These marking guidelines consist of 10 pages.
SECTION A

QUESTION 1

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

     (10 x 2) (20)

1.2  1.2.1  E ✓✓
     1.2.2  H ✓✓
     1.2.3  D ✓✓
     1.2.4  A ✓✓
     1.2.5  B ✓✓

     (5 x 2) (10)

1.3  1.3.1  Green marketing ✓✓
     1.3.2  Capital ✓✓
     1.3.3  Pedigree ✓✓
     1.3.4  Species crossing ✓✓
     1.3.5  Breeding value ✓✓

     (5 x 2) (10)

1.4  1.4.1  Farm gate ✓
     1.4.2  Short term ✓
     1.4.3  Lipofection ✓
     1.4.4  Co-dominance ✓
     1.4.5  Polygenes ✓

     (5 x 1) (5)

TOTAL SECTION A: 45
SECTION B

QUESTION 2: AGRICULTURAL MANAGEMENT AND MARKETING

2.1 Marketing functions

2.1.1 The marketing functions
- A - Transportation ✓
- D - Processing/value adding ✓

2.1.2 TWO guidelines for packaging
- Product identification ✓
- Recyclability/biodegradability ✓
- Containment ✓
- Protection ✓
- Easy handling/convenience ✓
- Health risks ✓
- Improving shelf life of the product ✓
- Must be appropriate to target market ✓

(Any 2) (2)

2.1.3 THREE factors hampering the marketing of agricultural products
- Poor infrastructure ✓
- Lack of capital ✓
- Perishability of agricultural products ✓
- Risks/accidents/theft/spoilage ✓
- Ineffective control of production ✓
- Seasonal fluctuations in production ✓
- Wide distribution of the product and distance to the market ✓
- Low value in relation to volume
- Standardization of products ✓
- High marketing/intermediaries/transport costs ✓
- Legislation/strict marketing laws/export regulations ✓

(Any 3) (3)

2.2 Marketing type

2.2.1 The type of marketing system
- Co-operative marketing ✓

(1)

2.2.2 TWO principles of co-operative marketing
- Voluntary and open membership ✓
- Democratic member control ✓
- Co-operation among members ✓
- Members provided with education, training and information ✓
- Autonomy and independence ✓
- Each member has a single vote ✓
- Members contribute money equally ✓
- Members are paid dividends ✓
- Products are standardized ✓
- Take care/concern for the community ✓
- Risk is shared by all members ✓
- Only members may deliver products ✓

(Any 2) (2)
2.2.3 **Explanation of the benefits of co-operative marketing**
(a) Members of the co-operative save a lot of money ✔ by marketing as a group through a pool system ✔ OR
   Members buy in bulk ✔ at cheaper prices ✔ (Any 1) (2)
(b) The co-operative negotiates better prices ✔ on behalf of its members ✔ (2)

2.3 **Supply and demand of oranges at different prices**

2.3.1 **Line graph**

![Graph showing supply and demand of oranges at different prices](image)

**CRITERIA/RUBRIC/MARKING GUIDELINES**
- Correct heading ✔
- X-axis: Correctly calibrated and labelled (Quantity) ✔
- Y-axis: Correctly calibrated and labelled (Price) ✔
- Correct units (R and kg) ✔
- Line graph ✔
- Accuracy ✔ (6)

2.3.2 **Identification of the price**
(a) Highest shortage - R6 ✔ (1)
(b) Lowest surplus - R14 ✔ (1)

2.3.3 **The equilibrium price**
R12 ✔ (1)

2.4 **Elasticity of demand and supply**

2.4.1 **Identification of**
(a) Price elasticity of supply - Graph B ✔ (1)
(b) Price inelasticity of demand - Graph A ✔ (1)
2.4.2 **Reason for the answer in**

(a) A small change in price resulted in a huge change in the quantity supplied ✓

(b) The huge change in price resulted in very little change in the quantity demanded ✓

