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Province of the
EASTERN CAPE
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

SEPTEMBER 2012

**AGRICULTURAL SCIENCES P2
MEMORANDUM**

MARKS: 150

This memorandum consists of 8 pages.

ANSWER SHEET**AGRICULTURAL SCIENCES P2**NAME AND SURNAME MEMORANDUM**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

(10x2) (20)

QUESTION 1.2

	ONLY A	ONLY B	BOTH A and B	None
1.2.1	A✓✓	B	C	D
1.2.2	A	B	C	D✓✓
1.2.3	A	B✓✓	C	D
1.2.4	A	B	C✓✓	D
1.2.5	A	B	C	D✓✓

(5x2) (10)

QUESTION 1.3

1.3.1 Budget ✓✓

1.3.2 The law of diminishing returns ✓✓

1.3.3 Out crossing ✓✓

1.3.4 Hedging ✓✓

1.3.5 Depreciation ✓✓

(5x2) (10)

QUESTION 1.4

1.4.1 Free marketing system ✓

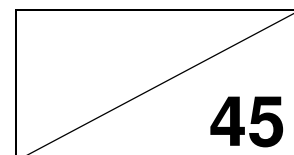
1.4.2 Environmental ✓

1.4.3 The Communal Land Rights Act (1996) ✓

1.4.4 Lethal genes ✓

1.4.5 balance sheet ✓

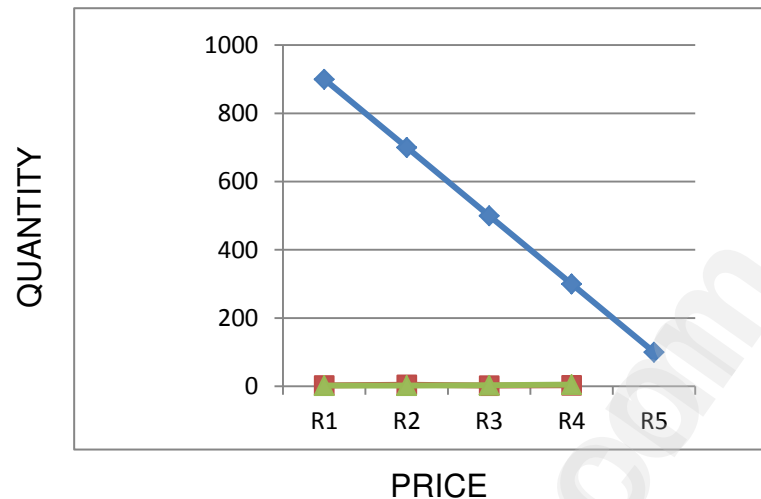
(5x1) (5)

**TOTAL SECTION A: 45**

SECTION B**QUESTION 2 AGRICULTURAL MANAGEMENT**

- 2.1 2.1.1 Farmers can easily evaluate their performance for the past season ✓
Farmers can do proper planning for the future ✓ (2)
- 2.1.2 Personal details such as name/age/race/date of birth ✓
Date of employment ✓
Work schedule ✓
Salary ✓ (Any 2) (2)
- 2.1.3 (a) poultry feed: livestock records ✓ (1)
(b) number of workers: labour records ✓ (1)
(c) fertilizers: crops records ✓ (1)
- 2.2 2.2.1 Describe the problem ✓
Identify all possible solutions ✓
Evaluate all possible solutions ✓
Choose the best solution ✓ (4)
- 2.2.2 Good/harmonious/democratic/working relationship/working
together/team work ✓✓ (Any 2) (2)
- 2.2.3 Producers receive guaranteed price, which gives them financial
security ✓
It ensures orderly and effective marketing ✓
It simplifies management and bookkeeping ✓
Producers receive average price of all the sales ✓
Farmers do not have to build their own storage or packaging facilities✓
Producers are protected against price fluctuations and against
extremely low market prices ✓
Cost are kept lower because product and handling (collecting,
storage, packaging, processing) is cheaper if produce is kept together
than if handled separately ✓ (Any 3) (3)
- 2.2.4 Cost plus pricing✓
Competition-oriented or going-rate pricing✓
Market-orientated pricing✓ (3)

2.3 2.3.1 The demand curve for cashew nuts at a farm gate



Appropriate heading ✓

Demand curve ✓

Correct plotting of price and quantity ✓

Use of ruler and correct scale ✓

(4)

2.3.2 The higher the price, ✓ the less people will demand a certain item ✓ / The lesser the price ✓, the more people demand an item ✓

(2)

