



NATIONAL SENIOR CERTIFICATE EXAMINATION  
NOVEMBER 2018

## AGRICULTURAL MANAGEMENT PRACTICES

### MARKING GUIDELINES

Time: 3 hours

200 marks

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**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.**

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**SECTION A**

**QUESTION 1**

1.1	A	B	<del>C</del>	D
1.2	A	<del>B</del>	C	D
1.3	<del>A</del>	B	C	D
1.4	A	B	<del>C</del>	D
1.5	A	<del>B</del>	C	D
1.6	A	B	C	<del>D</del>
1.7	<del>A</del>	B	C	D
1.8	A	<del>B</del>	C	D
1.9	A	B	<del>C</del>	D
1.10	<del>A</del>	B	C	D

**QUESTION 2**

2.1	G
2.2	F
2.3	E
2.4	I
2.5	L

2.6	M
2.7	A
2.8	B
2.9	H
2.10	K

**QUESTION 3**

3.1	Market research
3.2	Fertilisation/fertiliser
3.3	Carrying capacity
3.4	Precious farming
3.5	Agro-tourism

3.6	Trial balance
3.7	Mulching
3.8	Indigenous knowledge
3.9	Grading
3.10	Petty cash

**SECTION B**

**QUESTION 4 FARM PLANNING**

**4.1 Farm resource data and crop requirements**

**4.1.1 Temperate or a tropical climate with explanation**

Temperate climate – much colder temperatures during winter months

**4.1.2 TWO crops that would be suitable for production area and crop rotation, with reasons**

Dry beans	Suitable – temperatures and rainfall + Nitrogen
Maize	Suitable – temperatures and rainfall
Soyabeans	Suitable – temperatures and rainfall + Nitrogen
Wheat	Suitable for winter – temperatures and rainfall
	Well-drained soil
	Suitable pH

**4.1.3 TWO livestock enterprises for this farm, with explanations**

- Beef cattle
- Sheep or goats
- Milk cows (Use maize and soy)
- Grazing animals – utilise veld = mixed veld because of rain
- Can utilise crop residues

**4.1.4 Comparison of manual labour and mechanisation**

	<b>Manual labour</b>	<b>Mechanisation</b>
Costs	Cheaper	More expensive
Efficiency	Less efficient	More efficient
Product quality	Poor quality Must switch	Better quality
Time taken	Slower	Faster
Area that can be completed	Smaller area	Larger area
More suitable option for this farm (own opinion)		More suitable – large area

**4.1.5 FOUR factors which determine whether soil is arable**

- Soil depth
- Rockiness
- Slope
- Texture
- Drainage

**4.1.6 THREE ways of improving the drainage of a soil, with explanation**

- Incorporate organic matter – improves soil texture
- Deep rip – break plough pan
- Construct drains – drain off a slope
- Ridge and furrow system – waterlogged soils
- Plant species that help drain soil, e.g. deep roots

**4.1.7 The effect of soil pH on crop production**

- Crops have specific pH requirements
- Incorrect pH – poor germination and growth/production
- Suitable pH – better germination, growth & production

**4.1.8 How a farmer can change the pH of a soil, with explanation**

- Apply lime
- Lime raises the pH of the soil
- Lime neutralises acid saturation of the soil
- Apply gypsum if pH is too high
- Gypsum lowers pH

**4.1.9 FOUR benefits of using crop rotation**

- Improved soil structure
- Improved soil health
- Less leaching of specific nutrients
- Breaks disease cycle
- Can incorporate new nutrients into the soil, e.g. nitrogen from legumes

**4.1.10 FOUR factors which influence choice of crops for crop rotation**

- Must both be suitable to climate
- Must be compatible with each other
- Must not be affected by same diseases
- Should benefit the soil or environment in a positive way

**4.2 Precision farming techniques****4.2.1 FOUR examples of precision farming use in a cropping enterprise**

- Soil fertility mapping/fertiliser needs
- Soil types
- Weed management
- Crop yields
- Insect or disease monitoring
- Irrigation scheduling
- Tilling methods
- Vegetation determination

**4.2.2 THREE benefits of using precision farming in a cropping enterprise**

- More efficient use of inputs
- More accurate application of inputs/financial benefits
- Better yields
- Efficient use of resources

**4.2.3 THREE types of equipment required for the use of precision farming methods**

- GPS system
- Satellite receiver
- Precision calibrated equipment
- Computer system GIS system

**4.3 Crop land with a slope of 1:8****4.3.1 Description of the slope of the land AND explanation of its usefulness for crop production**