2.4.3 **TWO factors that affect demand**

- Availability of substitute products ✓
- Price of complimentary and competing products ✓
- Research ✓
- Fashion ✓
- Quality of the product ✓
- Consumer preferences/tastes ✓
- Festive seasons ✓
- Usefulness of the product ✓
- Number of consumers ✓
- Legislation ✓
- Advertising of the product ✓
- Price of the product/price expectations ✓
- Income/buying power/socio-economic circumstances of the consumers ✓ (Any 2)

2.5 **Scenario**

2.5.1 **Justification of the statement**

The young farmer took an initiative to organise a farming business from the gift with its risks to make profit ✓

2.5.2 **TWO entrepreneurial success factors**

- Initiative/creative/innovative ✓
- Confidence ✓
- Perseverance ✓
- Market driven ✓
- Communication/interpersonal skills/relations ✓
- Vision ✓
- Hard-working/commitment ✓
- Courage/motivation/positive attitude ✓
- Risk taking ✓
- Achievement ✓
- Knowledge/skills ✓ (Any 2)

2.5.3 **Identification of**

(a) **TWO strengths for the farming business**

- Possesses a lot of success factors ✓
- Owns 1 790 hectares of land ✓
- Achieved 98% calving rate ✓
- Permanent workers ✓
- The farmer is young and energetic ✓ (Any 2)

(b) **ONE threat to the business**

Farming in dry arid region ✓ (1)

[35]
QUESTION 3: PRODUCTION FACTORS

3.1 Land

3.1.1 Deduction of the
(a) Economic characteristic of land
   Availability of land is limited ✔
   (1)
(b) Function of land as a production factor
   • Land provides space ✔
   • Land provides food ✔
   (Any 1) (1)

3.1.2 Reason
(a) Arable land was 70 hectares in 1970 and decreased over years to only 10 hectares in 2020 ✔
   (1)

3.1.3 TWO functions of land
   • Land is a source of raw materials ✔
   • Land is a source of minerals ✔
   • Land is an asset/serves as collateral ✔
   (Any 2) (2)

3.1.4 TWO methods to improve land productivity
   • Improve soil fertility ✔
   • Improve water management/water supply ✔
   • Restoring land potential ✔
   • Changing cropping practices and farming systems ✔
   • Farming land more efficiently/precision farming ✔
   • Consolidating small uneconomic land units ✔
   (Any 2) (2)

3.2 Labour

3.2.1 TWO main types of farm labourers
   • Permanent/full-time ✔
   • Temporary/part-time ✔
   (2)

3.2.2 Identification of tasks
(a) Casual labourers - Fencing ✔
   (1)
(b) Seasonal labourers - Harvesting ✔
   (1)

3.2.3 Labour problem
   • Lack of skills/training ✔
   • Scarcity of labour ✔
   • Covid-19 ✔
   (Any 1) (1)

3.2.4 Method to address lack of skills
   • Training labourers/employment of skilled labour ✔
   • Employment of additional workers/improving working conditions ✔
   • Vaccination/enforcing all Covid-19 protocols ✔
   (Any 1) (1)
3.3 **Conditions of employment in FARM A and FARM B**

3.3.1 **Unfair conditions of employment**
FARM A - Labourer ✓

3.3.2 **TWO reasons to support the answer**
- Low rate per day ✓
- Longer working hours ✓
- Fewer leave days/year ✓
- Lower overtime payment in comparison with labourer B ✓

(Any 2)

3.3.3 **Labour Legislation Act that the employer has violated**
Basic Conditions of Employment Act/BCEA (Act No.75 of 1997) ✓

3.4 **Value of capital items**

3.4.1 **The capital item**
(a) Fixed capital - Capital item B ✓
(b) Movable capital - Capital item A ✓

3.4.2 **Example of each capital**
(a) Fixed capital - Land/farm/building/borehole/fence ✓
(b) Movable capital - Tractor/truck/machinery/livestock ✓

3.4.3 **The problem of capital reflected by capital item A**
Depreciation ✓

3.5 **Financial records**

3.5.1 **Identification of the financial record**
Cash flow statement ✓

3.5.2 **Reason**
It reflects:
- An opening balance ✓
- A closing balance ✓
- Receipts/income ✓
- Payments/expenditure ✓

(Any 1)

