

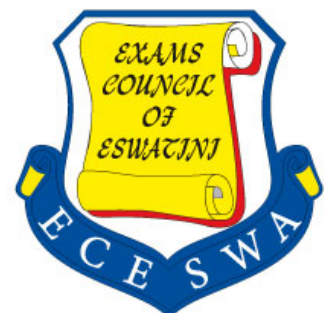
EGCSE

Eswatini General Certificate of Secondary Education

AGRICULTURE SYLLABUS

Subject Code: 6882

For Examination in 2021 - 2023



Examinations Council
of Eswatini

EGCSE AGRICULTURE Syllabus 6882
November 2021 and November 2023 Examinations

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ESWATINI GENERAL CERTIFICATE OF SECONDARY EDUCATION Broad Guidelines

The Ministry of Education is committed, in accordance with the National Policy Statement on Education, to provide a Curriculum and Assessment System (Form 4 and Form 5) so that at the completion of secondary education, learners will

- be equipped to meet the changing needs of the Nation, and have attained internationally acceptable standards.

Eswatini's National Education Policy Directives

EGCSE syllabuses for studies in Form 4 and Form 5 will individually, and collectively, enable learners to develop essential skills and provide a broad learning experience which

- inculcates values and attitudes as well as knowledge and understanding,
- encourages respect for human rights and freedom of speech,
- respects the values and beliefs of others, relating to issues of gender, culture and religion,
- develops desirable attitudes and behaviour towards the environment,
- provides insight and understanding of global issues which affect quality of life in Eswatini and elsewhere, e.g., the AIDS pandemic; global warming; misdistribution of wealth; and technological advances.

The National Curriculum for Form 4 and Form 5

Learners will be given opportunities to develop essential skills which will overlap across the entire range of subjects studied. These skills are listed below.

- Communication and language skills
- Numeracy skills: mathematical ideas, techniques and applications
- Problem-solving skills
- Technological awareness and applications
- Critical thinking skills
- Work and study skills
- Independent learning
- Working with others

To develop these skills, learners must offer four compulsory subjects and at least three elective subjects chosen from one or more Field of Study.

Compulsory Subjects

- SiSwati – either First Language or Second Language
- English Language
- Mathematics
- Science

Fields of Study

- Agriculture Field of Study
- Business Studies Field of Study
- Home Economics Field of Study
- Social Sciences and Humanities Field of Study
- Technical Field of Study

INTRODUCTION

The Eswatini General Certificate of Secondary Education (EGCSE) syllabuses are designed as two-year courses for examination in Form 5. Agriculture is an applied science. This being the case, it follows that for assessment to be consistent with teaching and learning situations, it should also be learner-centred and activity based.

Agriculture is a multidisciplinary subject that will, through the use of learner-centred teaching approaches, allow the learners to make use of the existing knowledge, and construct new ones so as to build understanding of crop and animal production, as well as processing and marketing of agricultural produce. This curriculum is designed to integrate cross-field, developmental objectives and content, thereby promoting entrepreneurial and management skills that will enhance the development of desirable attitudes and values.

Learners will apply scientific principles to farming and demonstrate their appreciation of the industry as profitable to the individual, community, Nation, the SADC (Southern African Development Community) Region and globally. They will also develop problem solving skills through awareness of existing national agricultural problems, relationships between humans, nature and the impacts of socio-cultural, socio-economic and political issues on natural resources and on sustainable agricultural production.

All EGCSE syllabuses follow a general pattern. The main sections are:

- Aims
- Assessment Objectives
- Assessment
- Curriculum Content

Agriculture is an Elective Subject and falls into the Agriculture Field of Study which includes: Biology, Combined Science/ Physical Science and Geography.

AIMS

The aims of the syllabus are the same for all learners. These aims are set out below and describe the educational purposes of a course in Agriculture for the EGCSE Examination. They are not listed in order of priority.

The aims are to enable learners to:

1. demonstrate the value of agriculture to the family and community, and show how Agriculture can contribute to the world-wide campaign for poverty alleviation and food security;
2. develop scientific methods such as accuracy and precision, objectivity, integrity, enquiry and inventiveness;
3. develop initiative and self-education so as to encourage resourcefulness and self-reliance;
4. develop desirable values and attitudes towards the country's natural resources for sustainable agricultural development;
5. create awareness of existing problems so as to stimulate problem solving abilities;
6. promote gender equity in the learning activities, by recognising the realities of the roles played in agriculture;
7. stimulate development of entrepreneurial skills necessary to initiate and manage agri-business;
8. harness indigenous knowledge and experiences so as to promote socio-cultural diversity;
9. provide a background, together with basic sciences, mathematics and other relevant subjects for more advanced studies in agriculture;
10. promote awareness of the impact of HIV/AIDS on agricultural production;
11. ensure that the learning of agriculture integrates with development agencies;
12. encourage the development of an agriculture department farm or small holding ensuring that learners actively participate in farming events;
13. encourage pupils to appreciate and have interest in agriculture because of its contribution to food security and poverty alleviation.

PRIOR KNOWLEDGE

The programme is designed for students who have successfully completed Eswatini Junior Secondary education or equivalent. Though preference is given to Candidates who have done Junior Secondary Agriculture education but those who have not done it remain acceptable.

TEACHING HOURS

Appropriate teaching time for the Agriculture syllabus should be equivalent to six (6) periods of forty (40) Minutes each over a period of sixty (60) weeks/cycles.

PROGRESSION

The EGCSE Agricultural qualification enables candidates to progress directly to further education, gainful employment and self-employment.

SUPPORT DOCUMENTS

A wide range of materials and resources are available to support teachers in Eswatini schools. The resources suit a variety of teaching methods in the local context. Through targeted training forums, teachers can access the expert advice they need for teaching this syllabus.

RECOMMENDED TEXTBOOKS

1. Macmillan Agriculture for Southern Africa
2. O Level Agriculture

3. East African Agriculture

EXAM PREPARATION RESOURCES

Examination report, syllabuses past papers and specimen papers are available on ECESWA website www.examsCouncil.org.sz

TRAINING

ECESWA offers training in assessment to ensure that teachers have the relevant knowledge and skills to conduct assessment of learning.

SPECIAL REQUIREMENTS

A poultry house and a garden/ field is essential for this programme

ASSESSMENT OBJECTIVES

Assessment Objectives in Agriculture are:

- A Knowledge with Understanding
- B Handling Information and Solving Problems
- C Practical Skills and Abilities

The assessment will include, wherever appropriate, personal, social, environmental, economic and technological applications of agriculture in modern society and contemporary issues (gender, HIV/AIDS and entrepreneurship).

A description of each assessment objective follows.

A KNOWLEDGE WITH UNDERSTANDING

Learners should be able to demonstrate knowledge and understanding in relation to the use of:

1. language (terms, symbols, quantities and units);
2. facts, concepts, principles, patterns, models and theories;
3. the techniques, procedures and principles of safe agricultural practice.

B HANDLING INFORMATION AND SOLVING PROBLEMS

Learners should be able, in words or using other written forms of presentation (i.e., symbolic, graphical and numerical), to:

4. locate, select, organise and present information from a variety of sources;
5. translate information from one form to another;
6. use information (data) to identify patterns, report trends and draw inferences;
7. present reasoned explanations for phenomena, patterns and relationships;
8. solve problems, including some of a quantitative and qualitative nature.

