basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

AGRICULTURAL MANAGEMENT PRACTICES

NOVEMBER 2024

MARKS: 200

TIME: 3 hours

This question paper consists of 17 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO sections.
2. Answer ALL the questions in the ANSWER BOOK.
3. Read the questions carefully and answer ONLY what has been asked.
4. Number the answers correctly according to the numbering system used in this question paper.
5. You may use a non-programmable calculator.
6. Show ALL steps in the calculations.
7. Start EACH question on a NEW page.
8. Write neatly and legibly.

SECTION A

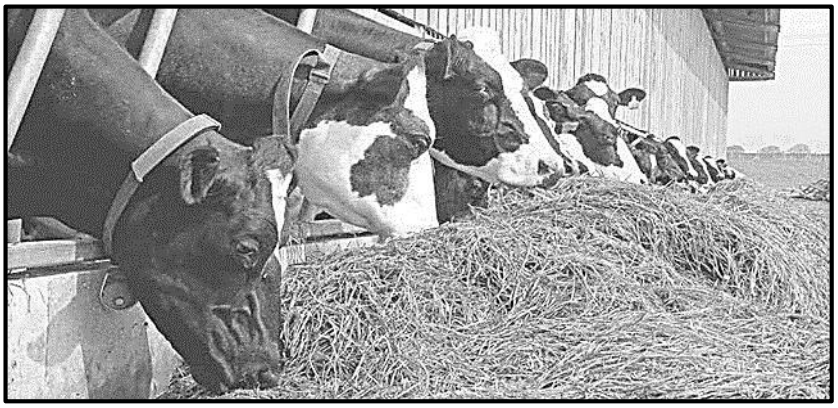
QUESTION 1

1.1 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (1.1.1 to 1.1.10) in the ANSWER BOOK, e.g. 1.1.11 D.

1.1.1 A problem associated with shallow soils is …

A erosion.
B leaching.
C waterlogging.
D nutrient deficiency.

1.1.2 The picture below shows an example of … grazing.



A selective
B zero
C rotational
D continuous

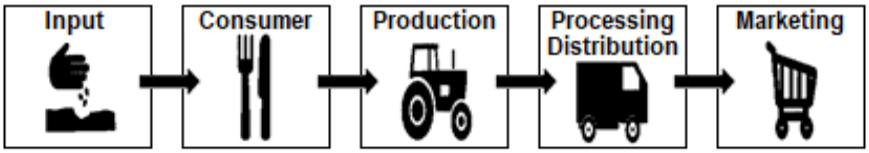
1.1.3 A physical characteristic of soil that cannot be changed through soil improvement measures is soil …

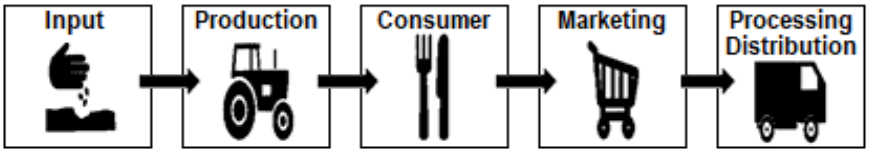
A drainage.
B texture.
C nutrient content.
D structure.

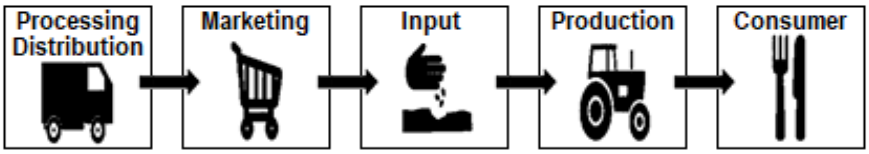
1.1.4 The grouping of agricultural products according to quality specifications:

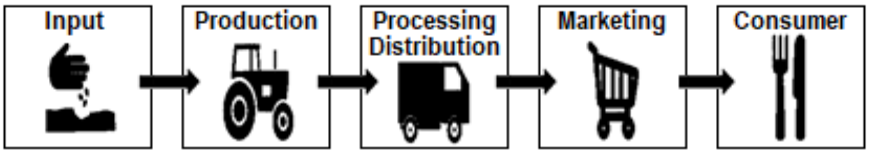
A Sorting
B Standardisation
C Processing
D Preservation

1.1.5 Choose the marketing chain shown below that applies to most agricultural products:

A 

B 

C 

D 

1.1.6 A permanent worker …

A is employed to perform shearing and wool-classing duties during the annual sheep shearing.
B is employed to build a new shed and then leaves the farm.
C is responsible for daily feeding of cattle and sheep.
D assists with the maintenance of farm equipment at a business in town.

