These marking guidelines consist of 11 pages.
SECTION A

QUESTION 1

1.1
1.1.1 C ✓✓
1.1.2 B ✓✓
1.1.3 D ✓✓
1.1.4 A ✓✓
1.1.5 B ✓✓
1.1.6 D ✓✓
1.1.7 C ✓✓
1.1.8 A ✓✓
1.1.9 D ✓✓
1.1.10 C ✓✓

(10 x 2) (20)

1.2
1.2.1 H ✓✓
1.2.2 F ✓✓
1.2.3 I ✓✓
1.2.4 B ✓✓
1.2.5 D ✓✓

(5 x 2) (10)

1.3
1.3.1 Controlled marketing ✓✓
1.3.2 Consolidation ✓✓
1.3.3 Incomplete dominance ✓✓
1.3.4 Electroporation ✓✓
1.3.5 Polyploidy ✓✓

(5 x 2) (10)

1.4
1.4.1 Fixing ✓
1.4.2 Interest ✓
1.4.3 Biometrics ✓
1.4.4 Atavism/throwback ✓
1.4.5 Gene ✓

(5 x 1) (5)

TOTAL SECTION A: 45
SECTION B

QUESTION 2: AGRICULTURAL MANAGEMENT AND MARKETING

2.1 Availability of agricultural products over a period of six months

2.1.1 Indication of the quantities of product 1
30 tons ✓

2.1.2 Identification of the product
Product 2 ✓

2.1.3 Stating of the problem
- There will be a surplus/spoilage/storage costs ✓
- The price of the product will be less ✓

2.1.4 Factor hampering marketing of product 1
- Seasonal fluctuation ✓
- Perishability ✓
- Accidents/theft ✓
- Lack of infrastructure ✓
- Lack of capital ✓
- Lack of market information ✓
- Long distances to markets ✓

2.1.5 TWO factors influencing the demand
- Price ✓
- Change in consumer income/buying power ✓
- Number of consumers ✓
- Tastes and preferences of consumers ✓
- Price of competing/complementing/substitute products ✓
- Range of products available ✓
- Usefulness of the product ✓
- The quality of the product ✓
- Festive season/fashion ✓
- Research ✓
- Socio-economic factors ✓
- Legislation ✓
- Advertising ✓
- Price expectations ✓

2.2 Marketing system

2.2.1 Identification of the marketing system
Free marketing ✓
2.2.2 **Identification of the channels**
A - Farm gate marketing ✓
B - Fresh produce marketing ✓

2.2.3 **ONE advantage of CHANNEL A/farm gate**
(a) **Farmer** - No market chain costs/no transportation costs/ no intermediaries/higher income/immediate payment ✓
(b) **Consumer** - Products will be fresh/better quality/lower prices/ have bargaining power ✓

2.2.4 **ONE disadvantage of CHANNEL C/stock sale to sellers**
- Prices may be lower than the market price ✓
- Seller may not get the expected price/less profit ✓
- Small-scale farmers may not have money to take animals to auction sale ✓

2.3 **Entrepreneurship**

2.3.1 **Identification of THREE phases of entrepreneurship**
- Identifying the opportunity ✓
- Developing a business plan ✓
- Resource mobilization ✓
- Starting and managing the enterprise ✓

2.3.2 **TWO other reasons for drafting a business plan**
- To test the feasibility/economic viability of the business idea ✓
- Helps to define goals ✓
- Outlines the roles and responsibilities of individuals ✓
- Provides time frames for completion of activities ✓
- Provides guidelines for decision making/to compare progress ✓
- To guide daily operations ✓
- Helps manager to plan for capital requirements ✓
- Provides clear strategies/objectives to follow ✓
- To ensure effective business management ✓
- Allows to foresee problems which reduces risks ✓
- Repositioning the business to deal with changes in a market ✓
- To gain knowledge about marketing opportunities/competitors ✓
- Attract investors/partners ✓

2.3.3 **Indication of success factors**
(a) Leadership/organization/management/interpersonal skills/ confidence ✓
(b) Risk taking/confidence/positive thinking ✓
2.4 Supply

2.4.1 Line graph

Line graph showing quantities of potatoes offered at different prices

CRITERIA/RUBRIC/MARKING GUIDELINE
- Correct heading ✓
- X-axis: Correctly calibrated and labelled (Quantities) ✓
- Y-axis: Correctly calibrated and labelled (Price) ✓
- Correct units (R and bag) ✓
- Line graph ✓
- Accuracy (80%+ correctly plotted) ✓

(6)