C PRACTICAL SKILLS AND ABILITIES

Learners should be able to:

9. develop, organise and use techniques, apparatus and materials;
10. make and record observations and measurements;
11. interpret and evaluate experimental observations and data;
12. make predictions and propose hypothesis and plan investigations.

Specification Grid

The approximate weightings allocated to each of the assessment objectives in the assessment model are summarised in the table below.

Assessment Objectives	Weighting
A Knowledge with understanding	30% (not more than 15% recall)
B Handling information and solving problems	40%
C Practical skills and abilities	30%

The assessment objectives are weighted to give an indication of their relative importance. The percentages are not intended to provide a precise statement of the number of marks allocated to particular assessment objectives.

ASSESSMENT

Scheme of Assessment

All papers are compulsory. Candidates must enter for Papers 1, 2, 3 and 4 and are eligible for the award of Grades A* to G. A description of each paper follows.

Paper 1 (1 hour) consisting of 60 marks

Section A candidates will be required to answer twenty compulsory multiple-choice questions worth 20 marks.

Section B short objective questions worth 40 marks.

Questions will test skills mainly in Assessment Objective A.

This paper will be weighted at 30% of the final total available marks.

Paper 2 (1 hour 30 minutes) consisting of 80 marks

This paper will be divided into two sections A and B.

Section A (60 marks) Six compulsory structured questions each having a common context.

Section B (20 marks) Candidates will be required to answer two essay questions (10 marks each) from a choice of three.

Questions will test skills mainly in Assessment Objectives A and B.

This paper will be weighted at 40% of the final total available marks.

Paper 3 Practical Exercises consisting of 30 marks

Candidates will be required to undertake three practical exercises (30 marks).

Schools should ensure appropriate facilities for the practical work.

The purpose of this paper is to test appropriate skills in Assessment Objective C.

The practical exercises will be assessed by teachers. See 'Assessment Criteria for Practical Exercises under Appendix 1A: Practical Skills.

This paper will be weighted at 15% of the total available marks.

Paper 4 Investigatory Project consisting of 30 marks

Candidates will be required to undertake one investigatory project (30 marks).

Schools should ensure appropriate and adequate facilities for practical work.

This work does not have to be limited to topics stated in the syllabus content.

The investigatory project will be assessed by teachers. See 'Assessment Criteria for investigatory project under Appendix 1B: Practical Skills.

This paper will be weighted at 15% of the total available marks.

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Weighting of Papers

Paper	Weighting
1	30%
2	40%
3	15%
4	15%

CURRICULUM CONTENT

Learners will study all topics in the Curriculum Content outlined below. The content is divided into seven (7) topics. The main topic areas are emboldened on the left-hand column, with concepts indicated below. The right-hand column provides details of the specific objectives.

Notes:

- (i) The Curriculum Content is designed to provide guidance to teachers as to what will be assessed in the overall evaluation of the learner. It is not meant to limit, in any way, the teaching programme of any particular school.
- (ii) An * denotes an area of the syllabus that could be used for the practical exercises.
- (iii) It is intended that, in order to avoid difficulties arising out of the use of l as the symbol for litre, use of dm^3 in place of l or litre will be made.

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Appropriate teaching time for the Agriculture syllabus should be equivalent to six (6) periods of forty (40) Minutes each over a period of sixty (60) weeks/cycles.

1. GENERAL AGRICULTURE	
1.1 Importance of Agriculture	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Explain the importance of crops and animals in agriculture in alleviating poverty and food security • Describe the contribution of agriculture to the family, the national economy, and world trade • Outline possible career opportunities available in agriculture • Discuss the role of women in agricultural development
1.2 History of Agriculture	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Discuss briefly the origin of agriculture – gathering/hunting, domestication, shifting cultivation/ nomadic herding, settled agriculture (subsistence, cash-crop, commercial)
1.3 Farming Systems	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • State and explain the land tenure systems: individual (freehold leasehold, title deed) and communal (Swazi Nation Land) • Describe modern farming systems (intensive/commercial, organic farming) • Discuss farming practices: mono-cropping/monoculture, intercropping, mixed farming, crop rotation • Discuss new trends in farming systems: hydroponics, permaculture and genetically modified organisms (GMO's)
1.4 HIV/AIDS	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Explain the impact of HIV/AIDS on agricultural activities: labour, productivity and economy • Suggest the impacts of HIV/AIDS to the family: child headed/ old age; in relation to land, resources and productivity
1.5 National and Regional Policies and Programmes	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Explain the value of national and regional agricultural policies: water act, crop and stock movement act, forest policy, environment act • Discuss the role of Eswatini Environmental Authority (EEA) – GMO's seed import permit, disaster management control, and supervision • Understand the role of the following programmes in agricultural development: extension, regional development fund and research

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2. ENVIRONMENTAL ISSUES	
2.1 Environmental Influences	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Explain how temperature, wind, humidity, rainfall affect the growth of plants and animals
2.2 Greenhouse Effect/Global Warming	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Define the greenhouse effect; global warming; climate change • Outline the causes of greenhouse effect; global warming; climate change • Explain the impact of greenhouse effect; global warming; climate change on agricultural activities and productivity
2.3 Desertification	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Define desertification • Describe the factors that lead to desertification • Understand the impact of desertification on agriculture
2.4 Pollution	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Describe water (eutrophication), air (acid rain) and soil (residual chemical effect) pollution • Discuss ways of preventing/ reducing pollution (including recycling)
2.5 Invasive Plants	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Define invasive plant species • Identify the common invasive species in the Kingdom of Eswatini * (Triffid/Paraffin weed-<i>Chromaleana odorata</i>; <i>Lantana camara</i>; Bugweed/wild tobacco tree- <i>Solanum mauritianum</i>; Mauritius thorn-<i>Caesalpinia decapetala</i>) • Explain the effects (economic, production, environmental) of invasive species • Explain the methods (cultural, biological, chemical) of control of invasive plants (refer to 3.4.1) *
3. CROP HUSBANDRY	
3.1 Soils	<p>All learners should be able to:</p>
3.1.1 Soil formation	<ul style="list-style-type: none"> • Describe the process of soil formation with reference to physical (exfoliation, Freeze-thaw) , chemical (carbonation, oxidation) and biological weathering (plants, animals) • Describe the soil profile in terms of top soil, subsoil and parent material in relation to crop production
3.1.2 Soil composition/ constituents	<ul style="list-style-type: none"> • Discuss the soil constituents: mineral particles, organic matter, air, living organisms and water*