3.5.3 **The total amount available to run the enterprise at the beginning of the second quarter**
R 37 972 ✓

3.5.4 **Calculation of the total costs over the first quarter**
Total costs = Costs in Jan, Feb and March
\[= 9 450 + 8 400 + 4 300 ✓\]
\[= R 22 150 ✓\]
3.6 **Management skills**
(a) Problem solving/interpersonal skill ✓
(b) Financial management skill ✓
(c) Organisation and coordination skill ✓

3.7 **Risk factors**

3.7.1 **Risk management strategy**
(a) Risk sharing ✓
(b) Diversification ✓

3.7.2 **THREE forces beyond the direct control of the farmer**
- Economic forces ✓
- Political forces ✓
- Ethical forces ✓
- Legal forces ✓
- Socio-cultural forces ✓
- Competitive forces ✓
- Technological forces ✓
- Environmental forces ✓

(Any 3) [35]

**QUESTION 4: BASIC AGRICULTURAL GENETICS**

4.1 **Mendelian study**

4.1.1 **The term**
Genetics ✓

4.1.2 **TWO Mendelian laws**
- The law of dominance ✓
- The law of segregation ✓
- The law of independent assortment/recombination ✓

(Any 2) [2]

4.2 **Feather colour in chickens**
4.2.1 - White ✓
4.2.2 - Black ✓
4.2.3 - White ✓

4.3. **Parents and offspring where (Bb) represents horns and (bb) no horns**

4.3.1 **The phenotype visible in the offspring**
Horned/pooled (no horns) ✓

4.3.2 **Calculation (in %) of the homozygous recessive phenotype**
\[
\frac{1}{4} \times 100 \checkmark \\
= 25\% \checkmark
\]

[35]
4.4 Punnet square method

4.4.1 Punnet square determining the ratio of the genotypes in the first crossing

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**MARKING CRITERIA**
- Correct male gametes ✓
- Correct female gametes ✓
- Correct offspring ✓
- Punnet-square populated with gametes and offspring ✓
- Genotypic ratio = 2 RR : 2 Rr OR 1 RR : 1 Rr ✓ (5)

4.4.2 The genotype of the unknown boar used in the F₂ generation rr ✓ (1)

4.5 Breeding programme with green pepper cultivars

4.5.1 The genetic term for the following
(a) Heterosis/hybrid vigour ✓ (1)
(b) Progeny selection ✓ (1)
(c) Biometrics ✓ (1)

4.5.2 Explanation why the two cultivars were used
Superior parents with the desired characteristics ✓ can produce the offspring required/with the desired/superior characteristics ✓ (2)

4.6 The values of heredity for sheep

4.6.1 Characteristic with the lowest improvement
Lean meat ✓ (1)

4.6.2 Characteristic with the most effective improvement
(a) Post-weaning gain ✓ (1)
(b) Birth weight ✓ (1)
(c) Fleece weight ✓ (1)

4.6.3 ONE other factor to improve the post-weaning gain
Environmental/external factor ✓ (1)

4.7 Breeding systems and technologies

4.7.1 Identification of the breeding system in
A Upgrading ✓ (1)
B Inbreeding ✓ (1)
C Crossbreeding ✓ (1)

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4.7.2 **TWO disadvantages of inbreeding**
- Loss of genetic variation/diversity ✓
- Leads to inbreeding depression/reduced production/fertility ✓
- Increased expression of lethal genes ✓
- Expensive system ✓
- Reduced vitality ✓
- Homozygosity of unwanted genes/deformities ✓

(Any 2) (2)

4.8 **Technique used to genetically modify organisms**

4.8.1 **The technique used**
Micro-injection ✓

(1)

4.8.2 **Differentiation between**

- **Conventional hybrid**
  DNA not altered/crossing of two lines/cultivars ✓

(1)

- **GMO**
  Altered DNA/genes from another organism are inserted into a cell ✓

(1)

4.8.3 **TWO potential risks associated with genetically modified plants**
- Health risks/allergies ✓
- Environmental risks ✓
- Economic/financial risks ✓

(Any 2) (2)

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TOTAL SECTION B: 105
GRAND TOTAL: 150

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