1.1.7 ONE of the following is NOT a function of agricultural marketing:

A Fertilisation
B Advertising
C Transport
D Processing

1.1.8 The budget that indicates the possible expenditure to repair tractors and machinery for the next season:

A Labour budget
B Maintenance budget
C Fixed capital expansion budget
D Break-even budget

1.1.9 Debtors are described as …

A people that the business must pay.
B all the money received by the business.
C people that must pay money to the business.
D all the money that the business pays to obtain inputs.

1.1.10 Weighing animals before marketing will be part of the … records.

A production
B maintenance
C labour
D climate (10 x 2) (20)

1.2 Choose a description from COLUMN B that matches a term/phrase in COLUMN A. Write only the letter (A–L) next to the question numbers (1.2.1 to 1.2.10) in the ANSWER BOOK, e.g. 1.2.11 M. Use each description in COLUMN B only ONCE.

COLUMN A		COLUMN B	
1.2.1	Surplus	A	the most economical source of animal feed
1.2.2	Natural grazing	B	the conversation a farmer has with a labourer who damaged equipment
1.2.3	Movable capital	C	includes the money spent on occasional workers, animal feed, fertiliser and seed
1.2.4	Variable cost	D	obtaining land is an example
1.2.5	Promotion	E	an excessive number of products or goods available on the market
1.2.6	Disciplinary action	F	regulates the process of making yoghurt
1.2.7	Secondary processing	G	encourages consumers to buy a product
1.2.8	Ingredients	H	must be in the order from most used to least used
1.2.9	Dairy Industry Act, 1961 (Act 30 of 1961)	I	baking bread at a bakery is an example
1.2.10	Combining	J	livestock is an example
		K	milling of a raw product
		L	process to make products like chutney and salads

(10 x 2) (20)

1.3 Give the CORRECT agricultural term for each of the following descriptions. Write only the term next to the question numbers (1.3.1 to 1.3.5) in the ANSWER BOOK, e.g. 1.3.6 Recording.

1.3.1 The primary source of fresh water in South Africa

1.3.2 The process to determine the suitability of soil for agricultural and non-agricultural purposes

1.3.3 The type of marketing the farmer does at the place where the product is produced

1.3.4 Concept used to keep products on a farm after harvesting before taking it to the market

1.3.5 The financial statement used to indicate the profit of an enterprise (5 x 1) (5)

1.4 Change the UNDERLINED WORD to make the following statements CORRECT. Write your answer next to the question numbers (1.4.1 to 1.4.5) in the ANSWER BOOK, e.g. 1.4.6 Fixed capital.

1.4.1 <u>Layers</u> is the covering of cultivated soil with materials, such as grass or leaves.

1.4.2 <u>Quality</u> determination is the process used to determine the cost of a product or service that consumers are willing to pay.

1.4.3 Conflicting tasks between different farming branches are eliminated through <u>motivation</u>.

1.4.4 <u>Drying</u> is used during the processing of milk and barley to form products such as cheese and beer.