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3.1.3 Soil structure	<ul style="list-style-type: none"> • Distinguish between crumb, platy and prismatic soil structure • Describe how to create/maintain a good crumb structure
3.1.4 Soil texture/ types	<ul style="list-style-type: none"> • Identify the different sizes of soil particles in terms of sand, silt and clay* • Describe the main characteristics of clay soils, sandy soils, silt and loam soils in terms of particle size, pore space, water retention, temperature, cultivation and plant growth*
3.1.5 Soil fertility	<ul style="list-style-type: none"> • List the major and minor plant nutrients • Describe the effects of major (N, P, K) plant nutrients to the growth and development of a plant • State sources of the nutrients: organic (farm yard manure, compost, green manure) and inorganic (compound and simple) fertilisers • Discuss advantages and disadvantages of organic and inorganic fertilisers • Explain how leaching and runoff reduce soil fertility • Draw and describe the nitrogen cycle making reference to specific named micro-organisms (rhizobium, azobacter nitrobacter, nitrosomanas, denitrifying bacteria)
3.1.6 Soil pH	<ul style="list-style-type: none"> • Define pH and the pH scale, stating factors influencing soil pH • Explain the effects of pH on plant growth • Describe the soil sampling procedure and methods* • Describe how to carry out a soil test for nutrients (Potash, Phosphate, Nitrate) • Describe how to carry out soil test for pH using the Barium Sulphate method and pH meter* • Describe how soil pH can be regulated* (the use of lime for acid soils and sulphate fertilisers on alkaline soils)
3.1.7 Soil erosion and conservation	<ul style="list-style-type: none"> • Describe the types of water erosion: gully, sheet, rill, splash • Explain the effects of soil erosion on agricultural production • Describe methods used to reduce soil erosion (terracing, contour ploughing, tie-ridging, planting trees, gabions)*
3.2 Principles of Plant Growth	All learners should be able to:
3.2.1 Germination	<ul style="list-style-type: none"> • Define germination • State conditions for germination* • Describe the seed structure and germination of: <ul style="list-style-type: none"> - maize (hypogeal); - French bean (epigeal)*

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3.2.2 Absorption of plant requirements	<ul style="list-style-type: none"> • Describe the structure of a root as seen in a transverse and longitudinal section • Describe the function of root hair, xylem and phloem in the uptake of water and minerals • Describe osmosis, diffusion, and active transport and explain how they are involved in the absorption of water and minerals*
3.2.3 Plant processes	<ul style="list-style-type: none"> • Describe the functions of the internal parts of a leaf • Describe photosynthesis in terms of carbon dioxide, water, light, chlorophyll and the production of carbohydrates and oxygen • Explain the factors affecting photosynthesis rate • Describe transpiration and its importance in terms of the <i>transpiration stream</i>, <i>diffusion</i> and <i>evaporation</i> in plants • Describe respiration as the release of energy from food substances in living cells with the release of carbon dioxide • Describe translocation and its importance in terms of food storage organs and types of food stored
3.2.4 Reproduction in plants	<ul style="list-style-type: none"> • Define sexual and asexual reproduction; explaining the importance of each • Describe the functions of various parts of a bean and a maize flower in relation to sexual reproduction • Define pollination, with reference to the different types; cross pollination, self-pollination • Describe the mechanism of pollination in maize (wind pollinated) and bean (insect pollinated) • Discuss artificial pollination in plants • Define fertilisation • Describe the process of fertilisation in beans and maize • Describe the production of sweet potato using stem cuttings as an example of asexual reproduction/vegetative propagation*
3.3 Crop Production	All learners should be able to:
3.3.1 Land preparation	<ul style="list-style-type: none"> • Describe land preparation: clearing (burning, cutting, stumping), ploughing, soil amendment, suitable tith*

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3.3.2 Production of main crops	<ul style="list-style-type: none">• Describe and carryout the cultivation of the two vegetable crops (Group 1) and the two field crops (Group 2) in relation to:*<ul style="list-style-type: none">- choice of suitable cultivars,- soil and climatic requirements,- soil preparation,- sowing or planting time and method,- type of fertiliser/manure, rate of fertiliser, method of application,- seed type, seed rate and spacing,- prevention and control of common pests, diseases and weeds,- recognising crop maturity, harvesting, storage, marketing, uses of by- products,- keeping relevant records (diary, production, financial).
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<u>2021</u>	<u>2022</u>	<u>2023</u>
Group 1/ Vegetables: spinach (leaf), beetroot (root)	Group 1/ Vegetables: cabbage (leaf), tomato (fruit)	Group 1/ Vegetables: cabbage (leaf), beetroot (root)
Group 2/ Field crops: maize (cereal), sweet potato (root)	Group 2/ Field crops: maize (cereal), sweet potato (root)	Group 2/ Field crops: maize (cereal), sweet potato (root)
3.4 Crop Protection	All learners should be able to:	
3.4.1 Weed control	<ul style="list-style-type: none"> • Identify common weeds and their morphology* • Describe the harmful effects and mode of spread of these named weeds: pig weed and star grass • Explain the common methods of weed control: cultural, mechanical, biological and selective/non-selective chemical, pre-emergence/ post emergence. * 	
3.4.2 Pest control	<ul style="list-style-type: none"> • Describe the mode of attack of the pest from each of the following pest types and nature of the damage caused: biting and chewing (cutworm), piercing and sucking (aphids), boring (armyworm). • Describe the following methods of pest control: chemical, biological and cultural in reference to the above pest types 	
3.4.3 Disease Control	<ul style="list-style-type: none"> • Describe the mode of infection, harmful effects, prevention and control of one plant disease from each of the following: bacterial (bacterial wilt of tomatoes), fungal (blight of potatoes), viral (maize streak virus). 	
3.4.4 Use of farm chemicals	<ul style="list-style-type: none"> • Demonstrate calibration, dilution and spraying using a knapsack sprayer* • Describe the safe use and necessary precautions taken when handling farm chemicals to minimize pollution and poisoning • Explain the farm chemical waste disposal regulations (refer to EEA act) 	
4. LIVESTOCK HUSBANDRY		
4.1 Types of Livestock	All learners should be able to: <ul style="list-style-type: none"> • List the different types of livestock and their use: Ruminants - cattle and goats Non-ruminants - pigs and rabbits Poultry - chickens and turkey Fish - tilapia and carp 	

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<p>4.2 Anatomy and Physiology</p>	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Describe the structure of the digestive system of a ruminant * • Describe the process of digestion in ruminants including the action of micro-organisms (bacteria, protozoa) enzymes (pepsin, rennin, amylase, lipase, maltase, sucrase, lactase, peptidase, maltase, trypsin) and end products (volatile fatty acids, amino acids, fatty acids, glycerol) • Describe the structure of a male and female reproductive system in a ruminant • Describe the role of testosterone in male animals • State the signs of heat and its relevance for breeding (oestrus cycle), describing roles of oestrogen and progesterone • Describe the processes of mating, fertilisation, gestation and birth in cattle, and relevant hormones including relaxin. • Discuss artificial insemination (AI) • Discuss importance of colostrum, lactation and weaning in a ruminant
<p>4.3 Livestock Nutrition</p>	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Explain the nutritional requirements suitable for livestock of different ages (refer to broiler, layer, ruminant) * • Discuss the types of feeds (roughages, concentrates) in terms of water content, nutritional value and suitability to the type of livestock • Discuss the importance of extra feed (supplements) in livestock production in relation to protein, energy and mineral needs • Discuss common feeding practices (restricted and adlib) in relation to poultry and ruminant • Discuss the importance of: a balanced, maintenance and production rations • Discuss the importance of adequate water supplies
<p>4.4 Livestock Management</p>	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Describe the three types of livestock (poultry, rabbits and ruminants) with reference to: feeding, breeding practices, care of the young, disease prevention and control, market, selling of animal products* • keep relevant records (refer to 3.3.2) * • Discuss the management practices: deworming, vaccination, identification, castration and dehorning

