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assessment matters

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TOTAL MARKS

NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2023

AGRICULTURAL MANAGEMENT PRACTICES

EXAMINATION NUMBER

Time: 3 hours

200 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This question paper consists of 24 pages. Please check that your question paper is complete.
2. This question paper consists of TWO sections.
3. Answer ALL questions.
4. **Answer all the questions ON this question paper and hand it in at the end of the examination. Remember to write your examination number in the space provided above.**
5. Read all the questions carefully and make sure that you answer only what is being asked.
6. Non-programmable calculators may be used.
7. ALL calculations must be rounded off to TWO decimal places unless stated otherwise.
8. It is in your best interests to write legibly and to present your work neatly.
9. TWO blank pages (pages 23 and 24) are included at the end of the question paper. Use these pages if you run out of space for a question. Clearly indicate the number of your answer should you use this extra space.

Mark allocation

QUESTION 1	QUESTION 2	QUESTION 3	QUESTION 4	TOTAL
50	50	50	50	/200

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SECTION A

QUESTION 1

1.1 Various options are provided as possible answers to the following questions. Choose the correct answer and write down the letter (A–D) that corresponds to your answer in the space provided at the end of the question on page 3.

1.1.1 In the process of … light energy is converted by green plants into chemical energy that can be used as food.

A respiration
B transpiration
C photosynthesis
D hydrolysis (2)

1.1.2 An example of non-direct productive capital is …

A land.
B vehicles.
C orchards.
D livestock. (2)

1.1.3 Examples of … data are, among other things, Google Maps and Google Earth which make information available to the user.

A climatological
B soil
C geographical
D spatial (2)

1.1.4 The farming business strategy that focuses on only one product is known as …

A specialisation.
B diversification.
C hedging.
D crop rotation. (2)

1.1.5 The … is normally used to determine the expiry date of a processed agricultural product.

A harvesting date
B planting date
C value-adding date
D marketing date (2)

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1.1.6 The formula that is used to calculate the break-even point is …

A $\dfrac{\text{Price}}{\text{Fixed cost} - \text{Variable cost}}$

B $\dfrac{\text{Fixed cost}}{\text{Price} - \text{Variable cost}}$

C $\dfrac{\text{Variable cost}}{\text{Price} - \text{Fixed cost}}$

D $\dfrac{\text{Price}}{\text{Demand} - \text{Supply}}$ (2)

1.1.7 The … soil structure is regarded as the most ideal soil structure.

A single-grain
B blocky
C platy
D crumbly/spheroidal (2)

1.1.8 Which one of the following is NOT part of the marketing mix?

A Potential
B Product
C Place
D Promotion (2)

1.1.9 The method where marketing takes place on a global scale and where global differences, similarities and opportunities are reconciled by making business decisions to achieve global objectives.

A Controlled marketing
B Free marketing
C International marketing
D Cooperative marketing (2)

1.1.10 The first step in the process to set standards is …

A training.
B planning.
C feedback.
D implementation. (2)

1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.1.7	1.1.8	1.1.9	1.1.10

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1.2 Choose a description from COLUMN B that matches a term from COLUMN A. Write down only the letter (A–J) of your choice in the space provided below the question.

COLUMN A	COLUMN B
1.2.1 Partial budget	A Displays the owner's equity, asset and liability accounts.
1.2.2 Capital budget	B Proof that money was paid into an account at the bank.
1.2.3 Balance sheet	C Physical stocktaking of all the assets on the farm.
1.2.4 Permanent worker	D Compares the expected income of two operations.
1.2.5 Seasonal worker	E The processing of a primary product into an edible product.
1.2.6 Cash register slip	F The preservation of a product for short periods of time to slow down its rapid deterioration.
1.2.7 Deposit slip	G Intended spending on fixed assets.
1.2.8 Inventory	H To record cash sales of merchandise.
1.2.9 Processing	I Labourer working on the farm only during the harvesting season.
1.2.10 Preservation	J Labourer employed by the farmer throughout the year.

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

(20)

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1.3 Give the correct agricultural term for each of the following descriptions. Write down only the correct term, for example 1.3.11 Oxidation.

1.3.1 The process to progressively develop pasture from pioneer veld to climax veld in all the different plant communities.

_____ (1)

1.3.2 The method used in the canning and freezing of vegetables to eliminate enzyme systems, while microbes are also reduced.

_____ (1)

1.3.3 These steps are taken against a worker to maintain good order and efficient performance.

_____ (1)

1.3.4 The type of production system where a crop component is kept together with a livestock component.

_____ (1)

1.3.5 Intensive farming where food is produced using nutrient-rich solutions and media rather than soil.

_____ (1)

1.3.6 A very important concept referring to the different forms of visitors relating to agricultural activities and/or buildings with an agricultural function.

