



education

Department:
Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

AGRICULTURAL MANAGEMENT PRACTICES

FEBRUARY/MARCH 2010

MARKS: 200

TIME: 2½ hours

This question paper consists of 17 pages and an answer sheet.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. SECTION A (QUESTION 1) must be answered on the attached ANSWER SHEET.
3. SECTION B (QUESTIONS 2 to 4) must be answered in the ANSWER BOOK.
4. Start each question from SECTION B on a NEW page.
5. Read ALL the questions carefully and make sure that you answer only what is asked.
6. Number the answers correctly according to the numbering system used in this question paper.
7. Place the ANSWER SHEET for SECTION A (QUESTION 1) in the ANSWER BOOK.
8. Write neatly and legibly.

SECTION A**QUESTION 1**

- 1.1 Various options are provided as possible answers to the following questions. Choose the answer and make a cross (X) in the block (A – D) next to the question number (1.1.1 – 1.1.10) on the attached ANSWER SHEET.

EXAMPLE:

1.1.11	<input checked="" type="checkbox"/>	A	B	C	D
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- 1.1.1 To ensure food security for households in rural areas with very little resources, a headman may practise the following farming system:
- A Commercial farming
 - B Subsistence farming
 - C Extensive farming
 - D Intensive farming
- 1.1.2 The relation between the profit and loss of a farming enterprise, that assists the farmer in making better decisions in the future, is known as the ...
- A gross income.
 - B gross expenditure.
 - C gross margin.
 - D gross profit.
- 1.1.3 The financial aspect on a farm that is necessary to ensure that funds required to keep the production process running is available at all times, is called ...
- A income tax.
 - B insurance.
 - C cash flow.
 - D estate duty.
- 1.1.4 The ... indicates a position where the quantity of a product which consumers require is exactly equal to the quantity which producers wish to sell.
- A market niche
 - B market equilibrium
 - C market penetration
 - D market value

- 1.1.5 An example of production or working capital is ...
- A breeding cows.
 - B shearing machines.
 - C fertilisers.
 - D milking machines.
- 1.1.6 The method of protecting the soil by covering it with dead plant material, with the aim of increasing water penetration and reducing water runoff, is known as ...
- A contouring.
 - B strip cultivation.
 - C mulching.
 - D green manuring.
- 1.1.7 Floating capital borrowed at exceedingly high interest rates, usually leads to ...
- A a lower net profit in spite of high production efficiency.
 - B lots of available capital.
 - C overcapitalisation.
 - D undercapitalisation.
- 1.1.8 When a land survey is planned for a specific area, the first step is to ...
- A map the soil.
 - B make profile test holes.
 - C study the characteristics of the soil.
 - D acquire aerial photographs.
- 1.1.9 The following land cultivation practice does NOT contribute to the optimal use of the soil:
- A Crop rotation
 - B Mulching
 - C Monoculture
 - D Intercropping
- 1.1.10 Which ONE of the following is NOT a function of agricultural marketing?
- A Storage
 - B Transport
 - C Processing
 - D Planting
- (10 x 2) (20)

- 1.2 Choose a description from COLUMN B that matches an item in COLUMN A. Write only the letter (A – L) next to the question number (1.2.1 – 1.2.10) on the attached ANSWER SHEET, for example 1.2.11 M. A description from COLUMN B can only be used ONCE.

COLUMN A		COLUMN B
1.2.1	Cash-flow statement	A principles of agricultural cooperatives
1.2.2	Occasional labourer	B provide a good overall picture of the farm business
1.2.3	Voluntary and open membership	C a contract worker employed for a specific job, such as fencing and building
1.2.4	Fresh-produce market	D refers to the sources, amounts and dates of cash inflow and cash outflow during a specific period
1.2.5	Communal marketing	E markets set up in larger centres, mainly for the selling of fruit and vegetables
1.2.6	Depreciation	F a business organisation owned and operated by and for the benefit of its members
1.2.7	Promotion of farm products	G the loss or decline in value of assets such as vehicles, machinery and tools that is caused by age, wear and tear
1.2.8	Production records	H advertisements and exhibitions
1.2.9	Break-even point	I fruit and vegetables sold by street vendors
1.2.10	Insurance	J animal production and health records
		K the change in the total costs due to a change in the units of production
		L decreases the risk to income

(10 x 2)

(20)