1.4.5 The <u>value</u> is an important part of a source document to indicate the age of an implement. (5 x 1) (5)

TOTAL SECTION A: 50

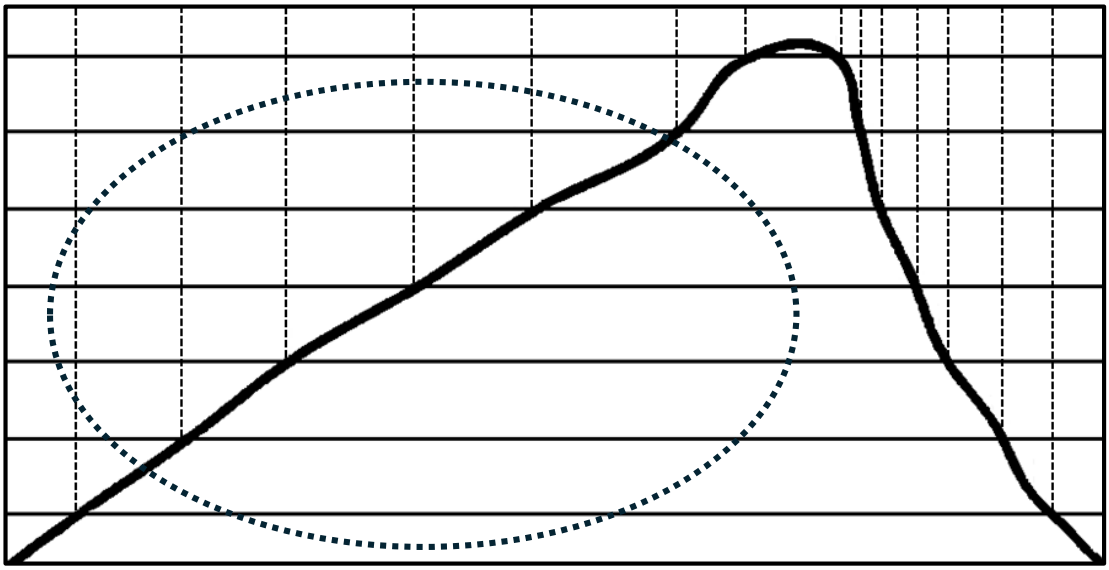
SECTION B

QUESTION 2: PHYSICAL FARM PLANNING

Start this question on a NEW page.

2.1 A farm has an area for crop production with a slope, as indicated in the diagram below.

PROJECTION OF SLOPE FOR THE AREA



2.1.1 Describe the slope of the area and its usefulness for crop production. (2)

2.1.2 State TWO measures that the farmer could use to improve the usefulness of this area for crop production. (2)

2.2 Soil properties have an influence on the soil quality.

2.2.1 State TWO farming practices that farmers can apply to improve soil health and conservation. (2)

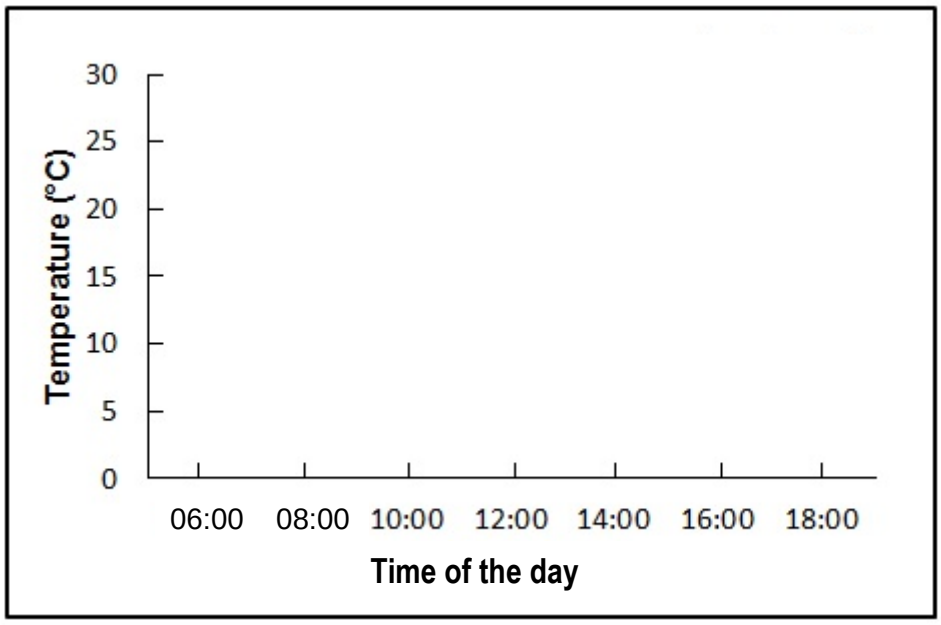
2.2.2 Describe the properties of a single-grain structure soil. (2)

2.2.3 Explain the effect of a block-like structure on the tillability of soils. (2)

2.3 The table below shows the soil temperature readings at two different depths measured from 06:00 up to 18:00.

TIME	TEMPERATURE READINGS	
	ON THE SURFACE (°C)	20 cm DEPTH (°C)
06:00	8	4
08:00	10	4
10:00	14	5
12:00	21	12
14:00	27	16
16:00	24	18
18:00	19	16

2.3.1 Use the axis system provided below to draw a complete double-bar graph showing the soil temperature readings at the surface and at 20 cm deep.