2.3.3 The weather/drought/hail/floods ✓
 The profit margin of the product ✓
 The ease with which to increase the supply of a product ✓
 Knowledge ✓
 The stability of the product ✓
 The period of production ✓
 Technology ✓
 Price of the product

(Any 3) (3)

2.3.4 Stock sales: refers to the selling of goods on auction to the highest bidder ✓ whilst Farm gate marketing refers to the selling of goods/or farm produce directly from the farm ✓

Advantages- of stock sales

- higher prices can be reached ✓

- farmers do not have to bear the cost of slaughtering animals ✓ (Any 1) (1)

Advantages of farm gate marketing

Farmers do not have marketing chain cost ✓

Per unit price is normally lower than retail price ✓ (Any 1) (4)

2.4 Business plan

It is a document that describes the business you want to start ✓ and says what your goals and objectives are, ✓ the cost of starting the business and how it will make money ✓

(3)

[35]

- Downloaded from medresonline.com

- 3.4 3.4.1 Assets – are things that you own, ✓ that have financial value. ✓ (2)
- 3.4.2 Buildings – long term assets ✓
Breeding livestock – medium term assets ✓
Feeds – short term assets ✓ (3)
- 3.4.3 An enterprise budget is prepared for one particular enterprise such as potato production on a farm ✓ and A whole farm budget combines all the farm enterprises to show the net returns to the farm business ✓
(Any 2) (2)
- 3.4.4 Income = R64 500
Expenditure = R54 600

Profit = R64 500 – R54 600 ✓
= R9 900 ✓ (2)
- 3.5 3.5.1 Most processed tomatoes are less perishable ✓
Adds value ✓
Do not get damaged ✓
Easier to transport ✓
Takes up less space ✓
Can be used during out of season ✓
Provides employment ✓ (Any 3) (3)
- 3.5.2 Calculations based on simple interest ✓
Calculations based on compound interest ✓ (2)
- 3.5.3 Cooking/roasting ✓
Sun drying/smoking ✓
Salting/fermenting/brewing ✓
grinding/mashing/peeling ✓ (Any 2) (2)

[35]

QUESTION 4 BASIC AGRICULTURAL GENETICS

- 4.1 4.1.1 It is a breeding system where individual plants $\checkmark$ are allowed to self-pollinate $\checkmark$ (2)

Advantages

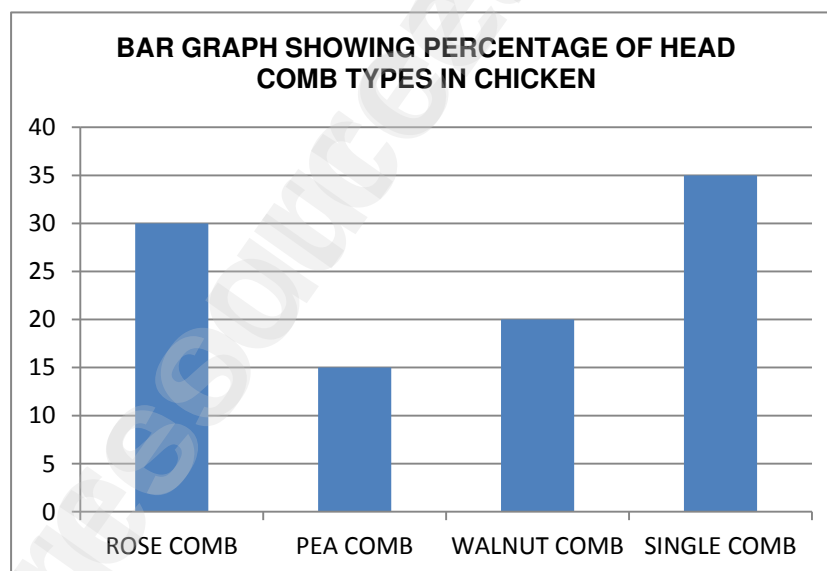
It leads to a genetically uniform homologous population $\checkmark$

It is not labour intensive because the farmer simply lets nature take its course and allows self-pollination $\checkmark$ (Any 1) (3)

- 4.1.2 Diet $\checkmark$
Shelter $\checkmark$
Climate $\checkmark$
Pest and diseases $\checkmark$ (4)

- 4.1.3 The characteristic must be inheritable $\checkmark$
The characteristics must be measurable and must be carefully recorded $\checkmark$
The characteristic must be of economic importance $\checkmark$ (3)