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<p>4.5 Pasture Management</p>	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Explain extensive pasture management practices/ communal grazing (SNL) in relation to: fencing, stocking rate, overgrazing/ undergrazing, breeding, diseases and parasites, condition of livestock • Explain the establishment of improved/ cultivated pastures (Rye grass and Kikuyu) and pasture legumes (lucerne and lueceana) • Explain the utilization of pastures including grazing control (paddocks, strip grazing, rotational grazing and zero grazing/feedlots) • Describe the pasture management practices: fertilising, veld reinforcement, weeding, bush control, burning • Describe processing, conservation and utilization of fodder (hay and silage) • Explain and demonstrate the concept of stocking rate and carrying capacity using examples*
<p>4.6 Health and Diseases</p>	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Describe the general characteristics of healthy and unhealthy livestock • Describe the mode of infection, harmful effects, prevention and control of the animal diseases from these classifications: bacterial (Brucellosis), viral (Newcastle disease), tick-borne diseases (Redwater) and protozoan (Coccidiosis) • Outline the effects of internal and external parasites in livestock. • Explain the control of internal parasite (Tapeworm) • Demonstrate calibration, dilution and deworming using the dosing gun* • Explain the control of external parasites (Ticks) in relation to spraying, dipping and use of drastic deadline • Explain what is meant by an infectious notifiable disease • State the legislative control measures used to prevent spread of livestock diseases (refer to 1.5) • Discuss nutritional deficiencies (calcium, phosphorus, iron, vitamin A and D)

5. ANIMAL AND PLANT IMPROVEMENT

<p>5.1 Principles of Breeding</p>	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Define the following terms: chromosome, gene, allele, homozygous, heterozygous, dominant and recessive • Explain the terms genotype and phenotype and their importance in plant and animal breeding • Calculate and predict the result of single genetic crossing involving 1:1 and 3:1 ratios • Calculate and predict the phenotypic ratios of offspring • Describe how selective breeding can improve the yield/ production, disease resistance, hardiness and appearance in plants and animals • Describe inbreeding, crossbreeding and outcrossing • Describe genetic engineering and embryo transfer
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6. AGRICULTURE ENGINEERING	
6.1 Farm Implements and Tools	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Identify the use, care and maintenance of the following tools used on a farm (saw, hammer, screw-driver, spanner, knapsack sprayer, fork, spade, hoe) * • Explain safety precautions in the use of farm tools, implements and machinery
6.2 Farm Mechanisation	All learners should be able to:
6.2.1 Intermediate technology	<ul style="list-style-type: none"> • Describe what is meant by intermediate technology • Explain the structure and mode of operation of two mechanical devices (wheel barrow, trailer) *
6.3 Farm Structures	All learners should be able to:
6.3.1 Buildings	<ul style="list-style-type: none"> • Identify factors considered when selecting suitable sites for farm buildings • Describe materials locally available for building farm buildings and their properties and uses: wood, concrete blocks, metal, stone, brick, earth, thatch
6.3.2 Fencing	<ul style="list-style-type: none"> • Describe the materials available for fencing posts (their advantages and disadvantages (concrete, wood, metal)) • Describe the types of fence suitable for different purposes • Describe the construction and maintenance of a fence* • Explain how fence posts may be preserved (wood-creosote, metal-paint) • Describe the fitting of a farm gate
6.4 Farm Water Supply	All learners should be able to:
6.4.1 Sources of water	<ul style="list-style-type: none"> • State sources of water and its use in livestock and crop production • Discuss the water cycle (use a diagram)
6.4.2 Irrigation systems	<ul style="list-style-type: none"> • Describe the different types of irrigation systems (surface irrigation, overhead irrigation, subsurface irrigation/drip irrigation) • Describe technological advances applied in drip and sprinkler irrigation (sensors, timing, location and direction) • Describe the effects of irrigation on crop yield

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6.4.3 Storage and conservation	<ul style="list-style-type: none"> • Discuss the methods of collecting water (roofs and catchment areas) and storage (dams, tanks) • Describe the construction of an earth dam • Explain the common methods of conserving water: drip irrigation, minimum tillage, mulching <p>NB: Link to Section 2.3, desertification</p>
7. AGRICULTURE ECONOMICS	
7.1 Principles of Economics	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Explain the law of diminishing returns, opportunity cost, supply and demand, risk and uncertainty
7.2 Marketing	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Describe the marketing functions; collection, transport, sorting, grading, processing, packaging, advertisement, storage, financing • Explain market research and its importance
7.3 Farm Accounting	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Know how to prepare financial accounts relating to farming including costs and returns, profit and loss, and calculate gross margins (refer to 3.3.2 and 4.4) * • Define variable costs, fixed costs, total costs, total returns, depreciation, assets and liabilities
7.4 Budgeting	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Define budgeting • State sources of information for budgeting • Explain purpose of a farm budget
7.5 Farm Credit	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • State sources of farm credit • Describe types of credit; short, medium and long-term loans • Define security/ collateral, interest rates, and re-payment agreement (simple & compound), including formulae for calculating simple and compound interest
7.6 Farm Records	<p>All learners should be able to:</p> <ul style="list-style-type: none"> • Define the types of records: production, financial (refer to 3.3.2 and 4.4)* • Explain their use and importance

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7.7 Entrepreneurship / Agribusiness	All learners should be able to: <ul style="list-style-type: none">• Define agribusiness• Define entrepreneurship• Discuss the importance of entrepreneurship• State the role of entrepreneurship in agribusiness• Define productivity• Discuss factors affecting farm productivity
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GRADE DESCRIPTIONS

The scheme of assessment is intended to encourage positive achievement by all candidates. Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The grade awarded will depend on the extent to which the candidate has met the assessment objectives overall and may conceal weakness in one aspect of the examination that is balanced by above-average performance on some other.

Criteria for the standard of achievement likely to have been shown by candidates awarded Grades A*, A, B, C, D, E, F and G are shown below:

A Grade A* candidate should be able to;

articulate facts to principles and theories with precision,
clearly explains why a technique was used for a procedure or operation,
analyse information gathered from a number of sources and clearly present data,
solve all problems presented, analysing all variables presented,
process and interpret data from a number of sources to identify any patterns or trends,
generate a hypothesis, and critique facts surrounding the hypothesis.

A Grade A candidate should be able to;

explain facts to principles and theories and vice versa,
describe why particular techniques are preferred for a procedure or operation,
select and describe information gathered from a number of sources and present it in a clear logical format,
solve problems in varied situations that may involve a wide range of variables,
process data from a number of sources to identify any patterns or trends,
generate a hypothesis to explain facts or find facts to support a hypothesis.

A Grade B candidate should be able to;

relate facts to principles and theories and vice versa,
state why particular techniques are preferred for a procedure or operation,
select and collate information from a number of sources and present it in a clear, logical format,
solve problems in given situations but with a range of variables,
process data from a limited number of sources to identify any patterns or trends,
generate a hypothesis to explain some facts or find facts to support a hypothesis.

A Grade C candidate should be able to;

link facts to situations not specified in the syllabus,
describe the correct procedure(s) for a multi-stage operation,
select a range of information from a given source and present it in a clear logical form,
identify patterns or trends in given information,
solve a problem involving more than one step, but with a limited range of variables,
generate a hypothesis to explain a given set of facts or data.

A Grade D candidate should be able to;

understand facts contained in the syllabus,
indicate the correct procedure for a single or more operations,
select and present more than one piece of information from a given sources,
solve a problem involving more than one step, but with a limited range of variables,
identify patterns or trends from data,
develop a hypothesis to explain a given set of facts or data.

A Grade E candidate should be able to;

recall facts contained in the syllabus,
identify the correct procedure for a single or more operations,
select more than one piece of information from a given sources,
solve a problem involving more than one step,
recognise which of two given hypotheses explains a set of facts or data,
identify patterns or trends from data provided.

