SECTION A

QUESTION 1.1

<table>
<thead>
<tr>
<th>1.1.1</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>X ✓ ✓</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.2</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>X ✓ ✓</td>
</tr>
<tr>
<td>1.1.3</td>
<td>A</td>
<td>X ✓ ✓</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>1.1.4</td>
<td>X ✓ ✓</td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>1.1.5</td>
<td>X ✓ ✓</td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>1.1.6</td>
<td>A</td>
<td>X ✓ ✓</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>1.1.7</td>
<td>A</td>
<td>X ✓ ✓</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>1.1.8</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>X ✓ ✓</td>
</tr>
<tr>
<td>1.1.9</td>
<td>X ✓ ✓</td>
<td>X ✓ ✓</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>1.1.10</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>X ✓ ✓</td>
</tr>
</tbody>
</table>

(10 x 2) (20)

QUESTION 1.2

| 1.2.1 | D ✓ ✓ |
| 1.2.2 | A ✓ ✓ |
| 1.2.3 | J ✓ ✓ |
| 1.2.4 | C ✓ ✓ |
| 1.2.5 | E ✓ ✓ |

(5 x 2) (10)

QUESTION 1.3

1.3.1   Budget/business/enterprise plan ✓ ✓
1.3.2   Cooperative ✓ ✓
1.3.3   Multi segmented ✓ ✓
1.3.4   Electroporation/genetic manipulation/engineering/biotechnology ✓ ✓
1.3.5   Genetics ✓ ✓

(5 x 2) (10)

QUESTION 1.4

1.4.1   Research ✓
1.4.2   Mass ✓
1.4.3   Crossbreeding/out breeding ✓
1.4.4   Private ✓
1.4.5   Manager/entrepreneur/owner ✓

(5 x 1) (5)

TOTAL SECTION A: 45
SECTION B

QUESTION 2: AGRICULTURAL MANAGEMENT

2.1 Financial record keeping

2.1.1 Importance of keeping financial records

- To manage the capital of a farm/determine profit or loss /idea of income and expenses ✓
- To analyse past and current performance/analyse success of business ✓
- Plan for the future of the farm /budgeting/replanning ✓
- Proof of payment/Tax purposes ✓

(Any 2) (2)

2.1.2 Total transport cost

R80,00 + R40,00 + R80,00 = R200,00 ✓✓ ✓✓

OR

R80,00 + R40,00 + R80,00 ✓ = R200,00 ✓ ✓ ✓ (3)

2.1.3 Profit = income – expenses ✓

= R 2 058 – R 1 093 ✓

= R 965 ✓ ✓ ✓

OR

Profit = income – expenses ✓

= R 2 093 – R 1 093 ✓

= R1 000 ✓ ✓ ✓ (4)

2.1.4 • Farm workers receive eggs for free/ 4 dozen eggs were given to workers ✓ ✓ (2)

2.1.5 Creation of capital

- Production/layers ✓ – created when more eggs are produced and then offered to generate capital ✓
- Capital needed to start a business is obtained by means of credit/loan ✓ supplied by financial institutions/ABSA/bank ✓
- Savings ✓ – farming profits are allowed to accumulate in the bank ✓ (Any 2 x 2) (4)

2.2 Cellphones beat stock thieves

2.2.1 TWO reasons for investing in high-tech anti-stock theft security systems

- For the fight against stock theft/to notify when animals are in danger ✓
- Indication of the time when mating takes place/assist in management/saves time and labour ✓
- Indication of the ram and ewe that were involved in mating ✓
- Tracking/monitoring the movement of animals ✓
- To determine grazing patterns of animals ✓ ✓ (Any 2) (2)
2.2.2 **TWO important entrepreneurial skills of the manufacturers**

- Creativity involves new ideas that are put to test/first of its kind
- Innovation - the systems are of a high-tech nature/it is a futuristic apparatus that can accommodate many uses
- Marketing/communication - convince the clients to use the apparatus
- Technical knowledge on installing of the apparatus
- Research/problem solving - determine the opportunity in the market
- Risk orientation - high initial investment for the manufacturer

(Any 2) (4)

2.3 **Entrepreneurial success factors**

2.3.1 Motivation/appreciation ✓

2.3.2 Punctuality ✓

2.3.3 Appreciation/motivation ✓

2.3.4 Leadership ✓

2.4 **The demand and supply graph**

2.4.1 Reversed relationship/As the quantities supplied increases ✓ the demand for the product will decrease ✓

OR

Reversed relationship /As the quantities demanded increases ✓ the supply of a agricultural product would decrease ✓

(2)

2.4.2 A point where the amount demanded by the market and the amount supplied ✓ are equal ✓

OR

Supply = ✓ demand ✓

(2)

2.4.3 Equilibrium price high/R30 at supply (before) and low/R20 at supply (after)/the supply described as before had an equilibrium price that was higher ✓

Compared to the situation after ✓

(2)

2.4.4 Quantities before: 200 ✓

Quantities after: 300 ✓

(2)

2.4.5 Graph B ✓

The demand was higher after the promotion/demand before was 200 and then increased to 300 ✓

(2) [35]
QUESTION 3: PRODUCTION FACTORS AND MANAGEMENT

3.1 Recordkeeping: physical and financial records

3.1.1

<table>
<thead>
<tr>
<th>(a)</th>
<th>(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Borehole with a wind mill✓</td>
<td>• Tractor ✓</td>
</tr>
<tr>
<td>• Farm shed ✓</td>
<td>• Bakkie(Farm van) ✓ (2)</td>
</tr>
</tbody>
</table>

3.1.2 THREE sources of capital

• Commercial Bank ✓
• Land Bank ✓
• Development Finance Corporation Ltd. ✓
• Insurance companies✓
• Agricultural cooperatives✓
• Agricultural business partners ✓

