This memorandum consists of 10 pages.
SECTION A

QUESTION 1.1

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

(10 x 2) (20)

QUESTION 1.2

1.2.1  E
1.2.2  D
1.2.3  A
1.2.4  G
1.2.5  C

(5 x 2) (10)

QUESTION 1.3

1.3.1 Entrepreneurs
1.3.2 Productivity/effectiveness
1.3.3 Diversification
1.3.4 Di-hybridism
1.3.5 Genetic modification/
manipulation/engineering

(5 x 2) (10)

QUESTION 1.4

1.4.1 Segmentation
1.4.2 Marketing chain
1.4.3 Perishability
1.4.4 Depreciation
1.4.5 Prepotency

(5 x 1) (5)

TOTAL SECTION A: 45
SECTION B

QUESTION 2: AGRICULTURAL MANAGEMENT AND MARKETING

2.1 Marketing outlets

2.1.1 Marketing outlets illustrated in A and B
   A - Farm gate/stall ✓
   B - Auction ✓

2.1.2 The letter of the marketing outlet to which each of the following statements refer

(a) Products are sold at lower price
   A ✓

(b) It is easily accessible to small-scale farmers
   A ✓

(c) Price can be higher than expected
   B ✓

(d) Marketing costs are reduced
   A ✓

2.1.3 The marketing system represented by A and B
   • Free marketing ✓
   Reason – Produce sold directly to consumers ✓

2.2 Emerging farmer

2.2.1 TWO entrepreneurial skills
   • Innovative ✓
   • Creative ✓

2.2.2 Justification
   • Innovative: realisation of youth unemployment by the farmer/potential of the area to start a business ✓
   • Creative – started a small scale factory ✓

2.2.3 TWO possible advantages of securing a contract
   • Protection against price fluctuation ✓
   • Guaranteed market ✓
   • Eliminating/cutting out the middleman/intermediary/agent ✓
   (Any 2)
2.2.4 **Source identified by the farmer**

(a) Availability of peaches/good supply of peaches ✓
(b) Unemployed youth ✓
(c) Adequate infrastructure ✓

2.2.5 **Statement implying that the enterprise was a success**

- Production rose from 100 bottles to 1500 bottles per day ✓
- Secured a contract with local wholesalers ✓ (Any 1)

2.3 **Supply and demand of apples**

2.3.1 **Graph on the supply and demand of apples**

![Graph of supply and demand of apples](image_url)

**Criteria/rubric/marking guidelines**

- Correct heading ✓
- X-axis – correct calibrations and labelled (Price) ✓
- Y-axis – correct calibrations and labelled (Quantity) ✓
- Units. (Rand and kg) ✓
- Accuracy/correct plotting ✓
- Line graph ✓ (6)

2.3.2 **Equilibrium price of apples**

- R14.00 ✓ (1)
2.3.3 Deduction on availability and price of apples

- Demand doubles at price R18.00: \(580 \times 2 = 1160\) 
- Supply increases by 20%: \(\frac{20}{100} \times 950 = 190\) 

\[190 + 950 = 1140\]
- There will be shortage of apples/demand outstrips supply
- The price will increase

(5)

2.4 Marketing channels.

2.4.1 Most sustainable market for the mutton from the list provided
- Large supermarket chains

(1)

2.4.2 TWO reasons to support answer in QUESTION 2.4.1
- Supply to large supermarkets is guaranteed
- There is more profit

(2)

2.4.3 Market that holds the highest security risk
- Local people who buy directly from the farm

(1)

2.4.4 Justification
- No guarantee of demand

(1)

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QUESTION 3: PRODUCTION FACTORS

3.1 Labour management

3.1.1 TWO Tasks per labour

(a) Permanent
- Inspection of watering points
- Feeding of stud rams
- Dosing of sheep
- Counting of sheep and records

(Any 2) (2)

(b) Temporary
- Shearing of sheep
- Upgrading of dams and watering troughs

(2)

3.1.2 ONE task that needs computer skills
- Feeding of stud rams
- Dosing of sheep
- Counting of sheep and records

(Any 1) (1)
3.1.3 The most non-repetitive task performed by the labourers
• Upgrading of dams and watering troughs✓ (1)

3.2 Labour contract

3.2.1 ONE statement addressing a Labour Act.
(a) Occupational Health and Safety
• Supply of protective clothing✓ (1)

(b) Basic Conditions of Employment Act.
• Working hours✓
• Conditions for termination✓
• Wages and salaries✓ (Any 1) (1)

(c) Labour Relations Act.
• Contributions towards Unemployment Insurance Fund/ UIF✓
• Affiliation to trade unions and right to strike✓ (Any 1) (1)

3.2.2 TWO benefits of UIF to farm workers
• Payment of farm workers when out of work✓
• Payment of female farm workers while on maternity leave✓ (2)

3.3 Land as a production factor

3.3.1 Economic characteristics
A – Agricultural land is limited✓ (1)

Justification
Good agricultural soil used for non-agricultural purposes✓ (1)