- 1.3 Give ONE word/term for each of the following descriptions. Write only the word/term next to the question number (1.3.1 – 1.3.10) on the attached ANSWER SHEET.
- 1.3.1 An event between two people or parties where money is involved.
- 1.3.2 A statement that indicates the profit/loss made by an agricultural enterprise during a certain period
- 1.3.3 Crops planted on the farm specifically for grazing purposes for livestock, excluding crops planted for grain production and those used for green manuring.
- 1.3.4 The time frame for credit used as a source of financing for improvements and the purchase of livestock, machinery and implements
- 1.3.5 A form of capital that the farm manager would utilise to buy seed before the planting season
- 1.3.6 The partial replacement of labour by capital investment, which leads to a decrease in labour
- 1.3.7 The management principle that is used when the farm manager and other employees join in a friendly soccer match after the harvesting process was completed successfully
- 1.3.8 Knowledge, skills and practices gathered by our ancestors in a specific geographical area, which are still usable and valuable
- 1.3.9 The quantity of an agricultural product which a producer delivers on the market at a specific price
- 1.3.10 The instrument that a farmer would use to accurately measure yield in a production unit (10 x 1) (10)
- TOTAL SECTION A: 50**

Start this question on a NEW page.

QUESTION 2: CROP AND ANIMAL PRODUCTION

2.1 Farming systems – global issues



This slogan, aimed at the protection of our natural resources, is used all over the world. Countries have invested large sums of money to do research on agricultural activities that would endorse this slogan.

- 2.1.1 Name a farming system that would be most suitable for a "Go Green" world. (1)
- 2.1.2 Briefly explain the main practices that make the system named in QUESTION 2.1.1 different from conventional farming. (5)
- 2.1.3 Name the TWO main disadvantages of this type of farming system. (2)

2.2 Read the passage below and answer the questions that follow.

The annual soil loss in South Africa is estimated at 300 – 400 million tons and relates to nearly three tons for each hectare of land. Replacing soil nutrients that had been removed by the erosion process each year with fertilisers, would cost over R1 000 million. Soil is formed at a rate of only 1 cm every 100 – 400 years. It takes between 3 000 and 12 000 years to build enough soil to form productive land.

This means that soil is a non-renewable resource and once destroyed, it is gone forever. For every ton of maize, wheat, sugar or other agricultural crops produced, South Africa loses an average of 20 tons of soil. If we disregard this, a time will come when there would not be enough soil left to sustain life on earth. The FAO (Food and Agriculture Organisation) estimates that the global loss of productive land through erosion is 5 – 7 million hectares per year.

[Adapted from: www.nda.agric.za]

- 2.2.1 Outline the detrimental effect of soil erosion in South Africa with reference to the paragraph above. (5)
- 2.2.2 Name FOUR main conditions in soil that will make it more susceptible to soil erosion and will require special care and prevention by the farmer. (4)

2.3 An agricultural soil survey company has visited your farm to discuss the possibility of doing a soil survey and replanning of your farm.

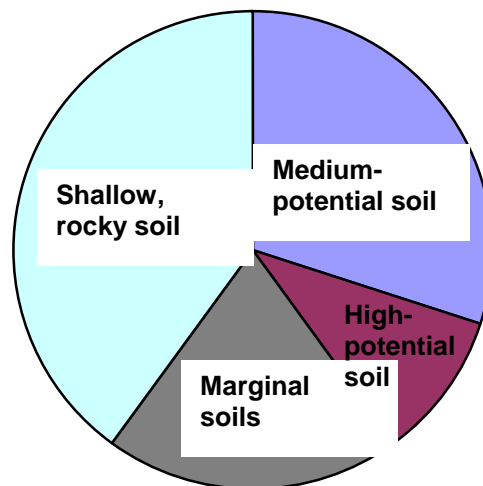
2.3.1 Give TWO reasons why you as a farm owner would consider going ahead with this proposal. (2)

2.3.2 Name SIX products from a soil survey process that you as a farmer could utilise to improve your management. (6)

2.4 An emerging farmer attended a meeting on precision farming. The farmer was very impressed with the monitoring and other advanced technological practices used in precision farming.

Name FOUR different aspects of the crop production process that a precision farmer could monitor and briefly explain how each of these aspects is carefully measured in practice. (8)

2.5 Mr Jones is a successful commercial farmer. He wants to optimise his farm's production. The pie chart below shows the different types of soil on the farm, as well as the possible utilisation enterprises that Mr Jones can consider.