- 4.2 4.2.1



Correct heading/title $\checkmark$
Correct labelling of Y and X axis $\checkmark$
Correct scaling, using ruler $\checkmark$
Bar graph $\checkmark$ (4)

- 4.2.2 Discontinuous variation $\checkmark$ (1)

- 4.3 4.3.1

	Q	Q
q	Qq	Qq
q	Qq	Qq

Correct Placement of dominant (QQ) $\checkmark$
Recessive genes (qq) $\checkmark$
Correct Placement of genotypes $\checkmark$
Punnet square $\checkmark$ (4)

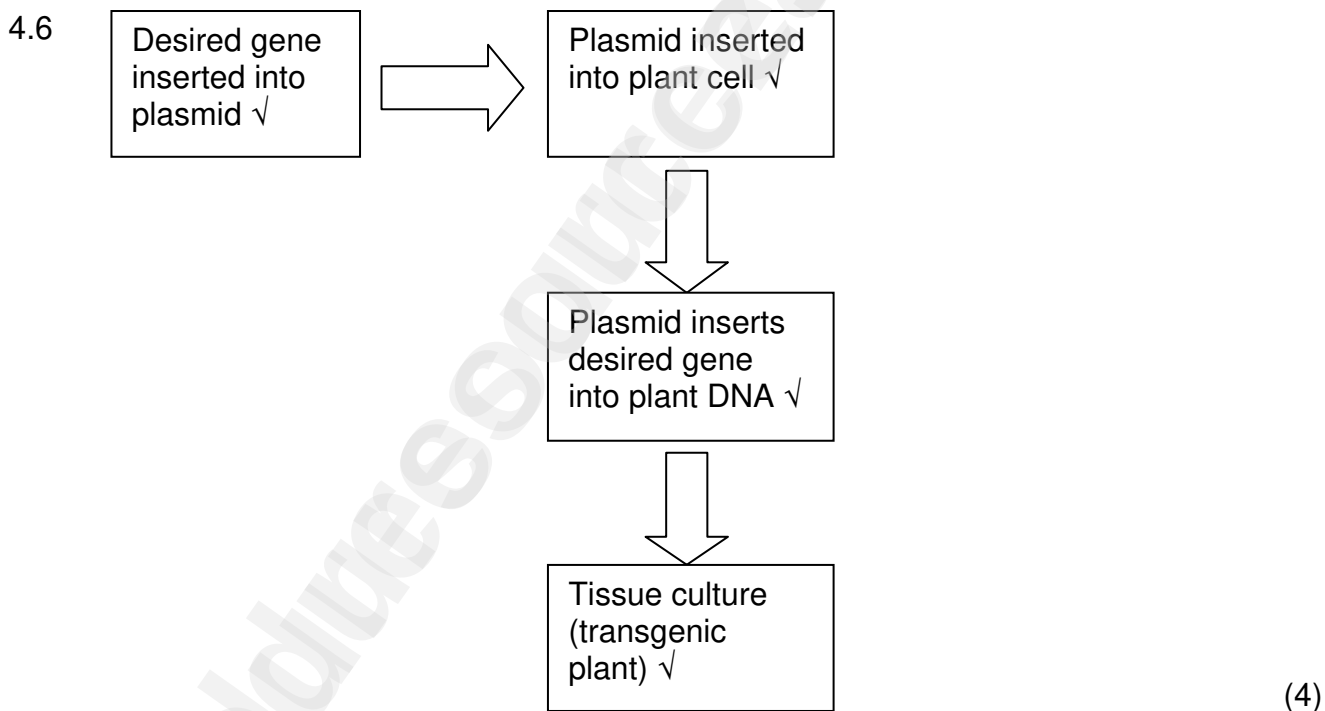
4.3.2 When an individual has two different unit factors for the same characteristics ✓, one unit factor is dominant to the other, which is called recessive. ✓/Law of dominance ✓ and recessiveness ✓ (2)

4.3.3 9:3:3:1 ✓ (1)

4.4 4.4.1 Co-dominance
It is a type of inheritance where both of the alleles are dominant ✓ and fully expressed in the phenotype. ✓ (2)

4.4.2 Inbreeding depression
It is a gradual decrease in performance from generation to generation ✓ produced by continual inbreeding ✓. (2)

4.5 Agro bacterium tumefaciens. ✓
Electroporation ✓
Micro-injection ✓
Gene gun ✓ (Any 3) (3)



4.7 Samatrophin ✓
Thyroxin ✓
Androgen ✓ (Any 2) (2)

[35]

TOTAL SECTION B: 105

GRAND TOTAL: 150