_____ (1)

1.3.7 The type of market where the marketing of a unique product focuses on a specific customer group.

_____ (1)

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1.3.8 The term that is used for the integration of social, economic and environmental factors with management to ensure that the farming enterprise will benefit current and future generations.

_____ (1)

1.3.9 The roads, electricity, housing and buildings that are needed for production to ensure the success of the farming enterprise.

_____ (1)

1.3.10 A short summary of information for the characterisation and purpose of the farming enterprise that describes 'who we are, what we do and for whom we do it'.

_____ (1)

50 marks

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SECTION B

QUESTION 2 RESOURCE UTILISATION, LAND USE AND FARMING SYSTEMS

2.1 Study the passage below and answer the questions that follow.

> Gathering information (data) is a very important step when you want to start a farming enterprise. Technological resources, financial information, the availability of water and labour, and data on the soil, climate and natural vegetation are imperative for the success of the intended enterprise.

2.1.1 Name TWO primary agricultural resources from the passage above.

(a) _____

(b) _____

(2)

2.1.2 List THREE secondary agricultural resources from the passage above.

(a) _____

(b) _____

(c) _____

(3)

2.1.3 Give the term that best describes the type of data that the young farmer needs.

(a) The type of soil data (physical property) that refers to the arrangement of the aggregates in the soil in relation to one another.

_____

(1)

(b) The type of soil data (chemical property) that indicates that there are too many H ions in the soil.

_____

(1)

(c) The type of soil data that refers to the inherent behaviour of soil and is essential for determining the suitability of the soil.

_____

(1)

(d) The type of data that indicates the height above sea level and the slope of the area.

_____

(1)

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2.2 Natural veld is one of the most important and most valuable resources in animal production, because it is the most economic source of animal feed and sometimes the only source of food for ruminants. The productivity of South Africa's pastures is deteriorating owing to, among other things, desertification and bush encroachment. Various factors also contribute to the global problem of the loss of soil or soil degradation.

2.2.1 Give the main reason for the deterioration of natural pastures for animals.

_____

(1)

2.2.2 Briefly discuss FOUR reasons why the efficiency of natural pastures can be increased by using a camp system in animal production.

(a) _____

_____

(b) _____

_____

(c) _____

_____

(d) _____

_____

(4)

2.2.3 Compare sour veld with sweet veld in terms of the following properties:

(a) Rainfall area in which they occur: _____

_____

(2)

(b) Soil texture on which they occur: _____

_____

(2)

(c) Palatability in the mature stage: _____

_____

(2)

(d) Carrying capacity: _____

_____

(2)

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2.2.4 Provide FOUR factors or reasons resulting in loss of soil or soil degradation.

(a) _____

(b) _____

(c) _____

(d) _____

(4)

2.3 Animal traction may play an important role in the agricultural industry. Study the pictures below and then answer the questions that follow.

PICTURE A

PICTURE B

PICTURE C

PICTURE D

2.3.1 Give a suitable caption for Picture A.

_____

(1)

2.3.2 What farming activity is carried out in Picture B?

_____

(1)

2.3.3 Is the activity in Picture B an example of a primary or secondary cultivation implement?

_____

(1)

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2.3.4 Is the farming activities in Picture D an example of the primary, secondary or tertiary agricultural sector?

_____

(1)

2.3.5 Name ONE visible reason for, or advantage of, using animal traction in Picture C.

_____

(1)

2.3.6 Give ONE example with an explanation of why a commercial farmer would use animal traction (excluding the advantage mentioned in Question 2.3.5).

Example: _____

Explanation: _____

_____

_____

(2)

2.3.7 Explain why it is said that animal traction is very important for emerging and subsistence farmers during the production process.

_____

_____

_____

_____

_____

_____

_____

_____

(6)

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2.4 Intensive, extensive and semi-intensive are farming methods.

2.4.1 Briefly explain FOUR factors determining the choice of the farming method.

(a) _____

(b) _____

(c) _____

(d) _____

(4)

2.4.2 Match the following statements with a farming method and write down only the correct farming method after the description.

(a) Small inputs of fertiliser are needed.

_____

(1)

(b) The nomadic care for livestock is an example.

_____

(1)

(c) Animals receive a balanced ration.

_____

(1)

(d) High density of animals per area.

_____

(1)

(e) The production cost is low.

_____

(1)

(f) Diseases occur more commonly.

_____

(1)

(g) Very labour intensive.

