



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS

AGRICULTURAL SCIENCES P2

MAY/JUNE 2025

MARKING GUIDELINES

MARKS: 150

These marking guidelines consist of 12 pages.

SECTION A**QUESTION 1**

1.1	1.1.1	C ✓✓		
	1.1.2	B ✓✓		
	1.1.3	B ✓✓		
	1.1.4	A ✓✓		
	1.1.5	D ✓✓		
	1.1.6	C ✓✓		
	1.1.7	D ✓✓		
	1.1.8	A ✓✓		
	1.1.9	B ✓✓		
	1.1.10	D ✓✓	(10 x 2)	(20)
1.2	1.2.1	C ✓✓		
	1.2.2	J ✓✓		
	1.2.3	B ✓✓		
	1.2.4	E ✓✓		
	1.2.5	D ✓✓	(5 x 2)	(10)
1.3	1.3.1	Price elasticity of supply ✓✓		
	1.3.2	Land ✓✓		
	1.3.3	Progeny selection ✓✓		
	1.3.4	Breeding value/BV ✓✓		
	1.3.5	Biometrics ✓✓	(5 x 2)	(10)
1.4	1.4.1	Surplus/over supply ✓		
	1.4.2	Contract ✓		
	1.4.3	Genetic/internal ✓		
	1.4.4	Upgrading ✓		
	1.4.5	Incomplete ✓	(5 x 1)	(5)

TOTAL SECTION A: 45

SECTION B**QUESTION 2: AGRICULTURAL MANAGEMENT AND MARKETING****2.1 Marketing functions****2.1.1 Identification of the marketing functions**

- A - Storage ✓ (1)
B - Packaging ✓ (1)

2.1.2 TWO advantages of processing

- Reduces wastage of excess produce ✓
- Provides job opportunities ✓
- Increases the value of the product ✓
- Allows easier packaging/handling/transportation of products ✓
- It is a way of overcoming over-supply of products ✓
- Increases the shelf-life of a product/prevents spoilage ✓
- Improves food safety ✓
- The product is available throughout the year ✓
- It is a way for farmers to increase their share of the final price for a product ✓
- Products are more convenient for the consumer ✓ (Any 2) (2)

2.1.3 Marketing function not in the illustration

- Transportation ✓ (1)

2.2 Marketing and selling**2.2.1 Marketing ✓**

(1)

2.2.2 Selling ✓

(1)

2.2.3 Marketing ✓

(1)

2.3 Supply and demand**2.3.1 A term**

- Market equilibrium/equilibrium price ✓

(1)

2.3.2 Indication of what will happen to the price of a product when the supply is more than demand

- Price of a product will be low/less ✓

(1)

2.3.3 TWO factors that determine supply in a market

- Price of a product ✓
- Production costs ✓
- Technology ✓
- Nature/environment/season ✓
- Government subsidies ✓
- Number of suppliers/producers ✓
- Price expectation ✓
- Research ✓
- Legislation ✓
- Political developments ✓
- Demand for the product ✓
- Competitive products ✓
- Possibility of increasing the supply of products ✓ (Any 2) (2)

2.4 Approaches to marketing

2.4.1 Identification of the marketing approach

Mass marketing ✓ (1)

2.4.2 Reason

- The larger/whole market is targeted with a single offer ✓
- Promotes the same product in different ways to different groups of consumers ✓ (Any 1) (1)

2.4.3 TWO other marketing approaches

- Niche marketing ✓
- Multi-segment marketing ✓
- Sustainable marketing ✓ (Any 2) (2)

2.5 Types of marketing

2.5.1 Deduction of the type of marketing system

Cooperative marketing ✓ (1)

2.5.2 ONE type of cooperatives

- Production ✓
- Processing ✓
- Marketing ✓
- Agricultural inputs and service/commercial ✓
- Purchasing ✓
- Consumer ✓ (Any 1) (1)

