



NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2015

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

(10 × 2 marks) = 20 marks

QUESTION 1.2

1.2.1	J
1.2.2	I
1.2.3	L
1.2.4	D
1.2.5	B
1.2.6	H
1.2.7	F
1.2.8	A
1.2.9	G
1.2.10	E

(10 × 2 marks) = 20 marks

QUESTION 1.3

1.3.1	Supply
1.3.2	Working/floating capital
1.3.3	Contours
1.3.4	Water-holding capacity/water capacity
1.3.5	Extensive farming
1.3.6	Turnover / income
1.3.7	Export marketing/export
1.3.8	Depreciation
1.3.9	Business plan
1.3.10	Agri-tourism

(10 × 1 mark) = 10 marks

50 marks

SECTION B

QUESTION 2 FARM PLANNING

2.1 THREE factors that determine the type of technology required for a farm.

- Income potential of the farming enterprise – higher income farms can support the purchase of expensive technology
- Nature of the farming system – intensive or high input systems require more advanced technology
- Scale of the farming system – large-scale farming systems require more machinery and technology
- Price of the product at the market – high-value products generally require more technology in their production

[Any 3] (3)

2.2 Types of farmers and the farming systems.

	FARMER A	FARMER B
Purpose of farming enterprise	Commercial crop production/ export marketing	Subsistence livestock production
Reason	Supplies export markets/ Products are marketed (income)	Supplies only the household/Livestock not sold
Level of intensity of farming system	Semi-intensive / intensive	Extensive system
Reason	Depends partially on irrigation	Fed on veld/Minimal additional feed given

(8)

2.3 FOUR ways in which organic fertilisers can contribute to the physical improvement of the soil.

- Increased soil temperature
- Absorbs more water/better water infiltration
- Improves the water holding capacity of the soil
- Binds the soil particles into loose crumbs – improves soil structure
- Allows aeration
- Separates clay particles and prevents them from sticking together
- Provides food for micro-organisms – more micro-organisms
- Increases ability to till the soil
- Increased soil fertility

[Any 4] (4)

2.4 FIVE questions to be considered when selecting a suitable enterprise.

- What are natural resources/veld type/climate/water – what new enterprise will these support?
- What are markets/competition for new enterprises – what products are in demand?
- What production resources are available – can they be utilized by the new enterprise?
- What is the farm carrying capacity – what type of new enterprise can the farm support?
- What is the available capital/input costs/initial costs – how will this affect the profitability of the farm?

- What is the size of land/farm – what type of enterprise could the farm support?
- What labour is available, and what is their level of skills?
- Knowledge/skills of enterprise/personal preferences?
- Support services available/infrastructure/extension services?
- Conflicting interests/synchronisation between enterprises? [Any 5] (5)

2.5 Type of temporary labour represented.

- Cindy – person who works peak periods/harvesting periods during the year
- Patrick – person used for specific tasks on a farm and then leaves the farm (2)

2.6. 2.6.1 Intensive farming system that is described.

- Precision farming (1)

2.6.2 FOUR technological tools used.

- Global positioning system (GPS)
- Geographical information system (GIS)
- Remote sensing
- On-board computer/processor (4)

2.6.3 FOUR advantages of using the technological tools.

- Pinpoints exact location of planting to within 1 meter
- Shows where soil in field is moist
- Shows where soil is eroded
- Shows factors in the soil which limit growth of crops
- Shows where crop growth is thriving and where it is not
- Automatically regulates the application of the exact amount of fertilizers and pesticides where they are needed
- May reduce input costs/labour requirements/be more economical/be more profitable
- Reduces the risk of contamination of the environment by misusing agricultural chemicals/tracking of pests and diseases
- More accurate yield forecasts/simplifies planning/better control
- More accurate determination of inputs such as seed, plant nutrient.
- Higher/optimum yield [Any 4] (4)

2.7 2.7.1 FOUR characteristics that can be used to classify natural pastures.