Moderately steep slope – limited use for cropping enterprises

**4.3.2 Explanation of how to improve the usefulness of this land for crop production**

- Contour banks or terracing/contour
- Levels land and creates barriers to erosion
- Strip cropping

**QUESTION 5 HARVESTING AND MARKETING**

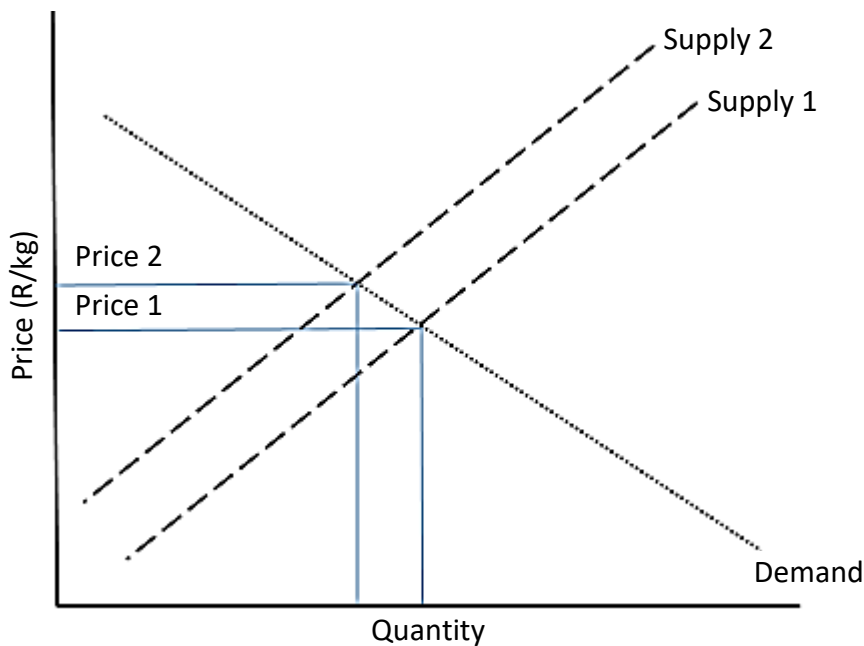
**5.1 Article below on Avian Influenza outbreaks**

**5.1.1 Effect of Avian Influenza outbreaks on supply of eggs in South Africa**

- Culling of layers to prevent disease spread
- Reduced egg supply

**5.1.2 Explanation using supply and demand curve of effect of reduced supply of eggs on egg price in South Africa**

Reduced egg supply causes price increase



**5.1.3 THREE functions of industry associations or organisations**

- Research
- Promote commodity products
- Bargain on behalf of producers
- Address issues facing the industry
- Training and transfer of knowledge

**5.1.4 Small producers going out of business as a result of the disease outbreak**

**(a) TWO reasons why small producers are more vulnerable in this situation**

- Economies of scale – fixed production costs are relatively higher
- Less flexible
- Less saleable product to generate income when required

(b) **How small producers could protect their businesses and become more sustainable**

- Diversify – spread the risk
- Alternative sources of income
- Focus on efficiency
- Insurance
- Cooperative marketing

5.1.5 **Use of the five management roles to control and prevent Avian Influenza from affecting your farm**

- Control – control animals, people and vehicle access
- Planning – planning for an outbreak, getting staff ready
- Coordination – coordinate activities to ensure proper cleaning and operation
- Motivation – explain importance of biosecurity and disease prevention
- Organisation – organise plan of action in case of outbreak

5.2 **Farm data for Farmer Mokoena – potato producer**

5.2.1 **Balance sheet**

Balance sheet of Mokoena Farm as at 28 February 2018

<b>Fixed assets</b>	<b>Value</b>	<b>Long-term liabilities</b>	<b>Value</b>
Farm land	R1 200 000	Land Bank loan	R800 000
Potato packing shed	R80 000		
<b>Medium-term assets</b>	<b>Value</b>	<b>Medium-term liabilities</b>	<b>Value</b>
Tractor	R80 000	Bank overdraft	R40 000
<b>Current assets</b>	<b>Value</b>	<b>Current liabilities</b>	<b>Value</b>
Fuel on hand	R10 000	Account at co-operative	R90 000
Fertilizer on hand	R12 000		
Harvested potatoes	R60 000		
<b>Total</b>	<b>1 442 000</b>	<b>Total</b>	<b>930 000</b>
<b>Net worth</b>	<b>512 000</b>		