Possible utilisation enterprises:

- Legume pastures
- Natural pastures
- Planted pastures
- Orchards
- Field crops

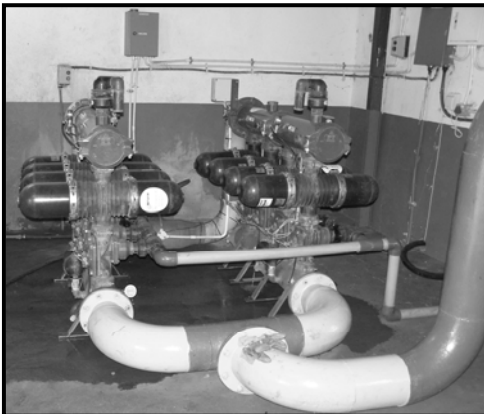
2.5.1 Indicate the section of soil on this farm that would be used for natural pastures. Explain your answer. (2)

2.5.2 Identify the possible utilisation enterprise listed above that Mr Jones could use on the high-potential soil. (2)

2.5.3 Justify the utilisation of the planted pasture on the marginal soils. (2)

- 2.5.4 Name ONE production enterprise that Mr Jones practises on this farm apart from those in the list. Motivate your answer. (2)
- 2.6 A farmer already implements the basic conditions to improve the productivity of the farm's labourers, like planning, supervision, effective mechanisation and to better their living conditions. Judge the management principle utilised by this farmer in each of the following actions that was taken to improve the productivity of the labourers even further:
- 2.6.1 Installation of a circuit surveillance camera at the production unit (1)
- 2.6.2 Acquisition of a feed mixer that works on the power take-off (PTO) of a tractor (1)
- 2.6.3 Give each worker a detailed job description and budget for the year. (1)
- 2.6.4 Encourage workers to report for scripture reading and prayer at the beginning of each day. (1)
- 2.6.5 Appoint teams with leaders to do different tasks. (1)
- 2.7 A crop farmer has centre-pivot irrigation systems on his/her farm. On some equipment used on a farm there is normal wear and tear. This equipment needs to be replaced by the farmer from time to time.

State FOUR principles that this farmer must take into consideration before replacing equipment or when doing mechanisation planning.



(4)
[50]

Start this question on a NEW page.

QUESTION 3: RECORD-KEEPING, FINANCIAL STATEMENTS AND ENTREPRENEURSHIP

3.1 Complete the stock record sheet below by using the following data:

Opening stock on 31 January 2009

- 300 female animals
- 12 male animals
- 280 young animals (130 females and 150 males)

The following stock movements took place from January until the end of May:

DATE	ACTION
10/03/2009	Sell half of the young males
25/03/2009	Sell the weakest 20% of the young females
25/04/2009	Sell the last of the young males
05/05/2009	27 animals (15 females and 12 males) are born
13/05/2009	40 animals (30 females and 10 males) are born
21/05/2009	80 females and 50 males are born and 7 were stolen
28/05/2009	30 twins are born of which 40% are males

The table below represents an incomplete stock record sheet. Complete the missing entries A to I, based on the information above.

DATE	NUMBER OF MALES	NUMBER OF FEMALES	NUMBER OF YOUNG MALES	NUMBER OF YOUNG FEMALES	TOTAL NUMBER OF ANIMALS
31/01/2009	10	300	150	130	590
10/03/2009	10		A		
25/03/2009	10		B	F	
25/04/2009	10			G	
05/05/2009	10		10	15	439
13/05/2009	10		C		
21/05/2009	10		D		
28/05/2009	10		E	H	I

(1)

(2)

(1)

(1)

(1)

(4)

3.2 Using the table below, explain the characteristics of the different types of capital, in other words long-term, medium-term and short-term capital. Write down the answer next to the question number (3.2.1 – 3.2.10) in the ANSWER BOOK.

TYPE	SOURCE	USE	PERIOD	TERMS OF PAYING THE LOAN/SECURITY
Long-term capital	3.2.1	<ul style="list-style-type: none"> • Buy land, fences, buildings, irrigation schemes • Orchards 	3.2.2	3.2.3
Medium-term capital	3.2.4	3.2.5	Periods of 1 year up to 5 years	3.2.6
Short-term capital	3.2.7	3.2.8	3.2.9	3.2.10

(10 x 1) (10)

3.3 Depreciation causes the value of an asset to decrease over time. Suppose a farmer buys a new tractor for R800 000. He estimates that it will be used for ten years and be sold for R80 000 after this period.

