



Province of the
EASTERN CAPE
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

SEPTEMBER 2010

AGRICULTURAL SCIENCES – PAPER 2
MEMORANDUM

This memorandum consists of 8 pages.

SECTION A**QUESTION 1**

1.1	1.1.1	D √√	(2)
	1.1.2	A√√	(2)
	1.1.3	C √√	(2)
	1.1.4	B √√	(2)
	1.1.5	C √√	(2)
	1.1.6	D √√	(2)
	1.1.7	B √√	(2)
	1.1.8	C √√	(2)
	1.1.9	B √√	(2)
	1.1.10	B √√	(2)
1.2	1.2.1	B √√	(2)
	1.2.2	A √√	(2)
	1.2.3	C √√	(2)
	1.2.4	B √√	(2)
	1.2.5	A √√	(2)
1.3	1.3.1	Gross Domestic Product (GDP) √√	(2)
	1.3.2	Enterprise budget √√	(2)
	1.3.3	Land Restitution √√	(2)
	1.3.4	Genetics/Hereditiy/Hereditability √√	(2)
	1.3.5	Hybrid vigour/Heterosis √√	(2)
1.4	1.4.1	Supply √	(1)
	1.4.2	Diversification √	(1)
	1.4.3	Assets √	(1)
	1.4.4	Interest √	(1)
	1.4.5	Variation √	(1)

TOTAL SECTION A: 45

SECTION B**QUESTION 2**

- 2.1 2.1.1 **What do we call the changing of the products?**
 • Value adding/manufacturing/Processing ✓✓ (2)
- 2.1.2 **Other forms into which grapes can be used**
 • Wine ✓
 • Juice ✓
 • Raisins ✓ (Any 2) (2)
- 2.1.3 **Advantages of processing food**
 • Products sold at higher price by producers for adding the value. ✓
 • Products can be stored for longer periods/Long shelf life. ✓
 • Consumers are spared additional work/saves time and labour. ✓ (Any 2) (2)
- 2.2 **Pricing strategies**
 • A – Product bundle pricing ✓
 • B – Loss leading ✓
 • C – Promotional pricing ✓
 • D – Price lining ✓
 • E – Psychological pricing ✓ (5)
- 2.3 2.3.1 • Demand curve ✓ (2)
- 2.3.2 • The price will be R30,00 ✓ (2)
- 2.3.3 **Factors influencing demand of a product**
 • The usefulness of the product ✓
 • The price of competitive products ✓
 • The number of consumers ✓
 • The buying power of consumers ✓
 • Consumers taste and preferences ✓ (Any 3) (3)
- 2.3.4 (a) **Elasticity of demand** – is the relationship between change in price and the change in demand/a change in price of a product relatively affects a change in demand of that product. ✓✓
 (b) **Collateral** – It is a form of security that the bank requires from a person who is applying for a loan. ✓✓ (2 x 2) (4)
- 2.4 **Challenges that complicates marketing processes**
 • Perishability of products. ✓
 • Seasonal fluctuations in production. ✓
 • Large volume and low unit value ✓
 • Standardisation of products ✓
 • Wide distribution of products. ✓
 • Long term production. ✓
 • Coordinated action by producers. ✓ (Any 4) (4)

- 2.5 **Advantages of internet banking**
- A large market can be reached cheaply✓✓
 - Money can be transferred before goods are delivered✓✓ (4)
- 2.6 2.6.1 **A business plan:**
Is a document that describes the business you want to start✓ and what your goals and objectives are, ✓ the costs of starting the business and how it will make money. ✓ (Any 2) (2)
- 2.6.2 **Business survival strategies:**
- Diversification
 - Value adding/Manufacturing/Processing
 - Specialisation (3)
- [35]**

QUESTION 3

- 3.1 3.1.1 **Economic characteristics of land**
- Land is indestructible. ✓
 - Land available for intensive farming is very limited./Availability. ✓
 - Land is durable/Life expectancy of land is unlimited ✓
 - Land is subject to the law of diminishing returns ✓
 - Land restricts diversification/Restrictedness. ✓
 - Production capacity of land differs from area to area. ✓
 - Found in a specific environment/ fixed / economic situation. ✓
- (Any 3) (3)
- 3.1.2 **Land reform programme**
- (a) Land redistribution. ✓✓
- (b) Land restitution. ✓✓
- (c) Tenure reform ✓✓
- (3 x 2) (6)
- 3.2 3.2.1 **Ways to overcome unskilled labour**
- Retraining labourers on the farm/in service training. ✓
 - Recruiting skilled labourers from other sectors. ✓
 - Contribute to the skills development fund/workshops. ✓
 - Taking labourers for training with accredited training institutions/ AgriSETA. ✓
- (Any 2) (2)
- 3.2.2 **Impact of HIV/AIDS on farm workers' productivity**
- Loss of skills and experience. ✓
 - Dying of farm workers. ✓
 - Absenteeism from work. ✓
 - Decrease in number of farm workers. ✓
 - Healthy workers have to work overtime. ✓
- (Any 3) (3)
- 3.2.3 **Labour Legislation**
- The right to strike ✓
 - Involvement in decision-making process ✓
 - Unfair labour practices ✓
 - Procedures for the resolution of labour disputes ✓
 - Keeping labour records ✓
- (Any 3) (3)
- 3.3 3.3.1 **Challenges facing Phaphamani**
- Records are mixed up. ✓
 - Records are not up to date. ✓
 - Business is running at a loss. ✓
- (Any 2)(2)
- Solution:**
- Proper record-keeping. ✓
- (1) (3)