(Any 3) (3)

3.1.3 • Net worth is the difference between ✓ the value of your assets ✓ and the value of your liabilities ✓

(3)

3.2 THREE functions of land as a production factor:

• Provides space ✓
• Provides raw materials ✓
• Provides food for humans and animals ✓
• It is a source of minerals used as fertilisers ✓

(Any 3) (3)

3.3 Approaches to management

3.3.1 Farmer A:

• Sound financial management ✓
• Neatness/orderly
• Humanitarian relations/caring towards labour✓

(Any 1)

Farmer B:

• Money saving approach/stingy farmer ✓
• Savings(worthiness record)/cash operation
• Not caring towards labourers/bad human relations ✓

(Any 1) (2)

3.3.2 Farmer A ✓

and

Built new homes for workforce/water and electricity to workers/neatness stimulates motivation ✓

(2)
3.4 **Coordination of production factors**

3.4.1 (a) A ✓  
(b) C ✓  
(c) F/D ✓  
(d) B/E ✓  
(e) E ✓  

3.4.2 • Supervision/Control/Coordination/organising ✓  
• Entrepreneur is supervising workers according to the plan ✓  

3.4.3 • Planning skills ✓  
• Financial skills ✓  
• Management skills ✓  
• Human relations skills ✓  
• Risk orientation skills ✓  
• Communication skills ✓  
• Leadership skills ✓  
• Marketing skills ✓  
• Organisational skills ✓  
• Motivational skills ✓  
• Problem solving ✓  

(Any 2)  

3.4.4 Owner/Farmer/Manager/Entrepreneur/A ✓  

3.5 **Labour management**

3.5.1 B ✓  

3.5.2 A ✓  

3.5.3 D ✓  

3.5.4 E ✓  

3.5.5 B/D ✓  

3.6 **Labour legislation**

3.6.1 (a) **The labour Relations Act (1995)**  
• It governs labour relations at workplace/unfair labour practices/regulates trade union activities ✓  
• It governs the involvement of workers in decision making ✓  
• It governs procedures for labour disputes/right to strike ✓  

(Any 1)
(b) **Occupational Health and Safety Act (1993)**
- It deals with the safety of workers in the workplace/mutual responsibility on safety ✓
- It makes the farmer responsible to ensure that the working environment is safe ✓
- It holds the farmer responsible to provide protective clothing to workers ✓
- It holds the farmer responsible to train workers on operating machinery or equipment ✓

(Any 1)

3.6.2 The Compensation for Occupational Injuries and Diseases Act ✓

(1) [35]

**QUESTION 4: BASIC AGRICULTURAL GENETICS**

4.1 **Illustration of incomplete dominance**

4.1.1 **Completion of the missing answers in the blocks**

![Genetic Diagram](image)

- **Meiosis**
- **Gametes/sperms/egg Cells/ovum/W and B ✓
- **F₁ generation**

(6)

4.1.2 **Incomplete dominance ✓**

(1)

4.1.3 **Motivation on the type of dominance**
- Parents of P₁ have only homozygous (pure-bred) dominant genes/intermediate phenotype is shown in the offspring/none of the colours of parents are visible in the offspring ✓
- There are no recessive genes in all the generations ✓
- The phenotypic ratio of the F₂ is 1:2:1 ✓

(Any 2)

4.1.4 **Testes/Ovary/Primary sex organs/Primary reproductive organs ✓**

(1)
4.2 Crossing of farm animals

4.2.1 Black ✓ and white ✓ (2)

4.2.2 Male ✓ (1)

4.2.3 \( \frac{2}{4} \times 100\% = 50\% \) ✓ OR

\[ 50\% \times 2 \] (2)

4.3 Indigenous cattle breeds of South Africa

4.3.1 Indigenous cattle breeds of South Africa/Nguni cattle are reintroduced ✓ (1)

4.3.2 Adaptation qualities of Nguni cattle

• Resistant to a number of diseases ✓
• Resistant to internal and external parasites ✓
• Adapted to high excessive heat conditions ✓
• High fertility ✓
• Short calving interval ✓
• High adaptation to poor quality grazing ✓
• Long productive lifespan ✓ (Any 3) (3)

4.4 Schematic representation of line breeding

4.4.1 • 13 ✓
• 5 ✓
• 7 ✓ (3)

4.4.2 Benefits of upgrading to livestock farmers

• A new breed is gradually imported into the herd/fewer adaptation problems ✓
• Economical way to raise the stock to a pedigree level ✓
• Initial rapid results(50% improvement in first generation) ✓
• Deformities and unwanted characteristics occur less frequent ✓
• Expert knowledge not needed ✓
• Creates a more uniform herd ✓ (Any 3) (3)

4.5 FOUR selection methods used by livestock breeders

• Mass/individual selection ✓
• Pedigree selection/blup ✓
• Family selection ✓
• Progeny selection/performance of progeny ✓
• Natural selection ✓
• Breeding values ✓ (Any 4) (4)
4.6 Genetically modified sorghum

4.6.1 • Enriched with vitamins ✓
• Balanced in terms of nutrition/prevent malnutrition ✓
• To alleviate the problem of poverty/hunger in Africa ✓
• Improve cultivars✓
• Improved seed appropriate for planting✓ (Any 2) (2)

4.6.2 • GM sorghum will be vitamin enriched (packed) ✓
• to help fight malnutrition ✓ (2)

4.6.3 TWO dangers of GM food
• GM food risk destabilising the environment/Contamination of local seed stocks ✓
• GM food risk destabilising food production✓
• Socio-economic concerns✓
• Food safety/health risk✓ (Any 2) (2) [35]

TOTAL SECTION B: 105
GRAND TOTAL: 150