(4)

2.3.2 Briefly describe your observations about the trend of the temperature on the soil surface. (1)

2.3.3 State TWO ways to reduce the trend described in QUESTION 2.3.2. (2)

2.3.4 Deduce the optimum time range for plant growth. (2)

2.4 A farmer noticed that one of the workers in the food processing plant started coughing a lot. As a precautionary measure, the farmer moved the worker to do maintenance outside the processing plant. The farmer needs confirmation from a professional health practitioner on the health condition of this worker.

2.4.1 Evaluate the action taken by the farmer with regard to this worker. Justify your answer. (2)

2.4.2 Name a contagious disease, associated with coughing, that can be transmitted through raw food products. (1)

2.4.3 After a period of recovery, the health practitioner declares the worker healthy, but with a positive HIV status. Will this worker need to be excluded from the food processing plant? Give a reason for your answer. (2)

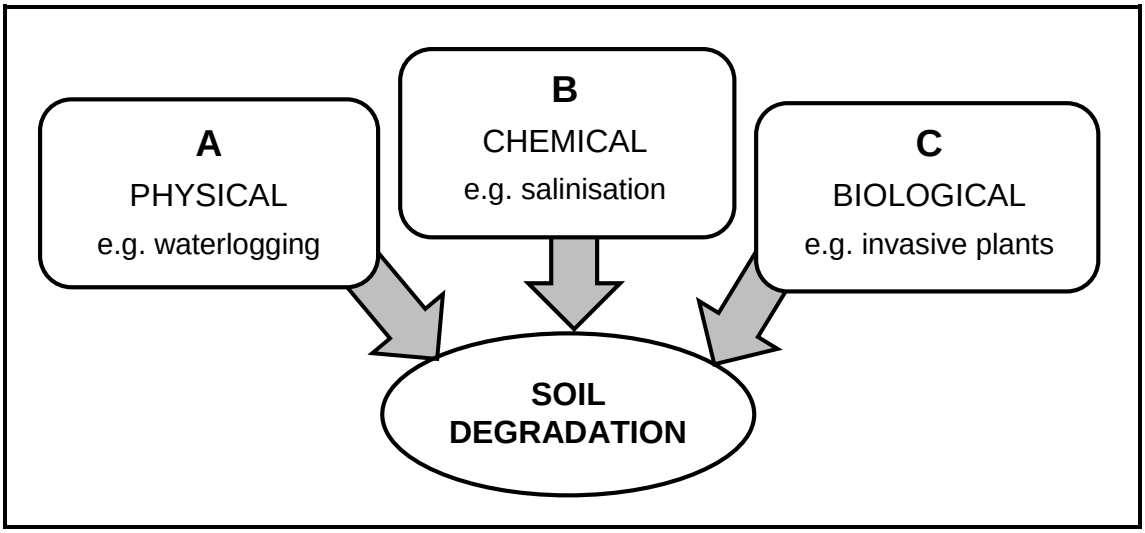
2.5 Name important factors that a bank will consider before approving a credit request from a farmer. (2)

2.6 A veld produces 4 200 kg feed per day with a grazing lost factor (trampling factor) of 0,4. The farmer knows that one head of cattle requires 10,55 kg feed per day.

2.6.1 Calculate the available feed for the cattle. (3)

2.6.2 Calculate the number of cattle that the farmer can keep on this veld without affecting the condition of the veld negatively. (3)

2.7 The diagram below shows three types of soil degradation.



2.7.1 Give other examples of soil degradation represented by the letters **A**, **B** and **C** in the diagram above. (3)

2.7.2 Name TWO agricultural practices that cause soil degradation. (2)

2.7.3 Recommend TWO control measures that can be implemented to reduce surface water run-off in arable lands. (2)

2.8 The technologically advanced farmer uses the global positioning system (GPS) installed on a tractor to pinpoint the exact location of planting. The farm machinery is equipped with a geographical information system (GIS), which shows the areas in the field where the soil is moist and where there are factors that limit growth.

