NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2021

AGRICULTURAL MANAGEMENT PRACTICES

MARKING GUIDELINES

Time: 3 hours 200 marks

These marking guidelines are prepared for use by examiners and sub-examiners, all of whom are required to attend a standardisation meeting to ensure that the guidelines are consistently interpreted and applied in the marking of candidates' scripts.

The IEB will not enter into any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines. It is also recognised that, without the benefit of attendance at a standardisation meeting, there may be different interpretations of the application of the marking guidelines.

SECTION A

QUESTION 1

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

1.2
1.2.1 J
1.2.2 A
1.2.3 H
1.2.4 B
1.2.5 G
1.2.6 D
1.2.7 K
1.2.8 I
1.2.9 C
1.2.10 F

1.3
1.3.1 Investment
1.3.2 Soil texture
1.3.3 Specialisation
1.3.4 Durable
1.3.5 Indicator plants
1.3.6 Topography
1.3.7 Carrying capacity
1.3.8 No cultivation
1.3.9 Short-term credit
1.3.10 Stock records

SECTION B

QUESTION 2 RESOURCE UTILISATION, LAND USE AND FARMING SYSTEMS

2.1 Labour resources

2.1.1 Definition of labour

Labour is the physical and mental work performed by people.

2.1.2 Types of labour

(a) Casual labourer
(b) Opportunity labourer
(c) Permanent labourer

2.1.3 Effect of diseases on the productivity of the enterprise

- Labourer is absent from work as a result of illness or treatment. Lost working hours.
- Other labourers take time off to look after ill labourer. Lost working hours.
- Labourer has a low labour efficiency as a result of low energy levels.
- Increase in costs because healthy labourers have to work overtime.
- Increase in costs as a result of treatment of ill labourer.
- Decrease in overall profitability of the enterprise.

Any 4

2.1.4 Increasing productivity of labourers

- Through the physical planning of the farming enterprise.
- Through the planning of the production process.
- Through daily planning/clear instructions.
- By creating economic units/correct type and number of labourers.
- Through good supervision and control.
- Through efficient mechanisation.
- By creating well-being and good living conditions for labourers.
- By creating a good working environment and conditions.
- By motivating the labourers through rewards, recognition and empowerment.
- Through training.

Any 5

2.2 Precision farming

2.2.1 Integrated production management system

It is a production system that uses various elements, namely:

- good technology
- good management
- good equipment
- maximum resource utilisation
- maximum profit/production
- with minimal cost
- and minimum risk

2.2.2 Purpose of precision farming

(a) To minimise input cost.
(b) To achieve optimal production.

2.2.3 Main technological tools

- GPS/global positioning system
- GIS/geographic information system
- Yield monitors/Measuring instruments
- Remote controllers/VRA
- Computer system

Any 3

2.2.4 Disadvantages of precision farming

- It is expensive (initial cost as well as upgrading of technology and systems).
- Requires very high management skills/Knowledge skills
- Requires very good technological skills.
- Very difficult to apply to mixed farming.

Any 3

2.2.5 Two types of capital, example and conversion term

- Fixed capital
  Land/fields
  Long-term capital/longer than 10 years
- Movable capital
  machinery/tractors/spray pumps/implements/drone
  medium-term capital/between 2 and 10 years
  Production capital – herbicides/pesticides

2.3 Extensive and intensive farming methods

2.3.1 B

2.3.2 A

2.3.3 B

2.3.4 A

2.3.5 A

2.3.6 B

2.4 Soil degradation

2.4.1 Causes of soil degradation

- Overutilisation as a result of poor farming techniques.
- Overgrazing/deforestation.
- Climate change.
- Population growth and urban expansion.
- Pollution and waste dumping.

Any 4

2.4.2 Consequences of soil degradation

- Loss of many soil substances.
- Infertility resulting in bare patches/erosion and no vegetation.
- Loss of ecosystems.
- Water scarcity.
- Rapid climate change.
- Poverty and migration.
- Decreased production potential

Any 4

2.4.3 Advantages of camp system in stock production

- Veld types with the same potential and palatability for grazing are camped off together.
- Pasture rotation/pressure grazing is possible with regular resting periods.
- Different groups of animals can be kept on one farm.
- Different types of animals can be kept.
- Animals are kept safe.
- Certain parts prone to erosion as well as waterways can be camped off separately.
- Stock load and animal ratio can be controlled according to the carrying capacity.
- The burning of camps can be controlled more easily.