3.3.2 TWO ways through which the economic characteristic impacts on the productivity of the land
• Reduction of land due to the growing population ✓
• poses a pressure to produce more ✓
• and that results to overutilization which in the long run will have a detrimental effect on productivity ✓ (Any 2) (2)
3.3.3 **TWO ways to increase the productivity of land**

- Adapting to scientific methods
- Irrigation
- Consolidating uneconomic farm units

(Any 2) (2)

3.4 **Capital as a production factor**

##### 3.4.1 Types of capital

<table>
<thead>
<tr>
<th>Types of capital</th>
<th>Example</th>
<th>Source of capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed</td>
<td>Dam/ irrigation system/land</td>
<td>Loan</td>
</tr>
<tr>
<td>Movable</td>
<td>Cattle/bakkies</td>
<td>Inheritance</td>
</tr>
</tbody>
</table>

- One mark for redrawing the table (7)

##### 3.4.2 Problems associated with capital

(a) **Buying three bakkies instead of one**
Over-capitalisation (1)

(b) **Loan through a financial institution which will be paid over a ten year period**
- High interest rate (1)

(c) **Investing money on product which could be lost due to natural disasters**
High risk factor (1)

3.5 **Strategic farming management**

##### 3.5.1 Steps in strategic management

A - vision
B - goal
C - mission
D - objective

(4)

##### 3.5.2 THREE benefits of the programme

- Improved food security
- Improved welfare and livelihood/better living standards
- Skills development

(3)

##### 3.5.3 ONE skill to anticipate and deal with challenges

- Problem solving skill (1)

[35]
QUESTION 4: BASIC AGRICULTURAL GENETICS

4.1 Genetic crossing

4.1.1 The genetic crossing

\[
\begin{array}{c}
R \times r
\end{array}
\]

\[
\begin{array}{cccc}
R & Rr & Rr & Rr
\end{array}
\]

\[
\begin{array}{cc}
Rr & Rr
\end{array}
\]

OR

\[
\begin{array}{ccc}
♂ & ♀ & \checkmark
\end{array}
\]

\[
\begin{array}{ccc}
R & Rr & Rr
\end{array}
\]

\[
\begin{array}{cc}
Rr & Rr
\end{array}
\]

4.1.2 Calculate the percentage of the black offspring
- \( \frac{4 \times 100}{4} = 100\% \)

4.1.3 The number of the offspring with a homozygous gene pair
- 0/zero/nill/none

4.1.4 Probability to have a red calf
- RR

4.2 Estimated Breeding Value (EBV)

4.2.1 Calculation of EBV/ the genetic gain

\[
\text{EBV} = (\text{Animal Weight} - \text{Average Herd Weight}) \times \text{heritability}
\]

\[
52,5 \text{ kg} - 47,5 \text{ kg} = 5,0 \text{ kg}
\]

\[
5,0 \text{ kg} \times \frac{85}{100} = 4,3 \text{ kg}
\]

\[
\text{EBV} = + 4,3 \text{ kg or } 4,3 \text{ kg}
\]
4.2.2 The implication of the value
- Offspring will have a slaughter weight of 51.8 kg
- The offspring will be 4.3 kg heavier than the flock average

4.3 Plant improvement

4.3.1 Identification of the process illustrated above
- Genetic modification/GM/manipulation/engineering

4.3.2 TWO main potential risks of GMO
- Food safety
- Environmental issues
- Socio-economic effects (Any 2)

4.3.3 The organism labelled C
Transgenic/GMO

4.3.4 THREE Characteristics of genetically modified crop
- Herbicide resistance
- Insect resistance
- Resistance to harsh environmental conditions
- Improved nutritional value/starch/vitamins
- Modified/improved quality (Any 3)

4.4 Variation

4.4.1 Importance of variation
- Brings about new cultivars
- with improved characteristics

4.4.2 TWO genetic causes of variation
- Mutation
- Recombination of genes
- Crossing over of chromosomes/meiosis (Any 2)

4.4.3 Types of variation
- Continuous variation - complete range of characteristics from one extreme to another
- Discontinuous variation - has a few clear-cut or distinct forms with no intermediate forms in between

4.4.4 Selection
- Process of choosing individuals
- with desirable characteristics for breeding purpose
4.5 Animal breeding

4.5.1 Identification of the breeding method
- Crossbreeding [✓] (1)

4.5.2 THREE benefits to farmer B
- New breeds developed [✓]
- Animals will adapt better in varying conditions/better vitality [✓]
- Animals will be more resistant to diseases [✓]
- High mass gain in relation to food intake [✓]
- Leads to heterosis/hybrid vigour [✓] (Any 3) (3)

4.5.3 A possible advantage of this breeding method to Farmer A
- Making money by selling bulls/sells to farmer B [✓] (1)

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TOTAL SECTION B: 105
GRAND TOTAL: 150