**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 IV Pg 65-67  Longhorn Bk IV Pg 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 IV Pg 67-69  Longhorn Bk IV Pg 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 IV Pg 71-72 Longhorn Bk IV Pg 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 transmission system. | KLB BK IV Pg 72-76  Longhorn Bk IV Pg 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 IV Pg 776-77 Longhorn Bk IV Pg 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 IV Pg 77-80  Longhorn Bk IV Pg 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 plough Chart- Mould board plough | KLB BK IV Pg 79-80  Longhorn Bk IV Pg 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 IV Pg 82-84 Longhorn Bk IV Pg 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 IV Pg 85-91  Longhorn Bk IV Pg 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 IV Pg 91-94   Longhorn Bk IV Pg 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 person calculator | KLB BK IV Pg 96-97  Longhorn Bk 4 Pg 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 IV Pg 98-9 Longhorn Bk 4 Pg 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 IV Pg 99-100  Longhorn Bk 4 Pg 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 IV Pg 100-2  Longhorn Bk 4 Pg 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 IV Pg 102-3 Longhorn Bk 4 Pg 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 IV Pg 104-6 Longhorn Bk 4 Pg 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 IV Pg 106-7 Longhorn Bk 4 Pg 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 IV Pg 107-8 Longhorn Bk 4 Pg 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 IV Pg 108-9  Longhorn Bk 4 Pg 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 IV Pg 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 IV Pg 113-5 Longhorn Bk 4 Pg 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 IV Pg 115-6  Longhorn Bk 4 Pg 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 IV Pg 116-7  Longhorn Bk 4 Pg 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 IV Pg 117-9  Longhorn Bk 4 Pg 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 IV Pg 121-2 Longhorn Bk 4 Pg 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 IV Pg 122-3 Longhorn Bk 4 Pg 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 IV Pg 123 Longhorn Bk 4 Pg 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 IV Pg 124-7  Longhorn Bk 4 Pg 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 IV Pg 128-130    Longhorn Bk 4 Pg 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 IV Pg 130-2  Longhorn Bk 4 Pg 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 IV Pg 132-4   Longhorn Bk 4 Pg 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 IV Pg 134-5  Longhorn Bk 4 Pg 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 IV Pg 135-6  Longhorn Bk 4 Pg 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 IV Pg 146-150 Longhorn Bk 4 Pg 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 IV Pg 150 Longhorn Bk 4 Pg 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 IV Pg 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 IV Pg 154-7 Longhorn Bk 4 Pg 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 IV Pg 154-7 Longhorn Bk 4 Pg 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 IV Pg 157-9 Longhorn Bk 4 Pg 132-3 |  |
| 13-14 | **End Term Exams and closing** | | | | | | | |