3.3.1 Calculate the average depreciation value for this tractor per year by using the data above. (3)

3.3.2 Briefly explain the reason for including a depreciation value into the account books for the farm. (2)

3.4 Read the success story of Jappie's business below and answer the questions that follow.

Jappie says: "I started cleaning the fields just to sustain myself." In April 2003 Jappie bought 100 laying hens. It was expensive for him to start out. "My big break came when I started supplying egg yolk to cellars where it was used in the purification of wines. At that stage I bought another 400 chickens. I still supply those customers today and have expanded our production to 4 000 laying hens."

3.4.1 Define the term *entrepreneur*. (3)

3.4.2 Deduce from the paragraph above the characteristics of Jappie that would classify him as an entrepreneur. (3)

3.4.3 Identify THREE possible byproducts that Jappie also produces in his enterprise that he could sell for an income. (3)

- 3.5 In the day-to-day management of a farm, effective communication is one of the priorities.

Name THREE methods of communication that the farmer can utilise to communicate with the labour force on the farm or other business partners. (3)

- 3.6 Read the passage below and answer the questions that follow.

SEDA (Small Enterprise Development Agency) recognises emerging farmers. SEDA was set up by the Department of Trade and Industry in December 2004. Twenty-six farmers from Gauteng and North West graduated from the first training course in the SEDA market access training programme for emerging farmers. The picture below depicts this project initiated for emerging farmers.



[Source: www.labour.gov.za]

- 3.6.1 Indicate the importance of establishing SEDA in South Africa. (2)

- 3.6.2 Name THREE skills SEDA would focus on in their training to effectively empower their students to become successful small-scale farmers. (3)

- 3.7 Farmers have to improve performance on their farms with human resources development. Farm management should acquire, train, develop and maintain people in order to ensure that the work is done more efficiently.

Briefly explain the meaning of the following human resources development aspects:

- 3.7.1 Training and development (2)

- 3.7.2 Achievement evaluation (2)

- 3.8 Starting a business requires the maximum utilisation of all your talents, knowledge, skills, experience and constructive planning. Explain how a business plan can be used in a farming venture.

(4)
[50]

Start this question on a NEW page.

QUESTION 4: HARVESTING, VALUE-ADDING, MARKETING, AGRITOURISM AND INDUSTRY

- 4.1 HIV/Aids has a tremendous impact on all sectors of the South African economy. The country's Department of Health estimated that 18,3% of adults between the ages of 15 and 49 years were HIV positive in 2006. HIV/Aids attacks the body's natural defences, leaving a person vulnerable to infectious diseases.

Discuss the impact of HIV/Aids on the agricultural industry. (4)

- 4.2 Producer groups play a key role in shaping the future of agriculture and rural development. Crop and livestock producers in many countries participate in marketing assessment programmes. That allows them to benefit from various types of value-added activities by capturing or retaining more of the profits from their product.

Name FIVE advantages that a producer group could offer to benefit their members. (5)

- 4.3 Read the passage below and answer the question that follow.

The Directorate Agricultural Disaster Management of the Department of Agriculture has been actively involved in research regarding the effect of climate change on agriculture for a number of years. Climate change is the natural cycle of the earth and its atmosphere. Human intervention is causing the climate to change too rapidly and the frequency of natural disasters is likely to increase and impact on agriculture and water resources, affecting the farmer.

[Source: Anonymous 2008]