Any 4

QUESTION 3

3.1 Sustainability, business plan, entrepreneurship and marketing

3.1.1 Who is the entrepreneur?
Both Piet and Jan.

3.1.2 Characteristics of entrepreneur
- Is energetic.
- Has a lot of self-confidence.
- Is innovative.
- Is willing to take risks.

Any 2

3.1.3 Document for financial assistance
Business plan.

3.1.4 SWOT analysis
S = Strengths of enterprise
W = Weaknesses of enterprise
O = Opportunities for enterprise
T = Threats to enterprise

3.1.5 Type of enterprise added
Agritourism.

3.1.6 Disadvantages of agritourism
- It is an expensive process to get going.
- May have a negative impact on environment if not managed properly.
- Public liability may occur in case of injuries etc.
- There may be extra responsibilities.
- Trained people to run his new enterprise may possibly be scarce.
- Many Acts regulate agriculture together with tourism.
- May result in a loss of privacy.
- There may be much more pressure on existing infrastructure.
- Transport, social well-being, empowerment, etc. may create problems.

Any 4

3.1.7 Advantages of diversification for Piet
- Better utilisation of the farm/land/infrastructure.
- Better utilisation of the farmer and labour force with different tasks throughout the year.
- Less risk because sources of income and markets are more distributed.
- Receives regular and quicker income.
- Better utilisation of equipment/tools and implements.

Any 4

3.2 Marketing channels

3.2.1 Marketing method
Free marketing

3.2.2 Three other marketing methods
- Cooperative marketing.
- Controlled marketing.
- International marketing.

3.2.3 Identify marketing channels
A. Auctions.
B. Farm stall/town marketing.
C. Fresh-produce markets.
D. Farm gate marketing.
E. Internet marketing.
F. Contract marketing.

3.2.4 Reasons why competition is advantageous to free market system
- Competition causes producers to compete towards better-quality products which results in better-quality products being available to the consumer.
- Because better-quality products are supplied, it may result in better prices.
- Better prices allow producers more opportunities to grow their enterprises.
- Better prices result in national economic growth and also create job opportunities.
- More competition promotes entrepreneurship as new ideas and initiatives develop.
- Competition promotes food security.

Any 4

3.3 Five marketing statements with term for each
- Products are kept cool in cold storage. – Storage/Preservation.
- Products are put in containers. – Packaging.
- Products are taken to consumers. – Transport.
- Products are changed into more usable form. – Processing.
- Products are taken to consumers for sale. – Sales.
- Producers are assisted financially by banks, etc. – Financing.

Any 5

3.4 Supply and demand

3.4.1 Factor influencing demand

The price.

3.4.2 How the price influences the demand

- As the price of onions increases, the demand for onions decreases.

OR

- As the price of onions decreases, the demand for onions increases.

3.4.3 Explain how the price affects profit according to information

At low prices, the enterprise made a big profit.
As the price increases, the enterprise's profit decreases, because the fixed costs remain constant and far fewer onions are sold.

3.4.4 Define fixed cost

That portion of the total cost that is given/unchanged/cannot be avoided/controlled.

3.4.5 Examples of fixed cost in onion farming

- Purchase price
- Maintenance
- Labour

Any 2

3.4.6 Calculate break-even point

$$\text{Break-even point} = \frac{\text{Fixed cost}}{\text{Price} - \text{Variable cost}}$$

$$= \frac{\text{R4 800}}{\text{R3 000} - \text{R2 050}} \quad \text{or} \quad = \frac{\text{R4 800}}{\text{R950}}$$

$$= 5{,}1$$

Therefore, more than 5,1 ton of onions per hectare should be harvested to make a profit.