A Grade F candidate should be able to;

recall simple facts contained in the syllabus,
identify the correct procedure for a single,
select a single piece of information from a given sources,
solve a problem involving one step if structured help is given,
identify patterns or trends from simple data provided,
recognise which of two given hypotheses explains a given set of facts or data.

A Grade G candidate should be able to;

recall simple facts as given in the syllabus,
relate given facts from two given sets of information,
understand basic farming skills and procedures,
solve a problem involving one step if structured help is given,
explains a set of facts or data from a given sets of hypotheses,
identify a pattern or trend that requires no manipulation or explanation.

APPENDIX 1A: PRACTICAL SKILLS

The total marks available for the assessment of practical skills during the course are 60 marks.

PAPER 3: PRACTICAL EXERCISES

Introduction

Paper 3 is a teacher-assessed continuous assessment of the candidate's practical work. The teacher, who is responsible for allocating marks, is required to submit the complete schedule of all marks for the purposes of moderation. Paper 3 consists of three practical exercises which will be developed by ECESWA. Centres are expected to submit all three practical's, worth 30 marks.

Aims

The teacher's assessment of practical exercises should aim at evaluation of skills and abilities essential to the study of Agriculture that are not suitably measured by theory examinations. These fall mainly into Assessment Objective C.

Moderation

- When several teachers in a Centre are involved in internal assessments, arrangements must be made within the Centre for all candidates to be assessed to a common standard.
- It is essential that, within each Centre, the marks for each skill assigned within different teaching groups (e.g., different classes) are moderated internally for the whole Centre entry.
- The Centre assessments will then be subject to external moderation.
- Coursework Assessment Summary Forms will be provided by the Examinations Council of Eswatini (ECESWA) and must be submitted to ECESWA by the official deadline, along with a representative sample of work.
- Where more than one teacher is involved in marking the work, the sample must include candidates marked by all teachers. Candidates must be selected so that the whole range is covered, with marks spaced as evenly as possible from the top mark to the lowest mark.
- Sampling of practical exercises should be done as follows:

Number of candidates entered	Number of candidates whose work is required (sample size)
0 - 10	All candidates
11 - 50	10
51 - 100	15
Above 100	20

NOTE: All records and supporting written work should be retained at the Centre until the publication of results.

The Teacher is required to assess the practical work carried out by candidates. This entails keeping a record for all the learners, showing the operations carried out and the marks awarded.

Much essential 'field work' in Agriculture has no written component but, clearly, credit should be given for practical ability. Three discrete practical exercise involving Assessment Objective C should be assessed over the two-year programme.

Assessment Criteria for Practical Exercises

ECESWA will develop practical's exercises. Each practical exercise should be assessed according to the criteria stated on each individual practical exercise. Each criterion should be assessed and marked out of a maximum mark of 5. Centres will assess candidates on the three (3) exercises set from different parts of the syllabus.

ECESWA will formulate relevant assessment tasks which are specific to the topic with descriptors to show the level of difficulty of the practical. The final mark for practical exercises in Paper 3 will be scaled to a maximum of 30 marks.

APPENDIX 1B: PRACTICAL SKILLS

PAPER 4: INVESTIGATORY PROJECT

Introduction

Paper 4 is a teacher-assessed continuous assessment of the candidate's practical work. The teacher, who is responsible for allocating marks, is required to submit the complete schedule of all marks for the purposes of moderation. The total marks available for the assessment of the paper 4 investigatory project during the course are 30 marks and there is one investigatory project.

Aims

The teacher's assessment of practical exercises should aim at evaluation of skills and abilities essential to the study of Agriculture that are not suitably measured by theory examinations. These fall mainly into Assessment Objective C.

Moderation

- When several teachers in a Centre are involved in internal assessments, arrangements must be made within the Centre for all candidates to be assessed to a common standard.
- It is essential that, within each Centre, the marks for each skill assigned within different teaching groups (e.g., different classes) are moderated internally for the whole Centre entry.
- The Centre assessments will then be subject to external moderation.
- Coursework Assessment Summary Forms will be provided by the Examinations Council of Eswatini (ECESWA) and must be submitted to ECESWA by the official deadline, along with a representative sample of work.
- Where more than one teacher is involved in marking the work, the sample must include candidates marked by all teachers. Candidates must be selected so that the whole range is covered, with marks spaced as evenly as possible from the top mark to the lowest mark.

Sampling of investigatory projects should be done as follows:

Number of candidates entered	Number of candidates whose work is required (sample size)
0 - 10	All candidates
11 - 50	10
51 - 100	15
Above 100	20

NOTE: All records and supporting written work should be retained at the Centre until the publication of results.

This is a long term investigatory project involving an investigation which should address the parts of Assessment Objective C where candidates produce a hypothesis, plan and carry out an investigation. The data collected is recorded, analysed and conclusions made. A written report is required and the limitations of the investigation noted. This is assessed according to the criteria stated below. One investigatory project may be assessed during the course.

Candidates will carry out and write a report, not exceeding 2000 words, on one investigatory project. The Teacher should evaluate and mark the investigatory project and award an overall mark out of 30.

The main aim of the investigatory project is that it should be done by the individual candidate, in connection with some particular study problem. Agriculture offers a wide scope for such exercises, and it should not be difficult to find suitable topics, bearing in mind the following principles:

- The work must be investigatory. The candidate must find the information for himself/herself by direct observation and measurement.

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- Though the programme of study must be carried out by the candidate, it is the responsibility of the teacher to guide the student or even to select problems that suit the candidate's investigatory abilities. The teacher may also suggest methods of investigation that are likely to be effective. **Candidates are not research workers, but they can learn how to carry out investigations for themselves. Therefore, teachers are expected to give appropriate guidance throughout the investigatory project work.**
- The nature of the problem to be investigated should be stated and discussed by the candidate in the introduction.
- Time allocated to the investigatory practical exercise should be approximately 6 periods of 40 minutes (4 hours in a rolling circle). This should be enough to achieve a good standard. Candidates should be discouraged from spending so much time on their investigatory practical exercise that their normal class work suffers.
- It is not expected that candidates will necessarily solve all the problems they tackle, but they should make a worthwhile attempt to do so. When problems fail to yield positive results, the candidate should be encouraged to discuss their actual findings and comment on the implications.

Good investigatory practical exercise by candidates often leads them to understand the difficulties and subtleties of the problem and this can be very educational. For some candidates, negative results can be depressing, and teachers must use their judgment when guiding them, so that they do not become discouraged.

The degree of guidance given calls for skill on the part of the teacher. Ideally, the candidate should be free to choose a topic for the project and to decide on methods used in the investigation. In practice, the candidate will need help because of inexperience. The teacher should never leave the candidate in doubt for long about what to do next, so that the candidate does not lose interest or enthusiasm for the practical exercise.