- Palatability – acidity of the soil
- Topography – plains or mountains
- Position on slope – crest or low-lying pastures
- Conditions of plant growth in relation to climate
- Rehabilitation ability
- Growth stage
- Height of grass
- Volume of pastures
- Digestibility
- Nutrient value
- Resistance to defoliation
- Rate of regrowth
- Type of winter and summer plants (sweet or sourveld)
- Botanical composition – plant species [Any 4] (4)

2.7.2 THREE reasons for the division of grazing pastures into camps.

- For rotational grazing
- To prevent overgrazing
- To allow for the resting and recovery of the veld
- For good management of the farming system
- To allow for division of livestock
- For reclamation of eroded areas
- To exclude areas with poisonous plants
- To exclude high risk areas/parasites/vermin
- To group homogenous veld types
- Set aside grazing for periods of shortage

[Any 3] (3)

2.7.3 THREE ways to solve the problem of waterlogging.

- Opening waterways
- Applying pipe drainage systems
- Applying stone drainage systems
- Plant crops that can grow in waterlogged conditions
- Minimise/take away the sources of waterlogged conditions
- Correct cultivation methods

[Any 3] (3)

2.8 2.8.1 Explanation of the effects of temperature of crop growth.

Minimum temperature – Little to no growth occurs below this temperature. Too cold for plant growth.

Optimum temperature – Maximum plant growth occurs, best temperature for growth

Maximum temperature – Little to no growth above this temperature. Too hot for plant growth.

(3)

2.8.2 From the graph:

- (a) 30 mm/day \pm 1mm
 (b) 19 degrees C and 24 degrees C

(3)

2.8.3 THREE ways to control such high temperatures.

- Mulching
- Watering
- Ground dressing
- Covering with plastic/organic matter
- Misting
- Blowers or fans
- Air conditioners
- Painting the cover material

[Any 3] (3)

[50]

QUESTION 3 ENTREPRENEURSHIP, RECORDING, MARKETING AND BUSINESS PLANNING

3.1 3.1.1 **FOUR alternative methods of payment.**

- Cash
- Debit card
- Credit card
- Postal orders
- Electronic transfer
- Direct deposit
- Bartering
- Cheque

[Any 4] (4)

3.1.2 **Data that should be reflected on source documents.**

- Amount
- Date
- Description of article or purchase
- Company name
- Payment method
- Buyer or seller info

[Any 4] (4)

3.2 **SIX reasons for keeping farm records.**

- Evidence for SARS
- Assist in financial management decisions
- Control of labour
- Assist in resource management decisions
- Assist in physical farm management decisions
- Provide as collateral for bank loan
- Determine the value of assets
- Physical planning of the farm
- Monitor progress in enterprise
- Setting up a budget
- Maintain warranties

[Any 6] (6)

3.3 **Table showing the elements of a budget, with examples**

ELEMENT OF BUDGET	DESCRIPTION	EXAMPLE
Resources	Available resources that will be used for the farming enterprise	Land, capital, water, labour, vegetation
Inputs	All the expenditures of the farming enterprise	Labour, mechanisation, material, biological inputs, financial inputs
Parameters	All the unknowns of the production process	Prices, application on inputs, yields, time of inputs or outputs

(6)

- 3.4 3.4.1 **Explanation of cash flow.**
- The movement of funds through the business during a specific period.
 - Represented by receipts and payments (2)
- 3.4.2 **TWO main factors responsible for a negative cash flow.**
- Unforeseen expenses or accidents
 - Lower production
 - Lower market prices than expected
 - Natural disaster or drought
 - Non-payments
 - Theft
 - Budget not well done [Any 2] (2)
- 3.5 3.5.1 **Main aim of the balance sheet.**
- To determine the financial health standing of the business (2)
- 3.5.2 **Example of a fixed asset item.**
- Land
 - Buildings
 - Fence
 - Borehole [Any 1] (1)
- 3.5.3 **Description of current asset with an example.**
- Assets that are used within a single production year/season and are used for trade purposes
 - Fertilisers, seed (2)
- 3.5.4 **Definition for the net worth of a farming enterprise.**
- Total farm assets MINUS total farm liabilities (2)
- 3.5.5 **Calculation of the net worth of this farming enterprise.**
 Total assets R803 000 – Total liabilities R630 000
 = Net worth R173 000 (3)