2.5.3 TWO principles of cooperative marketing system

- Voluntary and open membership ✓
 - Members contribute equally/members economic participation ✓
 - Each member has a single vote ✓
 - Democratic in nature ✓
 - Autonomy and independence ✓
 - Based on pool system ✓
 - Cooperation amongst members/cooperatives ✓
 - Assists in training and educating its members ✓
 - Members receive a limited interest on their share capital ✓
 - Only members may deliver products and benefit ✓
 - Products from members are standardised before selling ✓
 - Products are graded according to quality and members paid in advance ✓
 - After liquidation surplus is shared amongst members ✓
 - Concern for the community ✓
- (Any 2) (2)

2.6 Marketing channels

2.6.1 Identification of the marketing channel

- (a) PICTURE B - Internet/online ✓ (1)
- (b) PICTURE C - Stock sales/auction ✓ (1)

2.6.2 TWO advantages of farm gate marketing channel to the consumer

- Consumers get products at a cheaper price/low price ✓
 - Fresh/quality products for the consumer ✓
- (2)

2.7 Factors hampering marketing of agricultural products

Linking the statements with the factors that hamper marketing of agricultural products

- 2.7.1 Long distance to markets/C ✓ (1)
- 2.7.2 Perishability/A ✓ (1)
- 2.7.3 Poor infrastructure/B ✓ (1)

2.8 Phases of the entrepreneurial process

2.8.1 Identification of phases of the entrepreneurial process

- (a) 1 - Identification of a business opportunity ✓ (1)
- (b) 3 - Determining the resources required/resource mobilization ✓ (1)

2.8.2 TWO reasons for drawing up a business plan

- Documenting the business idea ✓
 - Test the feasibility and economic viability of a business ✓
 - Determine the financial needs of the business ✓
 - Secure funding for the business ✓
 - Ensure effective business management ✓
 - Allow the farmer to foresee problems ✓
 - Gain knowledge about marketing opportunities/competitors ✓
 - Reposition the business to deal with changes in the market ✓
 - Guide daily operations ✓
 - Set a goal/vision for the business ✓
- (Any 2) (2)

2.9 Identification of the letter representing the components of SWOT analysis

- 2.9.1 **Opportunity** - B ✓ (1)
- 2.9.2 **Weakness** - D ✓ (1)
- 2.9.3 **Threat** - A ✓ (1)
- 2.9.4 **Strength** - C ✓ (1)

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QUESTION 3: PRODUCTION FACTORS

3.1 Land

3.1.1 TWO functions of land

- Land provides space ✓
- Land provides food ✓

(2)

3.1.2 THREE economic characteristics of land

- Land is subject to the law of diminishing returns ✓
- Agricultural land is limited ✓
- Land cannot be destroyed/indestructible ✓
- Land differs with regard to production potential ✓
- Land is durable ✓
- Land can serve as collateral ✓
- Land can be bought or sold ✓
- Value of the land varies ✓
- The value of land appreciates ✓
- Land is found in a specific environment/fixed ✓
- Primary factor for production ✓
- Passive factor for production ✓

(Any 3) (3)

3.2 Labour

3.2.1 TWO components of a labour contract

- Employer and employee details ✓
- Job title, job description and place of work ✓
- Renumeration/wages ✓
- Notice period and termination of employment/period of employment ✓
- Allowances/incentives ✓
- Hours of work and meal intervals ✓
- Deductions from salary ✓
- Payment of overtime and over the holidays ✓
- Leave and other benefits ✓
- Signatures of employer and employee ✓
- Date of payment ✓

(Any 2) (2)

3.2.2 TWO problems of labour resulting to farm workers moving to other industries

- Poor working conditions ✓
- Poor living conditions ✓
- Long working hours/overtime ✓
- Exposure to harsh weather conditions ✓
- Lack of career opportunities/promotion ✓
- Economic migration/low wages/no payment for public holidays ✓
- Social problems ✓
- Competition from other industries ✓
- Lack of training opportunities ✓

(Any 2) (2)

3.2.3 TWO ways a farmer can retain the farm workers

- Better working conditions ✓
 - Better living conditions ✓
 - Reasonable working hours ✓
 - Replacement of the hard manual labour with machinery/efficient mechanisation ✓
 - Provide education/training/skills development/empowerment✓
 - Better wages/bonuses ✓
 - Entering into partnerships with workers ✓
 - Incentives/supply workers with farm products ✓
- (Any 2) (2)