Investigatory practical exercise can be based on a variety of topics. The following examples are intended as a guide, but teachers may wish to help their candidates to devise investigatory practical exercise of their own along similar lines:

- Field Experiments**
- comparison of sowing depths, to discover effects (minimum, optimum and maximum depths)
 - thinning of root crops; no thinning, thinning to various spacing's, effects upon total yield and size of roots produced
 - plant population in relation to yield, spacing of plant stations and rows, comparison to find optimum spacings

 - spraying versus not spraying: effects on infestation with disease or pest organisms, effects on yield, cost-effectiveness
 - top-dressing versus not top-dressing: various treatments and effects, comparison of costs and yields

 - fertiliser trials, organic versus inorganic, effects of differing application rates upon yields, diminishing returns
 - rationing of livestock feed versus ad-lib feeding; effects on production, cost-effectiveness
 - effects of different levels of nutrition on young stock (e.g., broiler chickens): measurement of live weight gain under different rationing regimes, effects on health, cost-effectiveness

In the case of field trials, it is often useful to have a group of candidates involved, in order to make possible replication of treatments on plots in different parts of the garden or field. This improves the statistical accuracy of the trial. However, each candidate's contribution must be assessed and individual reports must be written.

When different treatments are tried, the effect upon yield of produce is often a factor to be measured. The cost-effectiveness of alternative treatments should also be worked out, to see which one is the most profitable.

Attention should be paid to the presentation of results in a clear and concise form, i.e., tabulation or graphical representation.

Reasons should always be given for treatments carried out, methods tried, or conclusions reached.

- Field Surveys**
- cattle tick survey: incidence of ticks on cattle (counts done on selected cows on their regular visits to the dip)
 - marketing survey: goods produced by local farmers for sale, were sold, profitability, etc.
 - farmers' knowledge of maize pests during storage (e.g., a case study of a community)

In field surveys, the aim is to carry out an information-gathering exercise and to evaluate the findings. Technology of survey employed should be stated (exhaustive, random sampling, etc.) and the results and the conclusions should be well summarised.

An example of how the practical exercises may be integrated within the practical investigation:

A candidate has decided to carry out an investigation on the effect of nitrate fertiliser on the yield of cabbages. Having proposed a hypothesis with the scientific reasons behind it and planned a suitable investigation the practical work is carried out. The first practical assessment could involve the preparation of the soil seed bed. The second assessment could involve the planting and spacing of cabbages and the application of nitrate fertiliser. The third assessment could involve harvesting and measuring the cabbage yield. The recording of the data, subsequent analysis and limitations are then written up as part of the practical investigation.

Layout of the Investigatory Project Report

Title

The report should bear a clear title. This should appear on the first page, together with the name of the candidate and the name of the school. Show both dependent and independent variables.

Contents

A list of contents or topics should be included, showing clearly the main sections of the report and the numbers of pages where they appear. Lists of tables, graphs and photographs can also be included, if appropriate.

Introduction

This should state the objective(s) of the project, the questions to be asked and / or hypothesis, brief description of the plans for carrying out the project work, statement of the problem and the importance of the study.

Literature Review

A brief literature review, reference materials and people interviewed.

Methodology

Plan description of carrying out the study, research design, population and sampling, outcome measures, data collection and analysis.

Presentation of Data and Findings of the Study

Data collected should be presented in this section in the form of tables, charts, graphs or histograms. They must always be labelled with a brief description of the data.

Findings and Conclusions

The conclusions of the report should be summarised in a few paragraphs. The findings should be compared to the original plan. Limitations of the data should be noted and suggestions and/or recommendations should be made for improvements.

The help received from other people should be acknowledged.

Bibliography

Assessment Criteria for Investigatory Practical Exercise

The paper 4 investigatory practical project should be assessed according to the criteria format stated below. Each criterion should be assessed and marked out of a maximum mark of 5. The maximum mark is 30.

Selection of relevant questions (hypothesis) for the investigation

Marking Guide	Marks
Relevant questions (hypothesis) selected without guidance, appropriate and clearly stated, based on relevant stated evidence	3
Relevant questions (hypothesis) selected with guidance, appropriate and clearly stated	2
Relevant questions (hypothesis) selected with considerable guidance.	1
Relevant questions (hypothesis) provided for candidate	0

Planning of investigation and principles on which it is based

Marking Guide	Marks
Project well planned, without guidance, showing evidence that the relevant principles are understood, strategies of conducting the project suggest	5
Project well planned, with minimal guidance, showing evidence that the relevant principles are understood, no strategies suggested for conducting the project	4
Project well planned, with some guidance, showing evidence that the relevant principles are understood	3
Project adequately planned, with considerable guidance, relevant principles understood	2
Project plan sketchy, no evidence that principles are understood	1
Project plan provided for the candidate	0

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Quality of practical work

Marking Guide	Marks
Performs practical work thoroughly, pays attention to details and procedures work of good quality	2
Performs practical work thoroughly for the most part and produces work of a satisfactory quality.	1
Performs practical work in a rushed and superficial way with little concern for finished product	0

Handling of evidence

Marking Guide	Marks
Results presented neatly and clearly in a table, appropriate method of analysis chosen, graphs and/or histograms accurate and correctly presented (i.e., correct scale, axis, 0 plot, labeling, etc.)	5
Results presented neatly and clearly in a table with minimal assistance, appropriate method of analysis chosen, graphs and/or histograms accurate and correctly presented (i.e., correct scale, axis, 0 plot, labelling, etc.)	4
Results presented neatly and clearly in a table with some assistance, appropriate method of analysis chosen, graphs and/or histograms accurate and correctly presented	3
Results presented in a table, method of analysis chosen partly used correct, graphs and/or histograms accurate and minimal presented, considerable assistance,	2
Results not presented in a table, inappropriate method of analysis chosen, graphs and/or histograms inaccurate and poorly presented	1
No results presented	0

Ability to make deductions from evidence or data acquired

Marking Guide	Marks
Comprehensive deductions based on the evidence, conclusions given with reasons	5
Several deductions based on the evidence, conclusions given with reasons	4
Few deductions based on the evidence, conclusion given with reasons	3
Few deductions based on the evidence, no conclusions given with reasons	2
One deduction, no elaboration, tasks carried out with considerable help	1
In accurate records and observations, no deduction	0

Ability to recognize limitations and suggest improvements to data collection

Marking Guide	Marks
All major limitations identified, assessed and improvements suggested	5
All major limitations identified, assessed and some improvements suggested with minimal assistance	4
Several limitations identified, assessment, improvements suggested with some assistance	3
Several limitations identified, assessment superficial, no improvements suggested	2
One limitations identified but no assessments or improvements given	1
No limitations indicated	0

Description of practical investigation, presentation, layout and originality

Marking Guide	Marks
Clear full description of the objectives and nature of the topic, write up neat and well presented, layout as required by the syllabus, candidates own work	5
Clear full description of the objectives and nature of the topic, write up neat and well presented, layout as required by the syllabus, candidates own work, minimal guidance provided	4
Clear full description of the objectives and nature of the topic, write up neat and well presented, layout as required by the syllabus, candidates own work, some guidance provided	3
Description of the objectives and nature of the topic given, poor layout and presentation, candidates own work, considerable guidance	2
Poor outline of the objectives and nature of the topic, poorly presented, layout not as required by the syllabus, candidates own work	1
Practical procedures for investigation not followed	0

APPENDIX 2: PHYSICAL AND CHEMICAL CONCEPTS AND PROCESSES

It is expected that students will demonstrate background knowledge of, and/or an increased depth of knowledge, in the following physical and chemical concepts and processes.

For the purpose of Assessment, candidates will be expected to demonstrate:

1. an understanding of temperature, pressure, evaporation and relative humidity;
2. an understanding of the terms element, mixture, compound, atom, molecule and ion;
3. an understanding of the terms acid, base and pH value;
4. an understanding of energy transfer/conversion.