2.8.1 Identify the intensive production method in the scenario above. (1)

2.8.2 Identify in the scenario the technological equipment that is used when planting crops. (2)

2.8.3 Discuss TWO factors that will determine the type of technology a farming enterprise would require to be more efficient. (4)

2.9 Agritourism became a necessity on farms to survive during times of uncertainty.

2.9.1 State TWO ways how farmers can market an agritourism enterprise. (2)

2.9.2 Indicate how agritourism can contribute to the overall value of the farming enterprise. (2)

[50]

QUESTION 3: BUSINESS PLANNING, ENTREPRENEURSHIP, MARKETING, PRICE DETERMINATION AND THE MANAGEMENT PROCESS

Start this question on a NEW page.

3.1 A business plan is a formal written document containing the long-term and short-term goals of a business, the methods for attaining these goals and the timeframe for the achievement of the goals.

3.1.1 Name the part of the statement above that refers to the mission statement of the farming enterprise. (1)

3.1.2 Name the part of the statement above that refers to the vision statement of the farming enterprise. (1)

3.1.3 Discuss the reasons why a farmer should develop a business plan. (4)

3.2 State the aspects that should be considered when collecting data as part of market research to determine the viability of a new farming enterprise. (3)

3.3 A grain farmer reads the following insert on the internet:

> Moringa is a perennial, drought-tolerant and resilient crop that can survive a wide range of environmental and climatic conditions. Considering the predicted climatic changes, which are likely to have adverse consequences for farming, Moringa can serve as a feasible alternative crop.
>
> The farmer decides to investigate the viability of planting Moringa trees. The farmer finds that Moringa leaves are highly nutritious and can be consumed every day, which proves to be highly beneficial for people who are lacking in essential nutrients. Moringa leaves can be eaten fresh, cooked or crushed, and can be stored as dried powder for several months without loss of nutritional value. Researchers are investigating Moringa as a treatment for cancer, asthma, cardiovascular disease, diabetes and other diseases.

3.3.1 Identify the characteristics of an entrepreneur that are evident in the scenario above. (3)

3.3.2 Motivate, from the scenario, why producing Moringa leaves can lead to an excellent value-adding opportunity for the farmer. (1)

3.3.3 Indicate if the risk-evasion strategy will be diversification or specialisation, should the farmer decide to plant Moringa trees. Motivate your answer. (2)

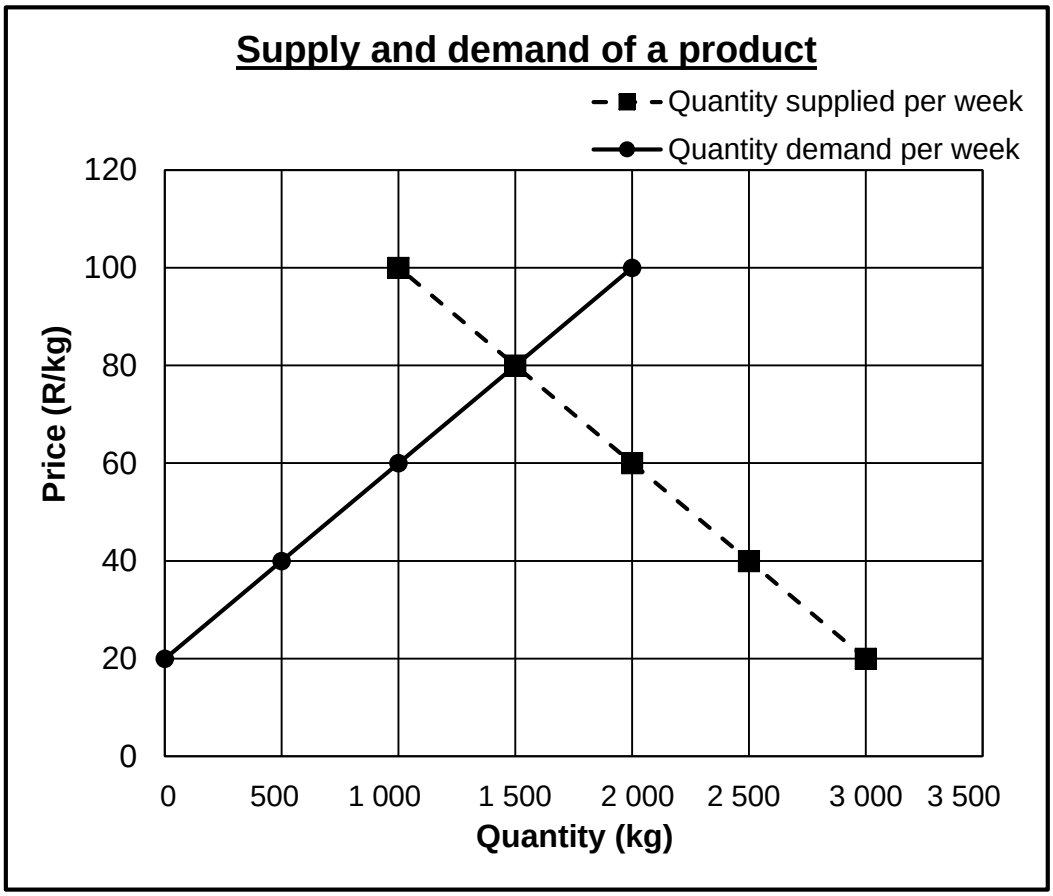
3.4 State THREE advantages of product specialisation on a farm. (3)

