



# basic education

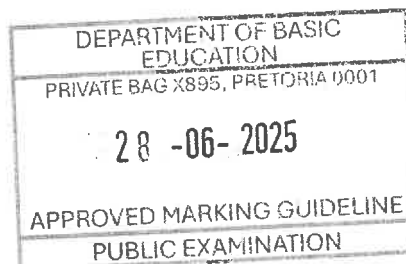
Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

## SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS

**AGRICULTURAL SCIENCES P2**

**MAY/JUNE 2025**

**MARKING GUIDELINES**



**MARKS: 150**

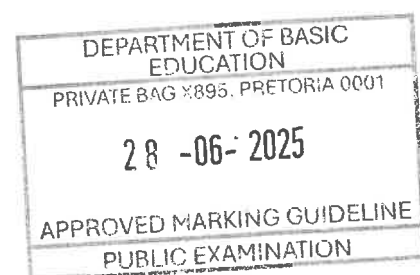
**These marking guidelines consist of 11 pages.**

**APPROVED**

<b>UMALUSI</b> Mr. SM Gcwensa 28 June 2025	<b>UMALUSI</b> Dr. DN Mathobo 28 June 2025	<b>INTERNAL MODERATOR</b> Me. JN Mokhantso 28 June 2025	<b>INTERNAL MODERATOR</b> Mr. RA Seloane 28 June 2025

**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**

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**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**

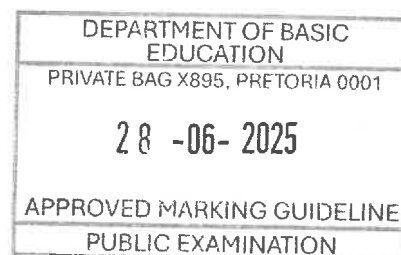
- Transportation ✓ (1)

**2.2 Marketing and selling**

**2.2.1 Marketing ✓**

**2.2.2 Selling ✓**

**2.2.3 Marketing ✓**



(1)

(1)

(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**

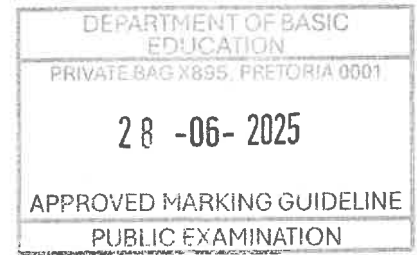
- Price of a product will be low/less ✓ (1)

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**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 ✓

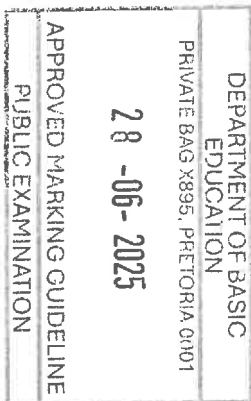
(1)

**2.5.2 ONE type of cooperatives**

- Production ✓
- Processing ✓
- Marketing ✓
- Agricultural inputs and service/commercial ✓
- Purchasing ✓
- Consumer ✓

(Any 1) (1)

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**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)

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**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)

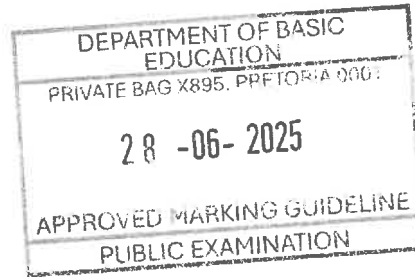
2.9.3 Threat - A ✓

(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)

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## 3.2 Labour

## 3.2.1 TWO components of a labour contract

- Employer and employee details ✓
- Job title, job description and place of work ✓
- Remuneration/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

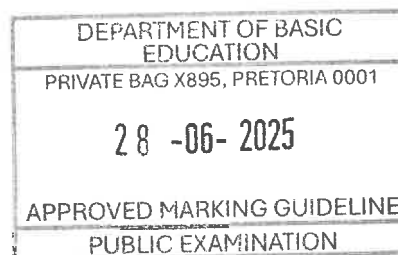
- Poor working conditions ✓
- Poor living conditions ✓
- Long working hours/overtime ✓
- Exposure to harsh weather conditions ✓
- Lack of career opportunities/promotion ✓
- Economic migration/low wages/no payment for public holidays ✓
- Social problems ✓
- Competition from other industries ✓
- Lack of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