3.6 **Income and expenditure statement for this farmer**

DATE	INCOME	VALUE (R)	DATE	EXPENDITURE	VALUE (R)
28/12/13	Sale of produce	42 600		Production	97 000
10/02/14	Sale of produce	74 450		Marketing	3 500
10/05/14	Sale of produce	63 500			
TOTAL		180 550			100 500
GROSS PROFIT = R180 550 – R100 500 = R80 050					

(8)

3.7 THREE characteristics of an entrepreneur.

- Starting own business
 - Visionary/creative
 - Successful
 - Able to recognise business opportunity
 - Good management skills
 - Investigative skills
 - Introduces new / unique products
 - Met market requirements
- [Any 3] (3)

3.8 3.8.1 The type of enterprise (legal entity).

Should describe the type of legal entity under which the business will be registered, i.e.

- Sole proprietor/sole ownership or Shared ownership/partnership/cooperative

NB Not what is produced or sold

[Any 1] (1)

3.8.2 The financial plan of the enterprise.

Should describe the financial aspects of the business such as:

- Income and expenditure
- Expected profit
- Cash flow

[Any 2] (2)

3.8.3 The marketing strategy for the enterprise.

Should describe how the products will be marketed and to whom, i.e.

- Target market
- Market research
- Methods of selling
- Advertising strategy

[Any 2] (2)

[50]

QUESTION 4 HARVESTING, PROCESSING AND MANAGEMENT

4.1 There are two methods of harvesting crops, namely hand harvesting and machine harvesting.

4.1.1 Factors influencing whether to use hand harvesting or machine harvesting.

- Availability of machinery – can it be hired or purchased
- Availability of skilled labour – to operate machinery
- Type of crop being harvested – determines harvesting method required
- Labour costs – compared with machine harvesting costs
- Cost of machine harvesters – may be more or less costly than hand harvesting
- Volume of product harvested – hand harvesting is limited to small volumes of product
- Area in which product is harvested – certain areas may be too steep or too wet for machine harvesting

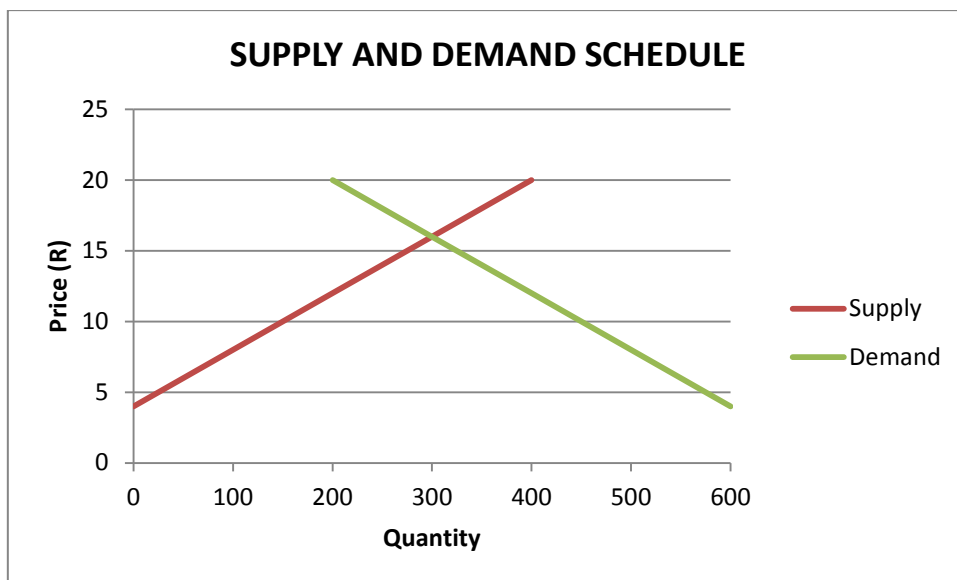
(4)