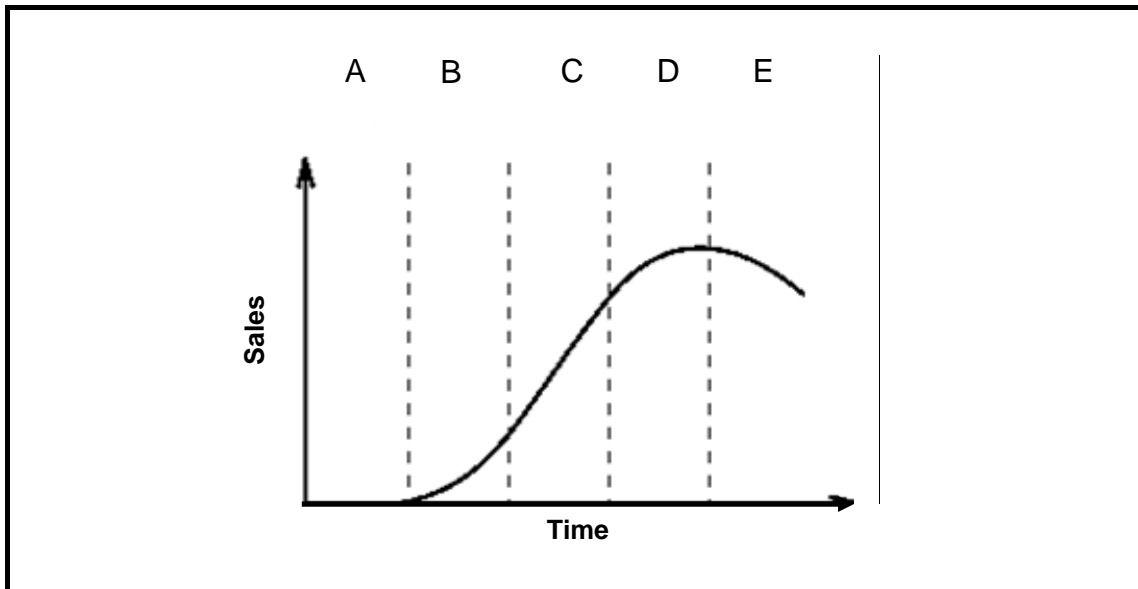
- 4.3.1 Name TWO natural disasters that could be directly related to the climate changes mentioned above. (2)

- 4.3.2 Briefly explain the increase in insurance costs caused by the disasters mentioned in QUESTION 4.3.1. (2)

- 4.3.3 Recommend TWO strategies, apart from insurance, that the farmer can implement on the farm to reduce the effects of the disasters mentioned in QUESTION 4.3.1. (2)

- 4.4 The product life cycle relates to the sales and profits of a product or service over a period of time. There are several distinct phases in the life of a product. It starts with the development and initial introduction, to its eventual removal from the market.

The following graph represents a product life cycle:



Outline each of the following stages in the life cycle of an agricultural product based on the above graph:

- 4.4.1 Development stage (2)
- 4.4.2 Introduction stage (2)
- 4.4.3 Growth stage (2)
- 4.4.4 Maturity stage (2)
- 4.4.5 Decline stage (2)
- 4.5 Read the case study below and answer the questions that follow:

Dali works at a farm stall in a rural part of the country. This stall has become very popular amongst travellers passing the farm stall, which is situated next to a national road. Dali knows that each customer is unique. She caters for their needs in the wide variety of products she has to offer. Her friendly and open personality also draws people to her.

- 4.5.1 Distinguish between the approaches Dali would have towards a regular customer and an undecided customer. (5)
- 4.5.2 The sales figures drastically increased since Dali took over from the previous manager of the farm stall.
- Identify TWO possible reasons for the increase in sales at this farm stall by referring to the case study above. (2)

4.6

AGRITOURISM

More and more farmers are considering an agricultural tourism business on their farms to increase their income. They have become very creative in marketing a farming experience to tourists.



[Source: *Farmer's Weekly*, June 2008]

4.6.1 Define the concept *agritourism*. (2)

4.6.2 Some emerging farmers are also realising the potential income that agritourism could offer them.

List FIVE benefits that agritourism could offer the emerging farmer. (5)

4.7 Most agricultural products are mainly used in the food industry. These products are mostly perishable.

Name FIVE measures that the government and food industry take to ensure that consumers receive safe, quality products for consumption. (5)

4.8 A group of farmers has decided to build a plant where different agricultural products can be dehydrated or dried. The dried products will then be sent to special markets.



4.8.1	Explain the meaning of <i>value-adding</i> to an agricultural product.	(2)
4.8.2	Drying is a method of value-adding. Indicate the benefits of drying products of animal and plant origin.	(4) [50]
	TOTAL SECTION B:	150
	GRAND TOTAL:	200

CENTRE NUMBER									
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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 x 2) (20)

QUESTION 1.3

- 1.3.1
- 1.3.2
- 1.3.3
- 1.3.4
- 1.3.5
- 1.3.6.....
- 1.3.7.....
- 1.3.8.....
- 1.3.9.....
- 1.3.10.....

(10 x 1) (10)

QUESTION 1.2

1.2.1	
1.2.2	
1.2.3	
1.2.4	
1.2.5	
1.2.6	
1.2.7	
1.2.8	
1.2.9	
1.2.10	

(10 x 2) (20)

TOTAL SECTION A: 50