5.2.2 **Evaluation of farm liquidity of this farm, with explanations**

- Farm is in a positive state of liquidity
- Value of assets exceeds value of liabilities
- Farm has assets that could be sold to generate funds and to settle debts if necessary

**5.2.3 THREE marketing channels for potatoes, plus ONE advantage and ONE disadvantage of each**

Marketing channel	Advantage	Disadvantage
Farm gate	Low transport costs Outlet for lower quality stock	Lower selling prices Limited market share Biosecurity issues
Contract	Guaranteed sale of stock Secure market	Prices may be lower than free market
Free market	Can sell when prices are high	Prices may be low when stock is sold

**5.3 Broiler enterprise**

**5.3.1 Partial budget for a single batch of broilers to determine the gross margin**

<b>INCOME</b>			
Item	Amount	Unit price	Total
Broilers	480	60	28 800
Total income	28 800		
<b>EXPENSES</b>			
Item	Amount	Unit price	Total
Day old chicks	500	6,5	3 250
Feed	50	180	9 000
Gas	40	22	880
Wood shavings	1	200	200
Transport	100	5	500
Total expenses	13 830		
<b>GROSS MARGIN</b>	14 970		

**5.3.2 TWO reasons why the actual gross margin may be different to expected figures**

- Increased mortality
- Lower selling price
- Increased input costs



**QUESTION 6 BUSINESS PLANNING AND MANAGEMENT****6.1 Article on agritourism on ostrich farm****6.1.1 FIVE characteristics of Mr Keller that make him an entrepreneur**

- Risk taker/innovative
- Business-minded/Profit-driven
- Sees opportunities
- Motivated
- Enthusiastic
- Decisive/Decision maker
- Open-minded
- Flexible
- Hard working

**6.1.2 FIVE main sections of a business plan AND what is included in each section**

- Description of business – type of legal entity, mission and vision
- Marketing plan – market analysis, marketing channels, advertising
- Operational plan – what will be produced and how
- Financial plan – cash flow forecast, revenue and cost projections
- Risk analysis – strengths and weaknesses, suggested solutions
- Management of venture (directors)
- Infrastructure – Physical property and improvements needed

**6.1.3 Evaluation of decision to include dairy cattle, beef cattle and agritourism in terms of physical and financial compatibility with the existing farm**

- Broader source of income
- Spread the risk
- Utilise farm facilities more effectively
- Tourists enjoy seeing dairy cattle and ostriches
- Lucerne can be used for animal feed

**6.1.4 Discussion of how agritourism business will contribute to the overall value of farm**

- Improvements in facilities and infrastructure
- Increased revenue income
- Diversification reduces risk
- Increase marketing value of land

**6.1.5 THREE possible problems associated with large numbers of tourists visiting the farm**

- May interfere with farming activities
- Biosecurity
- Visitors may become time consuming
- Can harm ecosystem
- Legal aspects
- Pressure on existing infrastructure
- Requires intensive management skills

**6.1.6 Evaluation of the suitability of using website to advertise the business**

- Relevant to current use of internet
- Able to reach foreign tourists
- Can be updated regularly
- Enables two-way communication
- Online discussions

**6.1.7 TWO other relevant ways to market his agritourism business**

- Advertise in magazines or newspaper
- Approach local and foreign tour agents
- Facebook page
- Radio adverts
- Pamphlets/promotions

**6.2 Listeria outbreak in South Africa**

**6.2.1 THREE reasons for processing meat into various products**

- Improve shelf life
- Utilise lower quality meat cuts
- Address demand for various processed meats
- Easier to transport/better handling

**6.2.2 THREE ways in which the contamination of meat products could have been prevented**

- Purchasing from reliable supplier
- Testing of raw materials
- Testing of processed products
- Hygienic conditions

**6.2.3 FOUR pieces of information that should be displayed on the label of processed agricultural products**

- Ingredients
- Name of producer
- Expiry date
- Allergens
- Date of production

**6.2.4 Poster for meat processing facility to inform staff of food safety procedures**

Any four of the following:

- Washing hands
- No meat products from home
- Clean equipment
- Protective clothing
- No sick workers
- No mixing of different products

Poster layout and presentation

**6.2.5 Listeriosis outbreaks have significantly reduced consumer confidence in pork products**

**(a) Discussion of the impact on South African pork producers**

- Lower pork price
- Reduced demand for pork products
- Reduced profitability of pork producers
- Closing of processed meat factories

**(b) TWO ways in which pork producers could regain their status in the meat industry**

- Marketing pork as a healthy meat
- Ensure production and processing methods are disease-free
- Proof of product testing

**Total: 200 marks**