



Province of the
EASTERN CAPE
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

SEPTEMBER 2013

**AGRICULTURAL SCIENCES P2
MEMORANDUM**

MARKS: 150

This memorandum consists of 8 pages.

ANSWER SHEET**SECTION A****QUESTION 1.1**

1.1.1	A	B	C	D ✓✓
1.1.2	A	B ✓✓	C	D
1.1.3	A ✓✓	B	C	D
1.1.4	A	B	C ✓✓	D
1.1.5	A ✓✓	B	C	D
1.1.6	A	B ✓✓	C	D
1.1.7	A	B	C ✓✓	D
1.1.8	A	B	C	D ✓✓
1.1.9	A	B	C ✓✓	D
1.1.10	A	B	C	D ✓✓

(10 x 2) (20)

QUESTION 1.3

1.3.1 Price elasticity ✓✓

1.3.2 Interest ✓✓

1.3.3 Punnet square ✓✓

1.3.4 GMO/Transgenic organisms ✓✓

1.3.5 Meiosis ✓✓

(5 x 2) (10)

QUESTION 1.21.2.1 A ✓✓1.2.2 C ✓✓1.2.3 B ✓✓1.2.4 A ✓✓1.2.5 D ✓✓

(5 x 2) (10)

QUESTION 1.4

1.4.1 Consumer ✓

1.4.2 Species ✓

1.4.3 mutation ✓

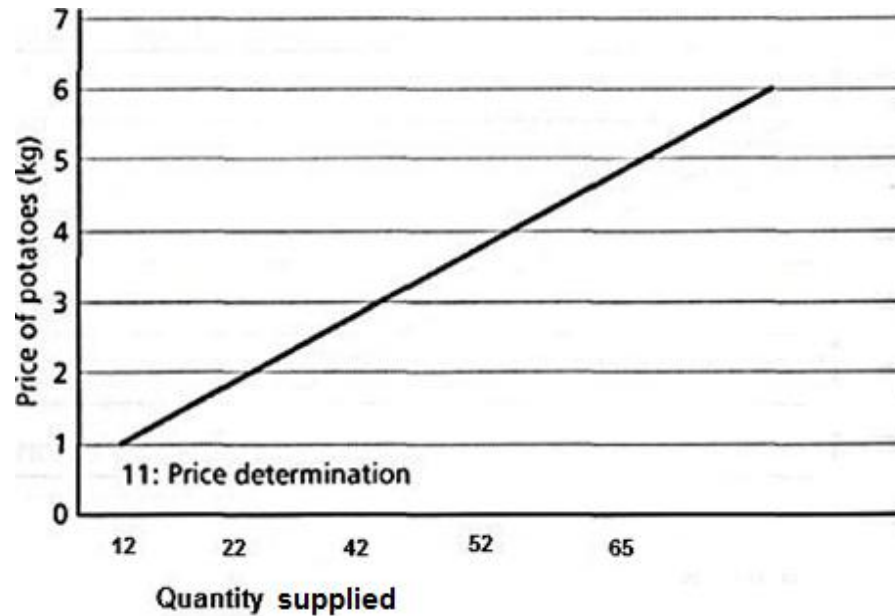
1.4.4 Tenure reform ✓

1.4.5 Co-operative/pool system ✓
(5 x 1) (5)**TOTAL SECTION A: 45**

SECTION B**QUESTION 2**

- 2.1 2.1.1
- Financial skills ✓
 - Communication skills ✓
 - Decision making skills ✓
- (Any 2 x 1) (2)
- 2.1.2 manager/entrepreneur ✓ (1)
- 2.1.3
- Diversification ✓
 - Hedging ✓
 - Flexibility ✓
- (3)
- 2.2 2.2.1
- Collection ✓
 - Storage ✓
 - Packaging ✓
 - Transport ✓
 - Processing ✓
- (Any 4 x 1) (4)
- 2.2.2
- The possibility of financing by banks, government financing schemes and other means. ✓
 - Training that is more focused on creating job providers and not just job seekers. ✓
 - Infrastructure such as roads, telecommunications networks ✓
 - That an overabundance of legal and trade regulations may discourage entrepreneurs from exploiting business opportunities. ✓
- (Any 3 x 1) (3)
- 2.2.3 **Agricultural supply co-operatives**
Focus on the purchase ✓ of supplies (seeds, fertilisers, etc.) and services. ✓
- Agricultural marketing co-operatives**
Focus on transformation, packaging, distribution ✓ and marketing of produce. ✓ (4)
- 2.2.4
- Access to capital for land purchase ✓
 - Current marketing practices and laws ✓
 - Policies governing the environment ✓
 - Labour laws/legislation ✓
 - Access to effective extension services ✓
 - Globalisation of markets ✓
 - Fluctuation of commodity prices ✓
- (Any 3 x 1) (3)

- 2.3 2.3.1 Supply schedule ✓ (2)
- 2.3.2 A graph showing the effect of price on the supply of potatoes.