APPENDIX 3: MATHEMATICAL REQUIREMENTS

Calculators may be used in all parts of the Assessment. Candidates should be able to:

1. add, subtract, multiply and divide;
2. understand averages, decimals, fractions, percentages and ratios;
3. understand the relationship between surface area and volume;
4. use direct and inverse proportion;
5. draw charts and graphs, including histograms, from given data;
6. interpret charts and graphs;
7. select suitable scales and axes for graphs.

APPENDIX 4: TERMINOLOGY, UNITS, SYMBOLS AND PRESENTATION OF DATA FOR AGRICULTURE

Learners should be made aware of the terminology during teaching and practical work.

1. Numbers

The decimal point will be placed on the line, e.g., 52.35

Number from 1000 to 9999 will be printed without commas or spaces.

Number greater than or equal to 10 000 will be printed without commas, a space will be left between each group of three numbers e.g., 4 256 789.

2. Units

The International System of units will be used (SI units). Units will be indicated in the singular not in the plural, e.g., 28kg.

(a) SI units commonly used in Agriculture are listed below.

Note: Care should be taken in the use of mass and weight. In many agricultural contexts, the term mass is correct, e.g., dry mass, biomass.

Quantity	Name of unit	Symbol for unit
length	kilometer metre centimetre	km m cm mm
	millimetre micrometre	µm
mass	tonnes, kilograms, grams, milligram, micrograms	Kg, g, mg, µg
time	year, day, hour, minutes, second	Y, d, h, min, sec
Amount of substance	mole	Mol

(b) Derived units are listed below:

energy	Kilojoule, joule (calorie is obsolete)	Kj, j
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(c) Recommended units for area, volume, and density are listed below:

area	hectare= 10 ⁴ m ²	Ha
	square metre	m ²
	square decimeter	dm ²
	square centimeter	cm ²
	square millimetre	mm ²
volume	cubic kilmetre	km ³
	cubic metre	m ³
	cubic decimeter (preferred to litre)	dm ³
	litre	dm ³ (not l)
	cubic centimeter	cm ³
	cubic millimetre	mm ³
density	kilogram per cubic metre or gram per cubic centimetre or	kg m ³ g cm ³

- (d) The solidus (/) is to be used for separating the quality and the unit in tables, graphs and charts, e.g., times/s for time seconds

3. Presentation of Data

(a) Tables

- Each column of a table will be headed with the physical quantity and the appropriate SI unit, e.g., time / min.
- The column headings of the table can then be directly transferred to the axes of a constructed graph.

(b) Graphs

- The independent variables will be plotted on the x-axis (horizontal axis) and dependent variable plotted on the y-axis (vertical axis).
- Each axis will be labeled with the physical quantity and appropriate SI unit, e.g., time / min.
- The graph is the whole diagrammatic presentation. It may have one or several curves plotted on it.
- Points on the curve should be clearly marked as crosses (x) or circled dots (⊙). If a further curve is included, vertical crosses (+) may be used to mark the points.

(c) Pie Charts

These should be drawn with the sectors in rank order, largest first, beginning at 'noon' and proceeding clockwise. Pie charts should contain no more than six sectors.

(d) Bar Charts

These are drawn when one of the variables is not numerical, e.g., number of eggs of different colours. They should be made of narrow blocks of equal width that do not touch.

(e) Column Graphs

These are drawn when plotting frequency graphs from discrete data, e.g., frequency of occurrence of nests with different numbers of eggs. They should be made up of narrow blocks of equal width that do not touch.

(f) Histograms

These are drawn when plotting frequency graphs with continuous data, e.g., frequency of occurrence of stems of different lengths of chicks of different masses. The blocks should be drawn in order of increasing or decreasing magnitude and they should be touching.

N.B

Ensure there is a key for every graph

APPENDIX 5: GLOSSARY OF TERMS

It is hoped that the glossary will prove helpful to candidates as a guide i.e., it is neither exhaustive nor definitive. The glossary has been deliberately kept brief with respect to the number of terms included but also to the descriptions of their meanings. Candidates should appreciate that the meaning of a term must depend, in part, on its context.

In all questions, the number of marks allocated is shown on the examination paper, and should be used as a guide by candidates to how much detail to give or time to spend in answering. In describing a process, the mark allocation should guide the candidate about how many steps to include. In explaining why something happens, it guides the candidate on how many reasons to give, or how much detail to give for each reason.

CALCULATE	Used when a numerical answer is required. In general, working should be shown, especially where two or more steps are involved.
DEDUCE	Used in a similar way to “Predict” except that some supporting statement is required (e.g., reference to a law, principle, or the necessary reasoning is to be included in the answer).
DEFINE	(the term(s) ...) is intended literally, only a formal statement or equivalent paraphrase being required.
DESCRIBE	Requires the candidate to state in words (using diagrams where appropriate) the main points of the topic. It is often used with reference to data or information given in a graph, table or diagram, requiring the candidate to state the key points that can be seen in the stimulus material. Where possible, reference should be made to numbers drawn from the stimulus material. It can also require a candidate to give a step by step written statement of what happens during a particular process. In other contexts, describe should be interpreted more generally. (i.e., the candidate has greater discretion about the nature and the organisation of the material to be included in the answer). “Describe and explain” may be coupled, as may “State and explain”.
DETERMINE	Often implies that the quantity concerned cannot be measured directly but is obtained by calculation, substituting measured or known values of other quantities into a standard formula (e.g., the Young modulus, relative molecular mass).
DISCUSS	Requires the candidate to give a critical account of the points involved in the topic.
ESTIMATE	Implies a reasoned order of magnitude statement or calculation of the quantity concerned, making such simplifying assumptions as may be necessary about points of principle and about the values of quantities not otherwise included in the question.
EXPLAIN	May imply reasoning or some reference to theory, depending on the context. It is another way of asking candidates to give reasons for. The candidate needs to leave the Examiner in no doubt why something happens.
FIND	Is a general term that may variously be interpreted as “Calculate”, “Measure”, “Determine”, etc.
GIVE	A reason or reasons is another way of asking candidates to explain why something happens.
LIST	Requires a number of points, generally each of one word, with no elaboration. Where a given number of points is specified this should not be exceeded.

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MEASURE	Implies that the quantity concerned can be directly obtained from a suitable measuring instrument (e.g., length, using a ruler, or mass, using a balance).
OUTLINE	Implies brevity (i.e., restricting the answer to giving essentials).
PREDICT	Implies that the candidate is not expected to produce the required answer by recall but by making a logical connection between other pieces of information. Such information may be wholly given in the question or may depend on answers extracted in an earlier part of the question. Predict also implies a concise answer with no supporting statement required.
SKETCH	When applied to graph work, implies that the shape and/or position of the curve need only be qualitatively correct, but candidates should be aware that, depending on the context, some quantitative aspects may be looked for (e.g., passing through the origin, having an intercept). In diagrams, sketch implies that simple, freehand drawing is acceptable; nevertheless, care should be taken over proportions and the clear exposition of important details.
STATE	Implies a concise answer with little or no supporting argument (e.g., a numerical answer that can readily be obtained 'by inspection').
SUGGEST	Used in two main contexts (i.e., either to imply that there is no unique answer (e.g., in Chemistry, two or more substances may satisfy the given conditions describing an 'unknown'), or to imply that candidates are expected to apply their general knowledge to a 'novel' situation, one that may be formally 'not in the syllabus').
WHAT	"What do you understand by"/"What is meant by" (the term (s)...) normally implies that a Definition should be given, together with some relevant comment on the significance or Context of the term(s) concerned, especially where two or more terms are included in the question. The amount of supplementary comment intended should be interpreted in the light of the indicated mark value.