_____

(1)

[50]

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QUESTION 3 FARM MANAGEMENT, BUSINESS PLAN, ENTREPRENEURSHIP AND MARKETING

3.1 A business plan is a document that farmers or entrepreneurs compile for the purpose of organising their business idea which would contribute to the success of the farming enterprise.

3.1.1 Provide a term for each of the sections described below to indicate the format and layout of a business plan.

(a) This section indicates the name and contact details of the enterprise.

_____ (1)

(b) This section describes the manufacturing or functioning of the product.

_____ (1)

(c) This section describes the competition, target market and promotion of the product.

_____ (1)

(d) This section describes the employees.

_____ (1)

3.1.2 Discuss and explain TWO reasons why a business plan should be reviewed frequently.

(a) _____

_____

(b) _____

_____ (2)

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3.2 Entrepreneurship

3.2.1 The farmer or entrepreneur faces new challenges as the demand for food production is increasing all the time, while the amount of land available for production remains the same. Explain how diversification and diversity may ensure survival in the agricultural business world.

_____

_____

_____

_____

_____

_____

(6)

3.2.2 Study the following statement about the entrepreneurship process and then answer the questions that follow:

STATEMENT: 'The following are TWO of the four phases in the entrepreneurship process:

- Determine which resources are available or needed.
- Develop a business plan.'

Name the two missing phases and arrange the FOUR phases in the process in the correct order below.

Phase 1: _____

Phase 2: _____

Phase 3: _____

Phase 4: _____

(6)

3.2.3 Provide a detailed definition of an *entrepreneur*.

An entrepreneur _____

_____

_____

_____

(3)

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3.2.4 The application of various management functions is vital for the survival of an agricultural enterprise. Identify the management functions described below by the following statements:

(a) The analysis and grouping of farming activities and the determination of relationships between groups and individuals.

_____ (1)

(b) The effort to reconcile the needs of the individual with those of the organisation that results in optimal performance.

_____ (1)

(c) The purpose of the function is the timely identification and correction of any deviations or problems.

_____ (1)

(d) The function anticipates changes and requires early adjustments to limit inefficiencies within the farming activity.

_____ (1)

(e) The intellectual activity forming the centre of all management functions or management principles.

_____ (1)

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3.3 Marketing

3.3.1 Arrange the following statements regarding marketing in the correct order:

If a farmer gets the order wrong, his farming will not last long. Write down only the letters of the statements in the correct order.

(a) How am I going to finance the production process?
(b) How many products is the consumer going to buy?
(c) Who is going to buy the products?

Correct order: _____, _____, _____ (3)

3.3.2 Marketing legislation

Study the following statements regarding the marketing of agricultural products (numbered a, b and c).

Match each of the Acts below the statements (numbered i, ii and iii) with the statements.

Write down only the letter (a–c) next to the question numbers (i–iii).

(a) The purpose of this Act is to promote a fair, accessible and sustainable marketplace for consumer products and services.

(b) The purpose of this Act is to increase market access for all participants and to promote the viability of the agricultural sector.

(c) This Act controls the sale and export of certain agricultural products and some imported products.

(i) Marketing of Agricultural Products Act (Act 47 of 1996).

_____ (1)

(ii) Consumer Protection Act (Act 68 of 2008).

_____ (1)

(iii) Agricultural Product Standards Act (Act 119 of 1990).

_____ (1)

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3.3.3 List FOUR factors determining the demand for products by the consumer.

(a) _____

(b) _____

(c) _____

(d) _____

(4)

3.3.4 Study the information on the production of maize in South Africa from 2017 to 2021 below and then answer the questions that follow.

	2017	**2018**	**2019**	**2020**	**2021**
Price	1 690,00	1 105,00	1 695,00	2 150,00	2 790,00
Supply of a product (million tons)	12,90	10,80	13,60	13,90	15,50
Rainfall (mm/year)	750	500	760	800	880
Demand for a product (million tons)	13,80	14,40	13,70	11,40	11,00

(a) Using the information in the table above, draw a bar graph to show the supply and demand of maize from 2017 to 2021.

(6)

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(b) During which year did the buyers want to buy as much as possible?

_____

(1)

(c) During which year did the sellers want to sell as much as possible?

_____

(1)

(d) Study the graph that you have drawn and then derive from the graph the general trend in the relationship between the supply and demand of the product from 2019 to 2021.

_____

_____

_____

_____

(2)

(e) Use an example from the table above to substantiate that the price of the product has an effect on the supply of the product.

_____

_____

_____

_____

(2)

(f) Explain (except for the price) why the supply of maize did not maintain the same trend from 2017 to 2021.