2.4.2 Law of supply
- The higher the price ✓ the higher the supply ✓
- The lower the price ✓ the lower the supply ✓

(Any 1)

(2)

2.4.3 TWO factors other than price that contributed to supply
- Environmental conditions/nature ✓
- Availability of technology ✓
- Knowledge on production ✓
- Production costs ✓
- Subsidies/taxation/legislation ✓
- Number of suppliers ✓
- Price expectation/profit margin of the product ✓
- Demand of the product ✓
- Seasonal production ✓
- Political instability ✓
- Possibility of increasing/decreasing the supply of goods ✓
- Stability of the product ✓

(Any 2)

(2)
2.5 Marketing chain

2.5.1 **TWO costs increasing the price of a product**
- Production costs ✓
- Packaging costs ✓
- Processing costs
- Storage costs ✓
- Transportation/distribution costs ✓
- Grading costs ✓ (Any 2) (2)

2.5.2 **Stage at which the agribusiness chain can be improved**
(a) Storage ✓ (1)
(b) Farm ✓ (1)

2.5.3 **TWO ways of making the product known to the consumer**
- Advertising/radio/television/billboards/newspapers/internet/brochures/posters/flyers ✓
- In-store promotion ✓
- Exhibitions/trade fairs ✓
- Sponsorship ✓
- Direct mailing ✓
- Marketing agent ✓
- Personal selling ✓ (Any 2) (2)

**QUESTION 3: PRODUCTION FACTORS**

3.1 Land

3.1.1 **TWO other economic characteristics of land**
- Is required for production ✓
- Land is fixed/found in a specific environment ✓
- Indestructible ✓
- Land appreciates ✓
- Durability ✓
- Varies in production potential ✓
- Restrictedness ✓
- Passive factor for production/primary production factor ✓
- Source of wealth/can be bought/sold/used as a collateral ✓
- Subjected to the law of diminishing returns ✓ (Any 2) (2)

3.1.2 **TWO ways in which the productivity of land can be improved**
- Improving water management/supply ✓
- Restore land potential/responsible use of pesticides ✓
- Farm land more efficiently/consolidate uneconomic units ✓
- Crop rotation/intercropping/rotational grazing ✓
- Research ✓
- Use of scientific methods/technology/improve soil fertility/precision farming ✓ (Any 2) (2)
3.1.3 **TWO functions associated with land as a production factor**
- Asset (used as collateral in obtaining loans)
- Provides space for agricultural activities
- Provides food/feeding for humans/animals
- Source of raw materials
- Source of minerals

(Any 2) (2)

3.2 **Labour productivity**

3.2.1 **Identification of the production factor**
Labour

(1)

3.2.2 **Deduction of the relationship**
An increase in the number of workers resulted to the increase in output

(2)

3.2.3 **TWO labour problems**
- Poor labour management/supervision/late arrival/theft
- Scarcity of labour/lower wages
- Lack of training/skills
- HIV/AIDS/other diseases/absenteeism
- Competition from industries
- Socio-economic problems
- Labour unrest

(Any 2) (2)

3.2.4 **TWO ways to improve the economic conditions of farm workers**
- Paying higher wages
- Providing incentives for workers
- Paying bonuses
- Providing medical insurance/pension
- Supplying them with farm products at reduced prices
- Entering into partnership deal with workers
- Provide education and training to workers

(Any 2) (2)

3.3 **Indication of labour legislations**

3.3.1 Basic Conditions of Employment Act/BCEA (Act 75 of 1997)

(1)

3.3.2 Skills Development Act/SDA (Act 97 of 1998)

(1)

3.3.3 Occupational Health and Safety Act/OHSA (Act 85 of 1993)

(1)
3.4 **Assets and liabilities**

3.4.1 **Identification of**

(a) **An asset**
- Value of the farm ✓
- Value of vehicles ✓
- Cash ✓
- Value of buildings ✓

(b) **A liability**
- Tractor loan ✓
- Bank overdraft ✓
- Mortgage loan ✓

3.4.2 **Calculation of the net worth of the farm**

Net worth = Assets – Liabilities ✓

\[
\text{Net worth} = (R650\,000 + R50\,000 + R275\,000 + R3\,500\,000) - (R365\,000 + R150\,000 + R4\,200\,000)
\]

\[
= R4\,425\,000 ✓ - R4\,715\,000 ✓
\]

\[
= - R240\,000 ✓
\]

3.4.3 **Indication of the viability of a farming business**

Not viable ✓

3.4.4 **Reason**

Net worth is negative/–R240 000/no profit/loss/value of assets is less than the value of the liabilities ✓

