ACCOUNTS)  | Books of accounts.  | By the end of the lesson, the learner should be able to: Describe features of the ledger and the inventory.  | Oral questions & brief discussion.Illustrative tables.  |  | KLB BK IVPg 146-150Longhorn Bk 4Pg 124  |  |
| 4 | AGRICULTURE ECONOMIC IV (FARM ACCOUNTS)  | Cash book.  | By the end of the lesson, the learner should be able to: Describe features of the cash book.Balance cash book.  | Oral questions & brief discussion.Illustrative examples. | Cash book.  | KLB BK IVPg 150Longhorn Bk 4Pg 125  |  |
| 12 | 1 | AGRICULTURE ECONOMIC IV (FARM ACCOUNTS)  | Journal & Subsidiary books of the Journal.  | By the end of the lesson, the learner should be able to: Describe features of the journal & subsidiary books of the journal.  | Oral questions & brief discussion.Illustrative tables.  |  | KLB BK IVPg 151-3  |  |
| 2 | AGRICULTURE ECONOMIC IV (FARM ACCOUNTS)  | Financial statements. Balance sheet.  | By the end of the lesson, the learner should be able to: Describe features of balance sheets.Prepare a balance sheet. | Make entries in a balance sheet.Prepare a balance sheet.Supervised practice.  | Balance sheet.  | KLB BK IVPg 154-7Longhorn Bk 4Pg 129-130  |  |
| 3 | AGRICULTURE ECONOMIC IV (FARM ACCOUNTS)  | Solvency of a business.  | By the end of the lesson, the learner should be able to: Determine whether a business is solvent or insolvent.  |  |  | KLB BK IVPg 154-7Longhorn Bk 4Pg 130  |  |
| 4 | AGRICULTURE ECONOMIC IV (FARM ACCOUNTS)  | Profit and loss account.  | By the end of the lesson, the learner should be able to: Define a profit and loss account. Draw a profit and loss A/C.Compute net profit. | Teacher gives format of profit and loss A/C.Worked examples.Supervised practice.  | chart   | KLB BK IVPg 157-9Longhorn Bk 4Pg 132-3  |  |
| 13-14 | **End Term Exams and closing** |