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APPENDIX 6: ASSESSMENT SUMMARY FORM



EGCSE

AGRICULTURE – Practical Exercises Paper 3
Individual Candidate Record Card

Please read the instructions printed overleaf and the General Coursework Regulations before completing this form.

Centre Number					Centre Name					November		2	0			
Candidate Number					Candidate Name											
Brief description of Practical Exercises undertaken Practical Exercises					1 Processed Skills (25)	2 Responsibility (Assessment responsibilities) (5)	3 Initiative (Coping with problems) (5)	4 Technique (Tackling tasks systematically & methodically) (5)	5 Perseverance (Seeing a task through the end) (5)	6 Quality (Work is well finished and presented) (5)						
1.																
2.																
3.																
Total per category (scale down to over 3) Marks to be transferred to coursework Assessment Summary Form.					/75	/15	/15	/15	/15	/15	/15					
Processed skills (x/75) x 15 Marks out of (x/15) x 3					/15	/3	/3	/3	/3	/3	/3					

6882/03/CW/)

EGCSE – AGRICULTURE COURSEWORK ASSESSMENT FORMS

A. INSTRUCTIONS FOR COMPLETING COURSEWORK ASSESSMENT SUMMARY FORMS

1. Complete the information at the head of the form.
2. Mark each practical exercise for each candidate according to the mark scheme provided by ECESWA.
3. Enter marks and total marks in the appropriate spaces. Complete any other section of the form as required.
4. Ensure that the addition of marks is independently checked.
5. Attach this form to the sampled candidate's practical activity work, and retain until required for external moderation. Retain the unsampled practical exercises at the school.
6. Transfer the marks to the Practical Exercises Summary Form (6882/03/CW/S) in accordance with the instructions given on that document.



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AGRICULTURE – Practical Exercises Paper 3

Coursework Assessment Summary Form

Please read the instructions printed overleaf and the General Coursework Regulations before completing this form.

Centre Number				Centre Name					November	2	0		
Candidate Number				Processed skills Max 15	Responsibility Max 3	Initiative Max 3	Technique Max 3	Perseverance Max 3	Quality Max 3	Total Mark Max 30			
Name of teacher filling this form				Signature		Cell			Date				
Name of internal moderator				Signature		Cell			Date				
				Head teacher's Signature + Stamp									

(6882/3/CW/S1)

EGCSE – AGRICULTURE COURSEWORK ASSESSMENT FORMS (6882/03/CW/S1)

A. INSTRUCTIONS FOR COMPLETING COURSEWORK ASSESSMENT SUMMARY FORMS

1. Complete the information at the head of the form.
2. Mark each practical exercise for each candidate according to the mark scheme provided by ECESWA.
3. Enter marks and total marks in the appropriate spaces. Complete any other section of the form as required.
4. Ensure that the addition of marks is independently checked.
5. Attach this form to the sampled candidate's practical activity work, and retain until required for external moderation. Retain the unsampled practical exercises at the school.
6. Transfer the marks to the Practical Exercises Summary Form (6882/03/CW/S) in accordance with the instructions given on that document.

A. INSTRUCTIONS FOR COMPLETING COURSEWORK ASSESSMENT SUMMARY FORMS

1. Complete the information at the head of the form.
2. List the candidates in an order that will allow ease of transfer of information to a computer-printed mark sheet MS1 at a later stage (i.e. in candidate index number order, where this is known; see item B.1 below). Show the teaching group or set for each candidate. The initials of the teacher may be used to indicate group or set.
3. Transfer each candidate's marks from his or her Individual Candidate Record Card to this form.
4. Both the teacher completing the form and the internal moderator (where appropriate) should check the form and complete and sign the bottom portion.

B. PROCEDURES FOR EXTERNAL MODERATION

1. Examinations Council of Eswatini (ECESWA) sends a computer-printed Coursework mark sheet MS1 to each Centre (in late March for June examination and in early October for the November examination) showing the names and index numbers of each candidate. Transfer the total internally moderated mark for each candidate from the Coursework Summary Form to the Computer-printed Coursework mark sheet MS1.
2. The top copy of the Computer-printed Coursework mark sheet MS1 must be dispatched in the specially provided envelope to arrive as soon as possible at ECESWA but no later than 31 October.
3. All candidates Coursework with all Individual Candidate Record Cards, Summary Form and the second copy of MS1 must be sent to ECESWA by 31 October.
4. The name of the teacher assessing each candidate must appear on the front cover of the candidate's coursework.
5. Send, with the sample, instructions given to candidates and information as to how internal moderation was carried out.
6. If there are ten or fewer candidates, all the coursework that contributed to the final mark for all the candidates must be sent to ECESWA. Where candidates are between 11 – 50, send a sample of 10 candidates covering the full ability range. From 51 – 100 candidates send a sample of 15 candidates. Above 100 candidates, send a sample of 20 candidates. Mark the sampled candidates with an asterisk (*) on the summary form.

EGCSE AGRICULTURE Syllabus 6882
November 2021 and November 2023 Examinations



EGCSE AGRICULTURE – Investigatory Project Paper 4
Coursework Assessment Summary Form

Please read the instructions printed overleaf and the General Coursework Regulations before completing this form.

Centre Number						Centre Name					November			2	0			
Candidate Number	Candidate Name					1 Selection of questions (max 3)	2 Plan and Principles (max 5)	3 Quality of practical work (max 2)	4 Handling of evidence (max 5)	5 Ability to deduce from data evidence (max 5)	6 Ability to assess limitations (max 5)	7 Presentation and originality (max 5)	Total Mark Max 30					
Name of Teacher filling this form						Signature			Cell	Date								
Name of internal moderator						Signature			Cell	Date								
Head teacher's Signature + Stamp																		

(6882/4/CW/S2)

EGCSE – AGRICULTURE COURSEWORK ASSESSMENT FORMS (6882/04/CW/S2)

A. INSTRUCTIONS FOR COMPLETING COURSEWORK ASSESSMENT SUMMARY FORMS

1. Complete the information at the head of the form.
2. List the candidates in an order that will allow ease of transfer of information to a computer-printed mark sheet MS1 at a later stage (i.e. in candidate index number order, where this is known; see item B.1 below). Show the teaching group or set for each candidate. The initials of the teacher may be used to indicate group or set.
3. Transfer each candidate's marks from his or her write-up to the Summary form.
4. Both the teacher completing the form and the internal moderator (where appropriate) should check the form and complete and sign the bottom portion.

B. PROCEDURES FOR EXTERNAL MODERATION

1. Examinations Council of Eswatini (ECESWA) sends a Computer-printed Coursework mark sheet MS1 to each Centre (in late March for June examination and in early October for the November examination) showing the names and index numbers of each candidate. Transfer the total internally moderated mark for each candidate from the Coursework Summary Form to the computer-printed Coursework mark sheet MS1.
2. The top copy of the Computer-printed Coursework mark sheet MS1 must be dispatched in the specially provided envelope to arrive as soon as possible at ECESWA but no later than 31 October.
3. All candidates Coursework with the Summary Form and the second copy of MS1 must be sent to ECESWA by 31 October.
4. The name of the teacher assessing each candidate must appear on the front cover of the candidate's coursework.
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