3.5 **Capital items**

3.5.1 **Identification of the type of capital**

(a) **C** - Movable capital ✓

(b) **B** - Fixed capital ✓

3.5.2 **Indication of the problem of capital in F (tractor)**

Depreciation/loses value/high fuel costs ✓

3.5.3 **Types of credit**

(a) **D** - Short-term credit ✓

(b) **E** - Long-term credit ✓

3.6 **Management**

3.6.1 **Definition of management**

Effective combination and coordination of human, physical and financial resources ✓ to achieve a specific goal, usually maximising profits ✓
3.6.2 **TWO management principles**
- Planning/setting goals ✓
- Implementation ✓
- Leading/directing ✓
- Organization/coordination ✓
- Decision making ✓
- Communication ✓
- Motivation ✓
- Monitoring ✓
- Control ✓

(Any 2) (2)

3.6.3 **TWO risk management techniques**
- Diversification ✓
- Risk sharing ✓

(2) [35]

**QUESTION 4: BASIC AGRICULTURAL GENETICS**

4.1 **Breeding systems**

4.1.1 (a) **Crossing 1** - Cross breeding ✓
(b) **Crossing 3** - Inbreeding ✓

(1) (1)

4.1.2 **Definition of inbreeding**
The breeding of closely related animals ✓

(1)

4.1.3 **ONE disadvantage of inbreeding**
- Leads to inbreeding depression ✓
- Loss of genetic variation ✓
- Increase the expression of lethal genes ✓
- Undesired genes are made more homozygous ✓
- Undesirable characteristic/deformities can be bred into the progeny ✓
- Leads to reduced vitality ✓
- Less resistance to diseases ✓
- An expensive system ✓

(Any 1) (1)

4.1.4 **TWO advantages of cross breeding**
- Produce hybrid vigour/heterosis ✓
- Development of new breeds ✓
- Increased adaptability ✓
- Increases genetic variation ✓
- More resistant to pests/diseases ✓
- Improves performance of animals ✓

(Any 2) (2)
4.2 Variation

4.2.1 TWO internal causes of variation
- Mutation ✓
- Meiosis/crossing-over/recombination of genes ✓
- Random fertilisation ✓ (Any 2) (2)

4.2.2 TWO importance of variation
- Forms the basis of selection ✓
- Improves existing breeds/cultivars ✓
- Development of new breeds/plant cultivars ✓ (Any 2) (2)

4.3 Selection

4.3.1 Pedigree selection ✓ (1)
4.3.2 Family selection ✓ (1)
4.3.3 Mass selection ✓ (1)
4.3.4 Progeny selection ✓ (1)

4.4 Punnett square

4.4.1 The genotype
(a) Female parent - HhWW ✓ (1)
(b) Number 17 - hR ✓ (1)

4.4.2 Determination of the phenotype
(a) Number 9 - Polled and roan ✓ (1)
(b) Number 16 - Horned and white ✓ (1)

4.4.3 Number of horned roan cattle
2 ✓ (1)

4.4.4 Number of polled red cattle
0 ✓ (1)

4.5 Sex chromosomes and determination

4.5.1 Sex chromosomes
(a) Number of sex chromosomes in goats - 2 ✓ (1)
(b) Pairs of autosomes in horses - 31 ✓ (1)

4.5.2 Sex determination
(a) Indication of the percentage chance - 50% ✓ (1)
(b) Determination of the ratio - 1:1 ✓ (1)
4.6 Heritability

4.6.1 Definition of heritability
The degree to which a characteristic ✓ is determined by genetic factors ✓  (2)

4.6.2 Identification of characteristics
(a) Qualitative - Eye colour ✓  (1)
(b) Quantitative - Milk production/fleece weight ✓  (1)

4.6.3 Indication of the percentage of the environmental effect
60% ✓  (1)

4.6.4 Explanation of the relationship
- The higher the heritability of the trait ✓ the higher the estimated breeding value ✓  (Any 1)  (2)
- The lower the heritability of a trait ✓ the lower the estimated breeding value ✓  (Any 1)

4.7 Genetic modification

4.7.1 TWO advantages of genetic modification over traditional breeding methods
- It is precise ✓  
- It is faster ✓  
- Not limited to organisms of the same species ✓  (Any 2)  (2)

4.7.2 TWO negative effects of GM crops on the environment
- Leads to development of super weeds ✓  
- Beneficial insects can be killed ✓  
- Leads to the excessive use of herbicides/pollution ✓  
- Reduces biodiversity ✓  (Any 2)  (2)

[35]

TOTAL SECTION B: 105
GRAND TOTAL: 150