4.1.2 FOUR disadvantages of hand harvesting.

- Time utilisation – hand harvesting is slower/more time consuming
- The area covered – a smaller area can be covered due to physical and time limitations
- Labour utilisation – more labour is required to harvest a certain area
- Quality of the harvesting product – the harvested product may be of a lower quality, and there is a greater risk of contaminated products

(4)

4.2 4.2.1 **Graph representing the supply and demand schedule**



Allocation of marks:

- Heading
- Labelling and value of x-axis and y-axis
- Legend/labelling graphs
- Correct supply graph
- Correct demand graph

(5)

4.2.2 Price of the product at the point of market equilibrium.

- R16/kg

(1)

- 4.2.3 **Possible reasons for the shortage of the product in the market.**
- Consumers buy more when price is low
 - Farmers supply/market less of a crop when price is low
 - Political instability/political factors
 - Socio-economic factors
 - Natural disasters/hail/floods/drought
 - Seasonal yields [Any 2] (2)
- 4.2.4 **Two strategies a farmer could use to deal with product shortages.**
- Modify planting or harvesting times – to supply sufficient during periods of short supply
 - Process products – to prolong shelf life so that they can be sold during periods of short supply (4)
- 4.3 4.3.1 **THREE environmental factors that are controlled in a silo.**
- Temperature
 - Moisture / Humidity
 - Air
 - Light [Any 3] (3)
- 4.3.2 **TWO organisms or animals that may damage harvested crops.**
- Insect pests, weevils/worms
 - Rodents/rats/mice
 - Livestock/goats/sheep/cattle/poultry/pigs [Any 2] (2)
- 4.4 4.4.1 **THREE reasons for preserving an agricultural product.**
- Safeguarding food against decay and wastage (Not value adding)
 - Food security/production of food on large scale for distribution to large population
 - Constant supply of food to market throughout the year
 - Enable access to certain food types in non-producing areas [Any 3] (3)
- 4.4.2 **FOUR methods of preserving agricultural products.**
- Application of heat - sterilisation/pasteurisation/blanching
 - Cooling/freezing of product
 - Vacuum packing
 - Irradiation
 - Filtration
 - Salting
 - Fumigation
 - Chemical preservatives
 - Drying
 - Addition of acids or sugar [Any 4] (4)
- 4.5 **FOUR ways in which producer organisations assist farmers in SA.**
- Negotiation with banks for credit on behalf of farmers
 - Organise inputs and negotiate discounts on behalf of farmers
 - Organise markets for farmers
 - Provide technical/ scientific advice to farmers
 - Give market information
 - Advertise and promote agricultural products [Any 4] (4)

4.6 4.6.1 **FIVE ways to encourage farm workers to increase productivity.**

- Better working conditions
- Better remuneration
- Increase motivation
- Supervision or shared supervision
- Rewarding good performance
- Better living conditions (incl. school for children)
- Giving them more responsibilities
- Making them shareholders/joint beneficiaries
- Training/skills development
- Efficient mechanisation
- Fair task allocation
- Exposure to recreational activities
- Promotions
- Free food or meals

[Any 5] (5)

4.6.2 **FOUR labour problems experienced by the agricultural industry.**

- Scarcity of labourers – due to urbanisation, poor remuneration or seasonal/ inconsistent labour demands
- Competition from industries – causing a shortage of skilled farm labour
- Lack of training – many farmers to not identify and address skills shortages
- Poor labour management – poor supervision and communication
- Union activities – may disrupt the work place and cause tension between labour and farmers
- Minimum wage requirements – certain farmers have reduced labour requirements due to increased labour costs
- Unskilled labour – many labourers have limited farming skills
- Literacy levels – many labourers have low levels of literacy which limits job progression and earning ability
- Theft
- Land claims
- Housing
- Poor motivation or willingness to work

[Any 4] (4)

4.7 **FIVE essential items on label of packaged agricultural produce.**

- Name of the farm
- Name of the product
- Quantity of product
- Packaging date/expiry date
- Warning on possible allergens
- Ingredients used in product processing
- Preservatives used
- Nutritional value
- Producer contact information
- Country of origin

[Any 5] (5)

[50]

150 marks

Total: 200 marks