_____

_____

_____

_____

(2)

[50]

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QUESTION 4 FINANCIAL PLANNING, RECORD KEEPING AND ADDING VALUE

4.1 Analyse the statement below and recommend which types of records a stock farmer should keep to be successful.

> 'Stock producers should do everything possible to produce maximally by using precision farming practices. An example is keeping production records. However, it is clear that most stock producers have not yet grasped this principle. Only 15% of all dairy cattle is included in milk records, 5% of all meat cattle is recorded for production, while records on small stock are almost not worth mentioning in relation to the total small stock industry.'

(a) _____

(b) _____

(c) _____

(d) _____

(4)

4.2 Study the information below and then answer the questions that follow.

> Farm bookkeeping involves preparing budgets, trial balances, balance sheets, journal entries, source documents (business transactions) and ledger entries.
>
> The table below is an example of bookkeeping and contains information on the assets and liabilities of a farm.

	ASSETS AND LIABILITIES	VALUE (R)
A	Combine harvester loan	R2 800 000
B	Cash	R80 000
C	Value of farm buildings	R3 200 000
D	Bank overdraft	R220 000
E	Mortgage loan	R4 900 000
F	Value of farm	R3 150 000
G	Implements on farm	R1 650 000
H	Value of vehicles	R680 000
I	Livestock on farm	R390 000
J	Cooperative account	R210 000

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4.2.1 Complete the example of a balance sheet below by filling in the asset and liability items from the table above together with their values.

Asset items	Value	Liability items	Value
		SUBTOTAL	
		NET CAPITAL	
TOTAL		TOTAL	

(6)

4.2.2 Calculate the net value of the farm above by using the appropriate formula.

(4)

4.2.3 Analyse the profitability and the viability of the farm above by referring to your answer in Question 4.2.2.

(3)

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4.2.4 To calculate the profitability, the owner must be able to interpret the details contained in the financial statements. By interpreting the details in the statements, the owner can determine the liquidity and solvency of an enterprise.

Fully explain the meaning of the terms below.

(a) Liquidity: _____

_____

_____

(2)

(b) Solvency: _____

_____

_____

(2)

4.3 Study the following statements regarding marketing functions. In each of the following cases/examples, provide the marketing function:

4.3.1 Carrots are kept in a cool place between 1 °C and 5 °C.

_____

(1)

4.3.2 Tomatoes are put in wooden boxes to prevent bruising.

_____

(1)

4.3.3 The distribution of cauliflower from the farm to the consumer.

_____

(1)

4.3.4 The assistance of banks to help the farmer with the cost of marketing for fruit.

_____

(1)

4.3.5 Finding buyers, the transfer of ownership and determining price.

_____

(1)

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4.4 Food can be protected if microorganisms are killed or if their growth is slowed down.

4.4.1 Provide FOUR favourable growth conditions for microorganisms to increase.

* _____

* _____

* _____

* _____

(4)

4.4.2 From the following table, select the relevant method to protect food from decay as a result of microorganisms:

PASTEURISATION	STERILISATION	FILTRATION
RADIATION	FERMENTATION	SMOKING

(a) This method is usually applied to processed meat products to reduce the water content of the product by 40%. The drying that accompanies the method also has inhibiting effects.

_____ (1)

(b) This method uses UV rays that have almost no penetrating capacity and sterilise only the surface of food.

_____ (1)

(c) This method is mainly used on liquid food products such as fruit juices and mainly eliminates pathogenic microorganisms, while certain enzyme systems are also destroyed.

_____ (1)

(d) The method involves processing the product at high temperatures and for long periods of time so that not a single living organism is present in the product.

_____ (1)

(e) This method causes lactose to change into lactic acid which causes milk to solidify so that cheese can be made.

_____ (1)

(f) The method is used to make suspensions clear and to remove microorganisms.

_____ (1)

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4.5 Common unit processes within food processing include cleaning, covering, mixing, packaging, etc. Packaging is one of the few unit processes that are applicable to all types of food.

Explain FOUR reasons for, or advantages of, the packaging of food.

* _____

* _____

* _____

* _____

(4)

4.6 The harvest of products is a critical and very important time on the farm. Various factors should be taken into account in planning the harvesting process.

4.6.1 List FOUR factors that a farmer should take into account during pre-harvest planning of a crop.

* _____

* _____

* _____

* _____

(4)

4.6.2 Provide THREE advantages and THREE disadvantages of mechanically harvesting tomatoes.

Advantages:

* _____

* _____

* _____

Disadvantages:

* _____

* _____

* _____

(6)
[50]

150 marks

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Total: 200 marks

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ADDITIONAL SPACE (ALL QUESTIONS)

REMEMBER TO CLEARLY INDICATE AT THE QUESTION THAT YOU USED THE ADDITIONAL SPACE TO ENSURE THAT ALL ANSWERS ARE MARKED.

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