- 3.3.2 **How record-keeping benefited Vukawenze**
- They knew how much they were spending and earning. ✓ (1)
- 3.3.3 **Important skills of a successful entrepreneur**
- Financial skills ✓
 - Planning skills ✓
 - Organisational skills ✓
 - Conceptual skills ✓
 - Co-ordination skills ✓
 - Humanitarian skills ✓
 - Human relation skills ✓
 - Leadership skills ✓
 - Motivational skills ✓
 - Mentoring skills ✓
 - Technical skills ✓
 - Operational skills ✓
 - Production skills ✓
 - Conflict management skills ✓
 - Problem-solving skills ✓
 - Risk management skills
 - Decision-making skills ✓
 - Marketing skills ✓
 - Communications skills ✓
- (Any 4) (4)
- 3.3.4 **Methods of communication**
- Two-way radio ✓
 - Cellphone (SMS) ✓
 - Fax ✓
 - Telephone/Landline ✓
 - Letters/Telegrams ✓
 - Television/Radio ✓
 - Internet/Computer technology/E-mails ✓
 - GPS/GIS ✓
 - Billboards ✓
 - Print media/magazines/newspapers ✓
- (Any 3) (3)
- 3.4 3.4.1 **Short term credit and long term credit**
- Short term credit – Credit used for working capital and paid back in less than two years. ✓✓
 - Long term credit – Credit used for fixed capital and paid over ten to fifteen years. ✓✓ (4)

3.4.2 **Problems associated with capital**

- High interest rate ✓
 - Over capitalisation ✓
 - Under capitalisation ✓
 - High risk factor ✓
 - Scarcity ✓
- (Any 3)

(3)
[35]

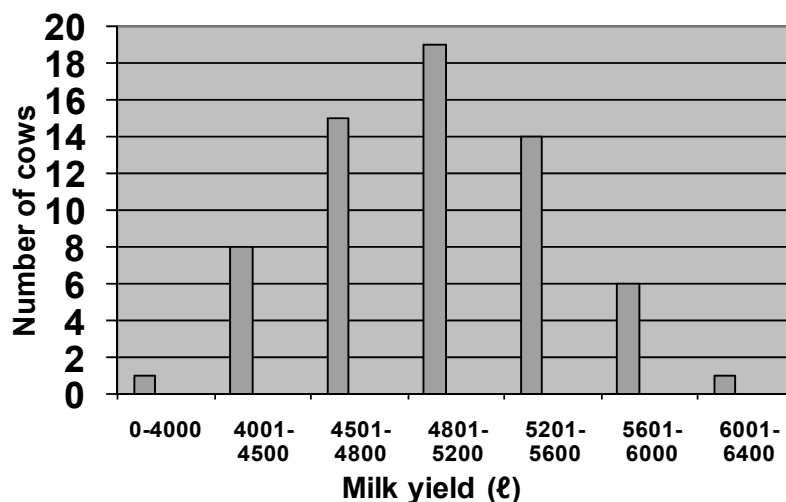
QUESTION 4

- 4.1 4.1.1 **A – Bb** ✓✓
 B – Bb ✓✓ (4)
- 4.1.2 Heterozygous ✓ – it is made up of one dominant allele (B) ✓ and a recessive allele (b). ✓ (3)
- 4.1.3 **Mendelian laws**
- Law of dominance ✓
 - Law of segregation ✓
 - Law of independent assortment. ✓ (Any 2) (2)
- 4.2 **Mass selection**
Selection based on the individual animal's performance in the field.
The farmer selects animals that most display desirable characteristics. ✓✓
- Pedigree selection**
Selection based on the qualities of the animal's ancestors. ✓✓ (2 x 2) (4)
- 4.3 4.3.1 Heterosis/Hybrid vigour ✓✓ (2)
- 4.3.2 **Desirable characteristics**
- Grows fast. ✓
 - Ripens quickly. ✓
 - Long shelf life. ✓
 - Fleshy fruit. ✓
 - Ripens simultaneously ✓
 - Medium shoots/long shoot/short shoots ✓ (Any 2) (2)

4.4

4.4.1

**Bar graph showing the variation in milk yields
of the cows.**



Graph marking grid:

Criteria	Mark allocation
Appropriate title	✓ (1)
Correct variables in x-axis	✓ (1)
Correct variables in y-axis	✓ (1)
Correct scale in x-axis	✓ (1)
Correct scale in y-axis	✓ (1)
Correct type of graph	✓ (1)
Points plotted correctly	✓ (1)
TOTAL MARKS FOR GRAPH	(Any 5) (5)

(5)

4.4.2 Continuous variation

(1)

4.4.3 The mean (average) for the milk yield of the herd
is 4 801–5 200. ✓✓

(2)

4.4.4 The farmer should select the cows that have the milk yield that is
above the mean value, e.g.
[5 201 – 5 600 ✓; 5 601– 6 000 ✓; 6 001 – 6 400 ✓]

(3)

- 4.5 4.5.1 In 2002 ✓, – there was sharp increase in production/yield. ✓✓ (3)
- 4.5.2 • Unexpected long term effects on food. ✓
 • Unfavourable environmental impact ✓
 • Socio-economic concerns/expensive .✓ (Any 2) (2)
- 4.5.3 • More productive ✓
 • Reduce the need for chemicals ✓
 • Resistance to herbicide ✓
 • Tolerant/adapt to conditions ✓
 • Better flavour, colour, texture and nutritional value. ✓ (Any 2) (2)
- [35]**

TOTAL SECTION B: 105

GRAND TOTAL: 150