QUESTION 4

4.1 Financial planning

4.1.1 Statement of income and expenses

INCOME	VALUE (R)	EXPENSE	VALUE (R)
Sales plums – export	R520 000,00	New establishments	R320 000,00
Sales peaches – local	R500 000,00	Fertiliser	R110 000,00
Sales apricots – local	R240 000,00	Weed and disease control	R90 000,00
Peaches for canning	R280 000,00	Marketing	R60 000,00
Dried peaches	R300 000,00	Packaging	R120 000,00
Sales pears – export	R490 000,00	Transport/fuel	R190 000,00
		Labour (wages)	R670 000,00
		Water/ electricity	R270 000,00
		Insurance	R 70 000,00
TOTAL	**R2 330 000,00**	**TOTAL**	**R1 900 000,00**

Mark allocation: The transfer of 3 correct incomes
The transfer of the other 3 correct incomes
The transfer of 3 correct expenses
The transfer of the other 3 correct expenses
The transfer of the last 3 correct expenses
The correct income total
The correct expenses total

4.1.2 Calculate profit/loss

Profit = Income – Expenses
= R2 330 000,00 – R1 900 000,00
= R430 000,00

4.1.3 Two suggestions to reduce labour cost

- Mechanisation.
- Using labour more productively, for example through motivation, daily planning, supervision and training – less labour is therefore required.
- Thorough planning of the production processes so that peak times of commodities requiring a lot of labour do not occur at the same time – less labour is required in this way.
- Using contractors rather than too many permanent labourers.
- Retrenching unproductive labourers as a last resort.

Any 2

4.1.4 **Four requirements for good record keeping**

- The information should be accurate.
- The information should be complete.
- The information should be understandable.
- The information should be useful.
- It should be up to date.
- The system should meet the needs of the relevant farm.
- The system should be user-friendly.
- The user should have sufficient knowledge.

Any 4

4.2 Harvesting methods

4.2.1 **Identify harvesting methods in pictures**

Harvesting method A = manual harvesting
Harvesting method B = mechanical harvesting

4.2.2 **Harvesting method for fresh-produce market**

Harvesting method A/manual harvesting

4.2.3 **Observable properties to determine whether product can be harvested**

- Colour.
- Size.
- Shape.
- Firmness.
- Abscission.
- Changes in leaves.
- Smell.

Any 5

4.2.4 **Four advantages of method A (manual harvesting)**

- Can harvest selectively.
- Little damage to the product.
- Cheap/not capital intensive.
- Little maintenance/maintain only tools and equipment.
- Does not require a high degree of specialisation.

Any 4

4.2.5 **Technique for manual harvesting**

- Take fruit softly in your hand between fingers, but not with fingertips.
- Pick fruit with a twist action – do not pull off so that it does not tear off.
- Put softly in harvesting container – do not throw in.

4.2.6 **Requirements for harvesting container**

- Must be clean according to food safety plan.
- Free from pests and infestations/sterilise.
- Free from any sharp edges to prevent damage to product.
- Sturdy and durable to protect product and for reuse.
- Easy to clean.

Any 4

4.3 Packaging

4.3.1 Information on label by law

- Trademark/brand with product description of the contents.
- Schematic or picture representation of the contents with serving suggestion.
- Name and street address of manufacturer of the product.
- List of ingredients in order of contribution to the mass of the product.
- Nutrition information according to RDA tables.
- Manufacturing date/expiry date
- Indication of weight/volume

Any 4

4.3.2 Name of the Act making labelling compulsory

Foodstuffs, Cosmetics and Disinfectants Act.
OR
Act 54 of 1972.

4.3.3 Advantages of packaging food products

- Protection from microbiological contamination, smells, bruising, etc.
- Easier to handle/transport.
- Increases value of product.
- Extends shelf life.
- Supplies information/identification.
- Improved appearance.

Any 4

4.3.4 The agricultural sector to which packaging belongs

Tertiary agricultural sector.

4.4 Storage of grain

4.4.1 Factors determining method to store grain

- Moisture content of the product.
- Relative humidity of the environment during the time of storage.

4.4.2 Advantages of storage in bags

- Easier to load and handle.
- Contains specific weight or amount.
- Different grades and types can be stored or transported together.
- Product is not directly exposed to air.
- Infected bags can be treated separately.
- Bags can easily be tagged individually.

Any 4

Total: 200 marks