3.2.4 The implication of labour legislation on working conditions

- (a) **Basic Conditions of Employment Act, 1997 (Act 95 of 1997)**
Regulates leave/working hours/employment contracts/
deductions/wages/termination of employment ✓ (1)
- (b) **Occupational Health and Safety Act, 1993 (Act of 1993)**
 - Ensuring the safety of workers in the workplace ✓
 - Enforces proper training when operating machinery/
equipment/tools ✓
 - Ensures the provision of protective gear/equipment ✓
 - Provides guidelines on safe working environment ✓ (Any 1) (1)

3.3 Capital

3.3.1 Identification of the type of capital

- (a) B - Working/floating/production ✓ (1)
- (b) C - Movable ✓ (1)
- (c) A - Fixed ✓ (1)

3.3.2 TWO methods of creating capital

- Production ✓
 - Savings/own capital/investments ✓
 - Credit/loans ✓
 - Inheritance/family✓
 - Business partners ✓
 - Grant/donations ✓
 - Trust companies ✓
- (Any 2) (2)

3.3.3 Identification of the problems associated with capital

- (a) Depreciation ✓ (1)
- (b) Scarcity of capital/expensive capital/high interest ✓ (1)
- (c) Risk ✓ (1)

3.4 Assets and liabilities

3.4.1 Identification of the type of financial record

Balance sheet ✓

(1)

3.4.2 Determination of the value

(a) A - R4 755 000 ✓

(1)

(b) B - R1 225 000 ✓

(1)

3.4.3 Document used to record assets

Inventory ✓

(1)

3.4.4 Calculation of the net worth

- Net worth = Total assets – Total liabilities ✓

- = R4 755 000 – R1 225 000 ✓

- = R3 530 000 ✓

(3)

3.5 Risk management strategies

3.5.1 Identification of TWO risk management strategies

- Diversification ✓

- Risk-sharing ✓

(2)

3.5.2 Reason

Diversification - There are different crops/enterprises on the farm ✓

(1)

Risk-sharing - Farmers are working as a group ✓

(1)

3.5.3 Indication of the primary source of risk

Technical/production risk ✓

(1)

3.6 External and internal forces in a farming business

3.6.1 External ✓

(1)

3.6.2 Internal ✓

(1)

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QUESTION 4: BASIC AGRICULTURAL GENETICS**4.1 The genotypes and phenotypes****4.1.1 Differentiation between genotype and phenotype**

- **Genotype** - Genetic make-up of an organism ✓ (1)
- **Phenotype** - Physical characteristic of an organism ✓ (1)

4.1.2 Deduction of the phenomenon

Variation ✓ (1)

4.1.3 TWO factors that can cause variation

Internal/genetic factors/meiosis/crossing over/random arrangement of chromosomes/random fertilization/mutation/external/environmental factors/diseases/feeding/nutrition/topography/climate ✓✓ (Any 2) (2)

4.2 Pedigree diagram**4.2.1 Determination of the number of generations**

Three ✓ (1)

4.2.2 The process that occurred between individuals 1 and 2

Fertilization ✓ (1)

4.2.3 The phenotype of Number 8

White ✓ (1)

4.2.4 Indicating whether individual is homozygous or heterozygous

Number 1 - Heterozygous ✓ (1)

4.2.5 Justification

Produced offspring number 3 which is white homozygous recessive ✓ (1)

4.3 Dihybrid crossing**4.3.1 The type of crossing - Dihybrid**

✓ (1)

4.3.2 The genotype of the parent with floppy ears - Bbss

✓ (1)

4.3.3 The phenotype of individual

(a) Number 1 - White with sharp ears ✓ (1)

(b) Number 2 - Black with floppy ears ✓ (1)

4.3.4 Calculation of the percentage of individuals that are genetically the same as the white parent

- $= \frac{4}{16} \times 100$ ✓
- $= 25\%$ ✓

(2)

4.4 Polygenic inheritance**4.4.1 Calculation of the height of AaBbDD genotype**

- $= 135 \text{ cm} + (4 \times 10 \text{ cm})$ ✓
- $= 175 \text{ cm}$ ✓

(2)