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**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**

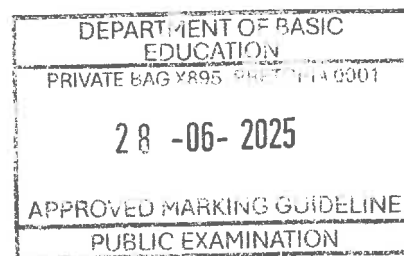
Balance sheet ✓ (1)

**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)



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- 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)

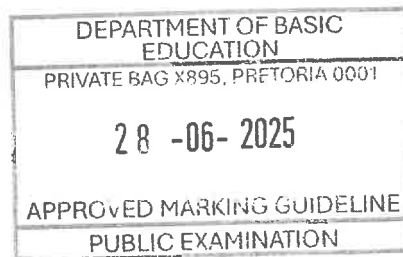
- 3.5.2 **Reason**
- Diversification** - There are different crops/enterprises on the farm ✓ (1)
- Risk-sharing** - Farmers are working as a group ✓ (1)

- 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)

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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 genotypically 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)

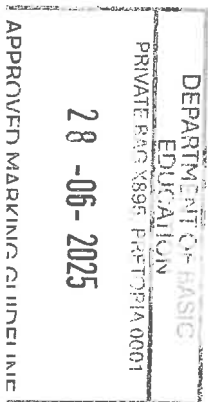
4.6 **Identification of the breeding systems**

4.6.1 **B** ✓ (1)

4.6.2 **D** ✓ (1)

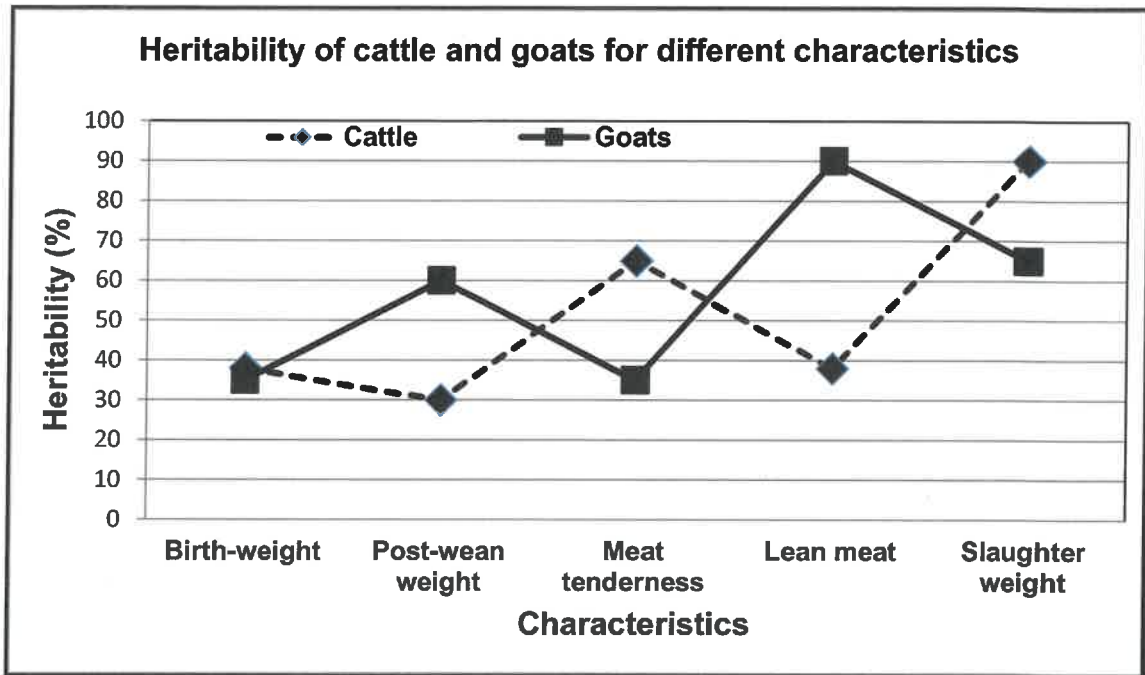
4.6.3 **A** ✓ (1)

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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

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