- Correct heading ✓
 - Correct labelling of x (price) and y (quantity) axes ✓
 - Supply curve ✓
 - Correct scale ✓
- (4)

- 2.3.3 The higher the price, the more potatoes produced, ✓ and vice versa. ✓ (2)

- 2.3.4 R5,00 (1)

- 2.4 2.4.1
- Enabling functions ✓ e.g. property rights/rules about economic behaviour/currencies and payments/instruments such as cheques ✓
 - Economic regulatory functions ✓ e.g. laws dealing with competition/uniform weights and measures/product quality standards/tax. ✓
 - Constraining functions, ✓ e.g. environmental/consumer protection legislation. ✓ (Any 2 x 2) (4)

2.4.2 MARKETING CHANNEL

It is the path or route taken by goods from where they are made ✓ to where they are finally consumed. ✓

(2)
[35]

QUESTION 3

- 3.1 3.1.1 The workers are on strike/striking. (1)
- 3.1.2 The Labour Relations Act (1995) ✓ (1)
- 3.1.3
- Planning ✓
 - Organisation ✓
 - Monitoring/coordination ✓
 - Decision making ✓
 - Control/supervision ✓ (Any 4 x 1) (4)
- 3.1.4
- The decision maker ✓
 - Objectives of the decision maker. ✓
 - The conditions under which decisions are made. ✓
 - Determining the effect of the decision. ✓ (Any 2 x 1) (2)
- 3.2 3.2.1
- Farmer settlement schemes ✓
 - Farm worker equity schemes ✓
 - Access to state land (for example, municipal commonages) ✓
 - Private purchasing of land ✓
 - Renting or leasing schemes ✓ (Any 3 x 1) (3)
 -
- 3.2.2
- Land restitution ✓
 - Land redistribution ✓ (2)
- 3.2.3 **Private tenure**
This is where individuals have real rights to land ✓ that can be sold or transferred. ✓

OR

Where there is private ownership on a piece of land when the farmer has bought the land ✓ and his or her name appears on the title deed of the land. ✓

Communal tenure

Where individuals have personal rights ✓ but do not have real rights that can be sold or transferred. ✓

OR

When a community or group of people has access to an area of land. ✓ The land may be owned by the state or it may be owned by the group or community through a legal entity. ✓ (Any 1 + 1) (2)

- 3.3
- Labourers who have HIV/Aids often become sick in the later stages of the disease and their productivity declines.
 - Labourers who are family members of HIV/Aids suffer.
 - They are often absent from work or leave work to take over duties at home.
 - There is less money for food, so diets become less healthy, which impacts negatively on people's health and productivity.
 - Labourers have to take time off for funerals.
 - Healthy labourers have to work additional overtime to complete work.
 - There is a loss of skills and experience. (Any 3 x 1) (3)

- 3.4 3.4.1 • Budget ✓ (1)

3.4.2

Expected income	Expected expenditure
Sale of tomatoes R36 000,00 ✓	Wages of workers R28 000,00 ✓
Interest from creditors R3 500,00 ✓	Transport of fertiliser R1 750 ✓
Total R39 500,00✓	R29 750,00✓

(6)

- 3.4.3 Expected income – expected expenditure
R39 500 – R29 750 ✓ = R9 750 ✓ (2)

- 3.5 3.5.1 • Free marketing (1)

- 3.5.2
- Producers can sell when and where they please ✓
 - Producers can sell at the highest possible price ✓
 - No need for employing managers/workers ✓ go between/intermediaries ✓
 - No need for sophisticated buildings/shops /warehouses ✓
 - It stimulates entrepreneurs to work harder. ✓
 - Very little delay in receiving payment. ✓ (Any 4 x 1) (4)

- 3.5.3 The usefulness of the product✓
The price of the product✓
The price of competing products✓
The number of consumers✓
The buying power of the consumers✓
Consumers' taste ✓ (Any 3 x 1) (3)

[35]

QUESTION 4

- 4.1 4.1.1
- People are concerned about the effects of toxins✓//allergies✓
 - dangers of nutritional changes✓ and
 - unexpected long-term effects on foods from GM crops ✓
 - GM crops are subject to many toxicological tests and only
 - when they pass all these tests are they declared safe✓/
 - Fears about GM crops ✓ (Any 3 x 1) (3)
- 4.1.2 **MICRO INJECTION**
It is the injection of desired genes ✓ directly into the nucleus of a cell of the recipient plant. ✓ The transgenic plant cells are then grown into whole plants using tissue culture techniques. ✓ (3)
- 4.1.3
- Mass selection ✓
 - Family selection ✓
 - Pedigree selection ✓
 - Progeny selection ✓ (4)
- 4.2 4.2.1
- Continuous variation ✓ (1)
- 4.2.2 8 chickens ✓ (1)
- 4.2.3
- During meiosis/crossing over ✓
 - During fertilisation/heredity/inheritance ✓
 - During mutation/changes in gene structure ✓ (3)
- 4.2.4 **Y** variable = number of chickens ✓
X variable = height ✓ (2)

4.3 4.3.1

/	B	B
b	Bb	Bb
b	Bb	Bb

Correct placement of dominant (BB) ✓ and recessive genes (bb) ✓

Correct placement of genotypes ✓

Punnet square ✓

(4)

4.3.2 GENOTYPE

Genetic makeup of an individual ✓

(1)

PHENOTYPE

Appearance of an individual ✓

(1)

4.3.3 Eye colour of an offspring ✓

(1)

4.4 4.4.1

- Reproductive ability decreases and eventually ceases ✓
- There is a general weakening of the animal and it becomes more susceptible to infections and cancer ✓
- Advanced aging arrests growth and a decrease in size and mass can occur ✓
- There is a decrease in egg and milk production ✓ (Any 3 x 1)

(3)

4.4.2

- Nutrition ✓
- Hormones ✓
- Genetic factors ✓

(3)

4.5 4.5.1

- Cytokinins ✓
- Gibberellins ✓
- Auxins ✓

(3)

4.5.2 Pituitary gland ✓

(1)

4.5.3 Testosterone ✓

(1)

[35]**TOTAL SECTION B: 105****GRAND TOTAL: 150**