4.4.2 Genotype of the animal with a height of 185 cm

AaBBDD/AABbDD/AABBDd ✓ (1)

4.5 The selection of animals

4.5.1 Identification of the most suitable group of animals to be selected - Group C ✓ (1)

4.5.2 Reason

- Select animals that perform above the average of the herd ✓
- The performance of these animals is superior to animals in Group A and B ✓ (Any 1) (1)

4.5.3 Selection method used for this breeding programme

Mass selection ✓ (1)

4.6 Identification of the breeding systems

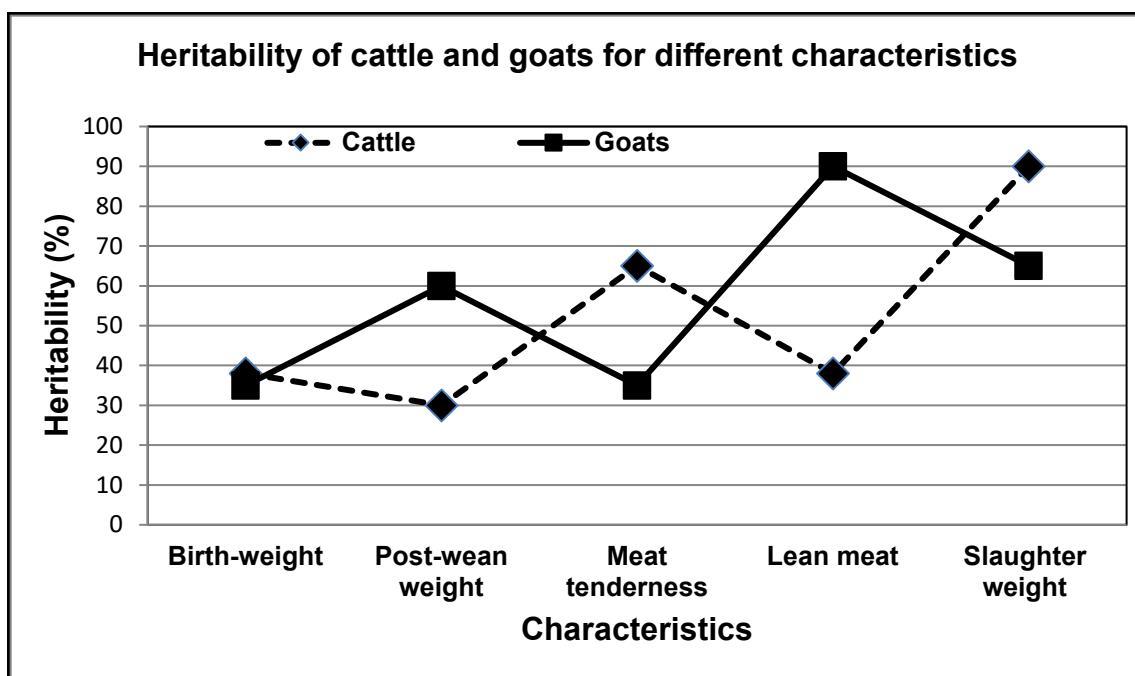
4.6.1 B ✓ (1)

4.6.2 D ✓ (1)

4.6.3 A ✓ (1)

4.7 Line graph

4.7.1 Line graph to compare the heritability of cattle and goats for different characteristics.

**CRITERIA/RUBRIC/MARKING GUIDELINES**

- Correct heading with both variables ✓
- X-axis: Correctly calibrated and labelled (Characteristics) ✓
- Y-axis: Correctly calibrated and labelled (Heritability) ✓
- Correct units (%) ✓
- Line graph ✓
- Accuracy (80% + correctly plotted) ✓ (6)

4.8 Genetic modification**4.8.1 TWO potential benefits of GM crops to the environment**

- Farmers use less pesticides ✓
- Allow for no-tillage farming ✓
- Environment assessment is carried out for all GM crops ✓ (Any 2) (2)

4.8.2 TWO advantages of genetic modification over traditional method

- It is precise ✓
- It is fast ✓
- Not limited to organisms of the same species ✓ (Any 2) (2)
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TOTAL SECTION B: 105
GRAND TOTAL: 150