3.5 Name FOUR management principles. (4)

3.6 Give the advantages of a farmer belonging to a product organisation. (3)

3.7 Study the table and the graph below illustrating the supply and demand of a product produced on a farm.

PRICE (R/kg)	QUANTITY DEMAND PER WEEK (kg)	QUANTITY SUPPLIED PER WEEK (kg)	SURPLUS (kg)	SHORTAGE (kg)
20	3 000	0		3 000
40	2 500	500		2 000
60	2 000	1 000		1 000
80	1 500	1 500		0
100	1 000	2 000	1 000	



3.7.1 Determine the equilibrium price for the product from the graph. (2)

3.7.2 Explain the importance of the equilibrium price. (2)

3.7.3 Briefly explain the possible reasons for the shortage of the product in the market at specific times. (2)

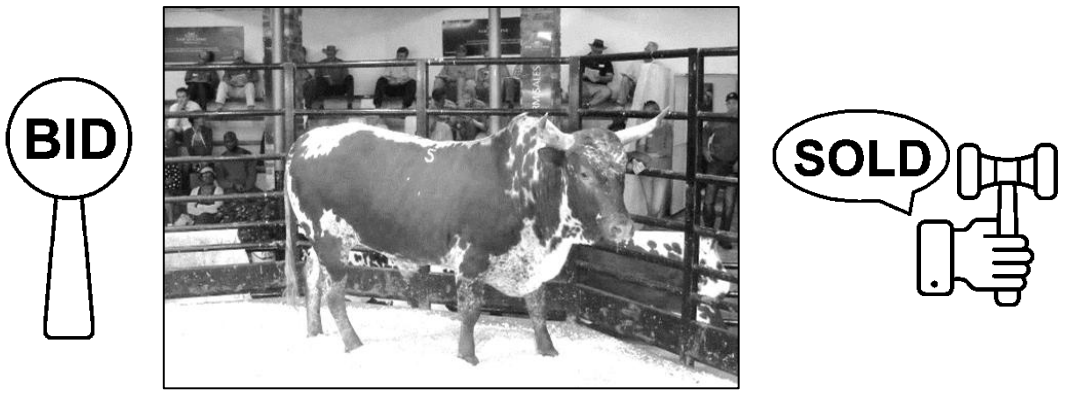
3.7.4 Suggest solutions that the farmer can use to deal with the problem of product shortages at certain times, as explained in QUESTION 3.7.3. (2)

3.8 Complete the following paragraph on the marketing chain by using the words in the list below. Write only the word next to the question numbers (3.8.1 to 3.8.5). Each word may only be used ONCE.

loss; competitors; lower; product; higher; profit; consumer

The marketing chain is the process that the farmer follows to get the (3.8.1) … from the farm to the (3.8.2) … The shorter the marketing chain, the (3.8.3) … the profit, provided you have a high-quality product. Consumers have a wide range of products to choose from, it is therefore important to have a better product than the (3.8.4) … Value can be added to products to increase (3.8.5) … and prolong shelf life. (5)

3.9 The picture below shows an animal that is marketed at a livestock auction.



3.9.1 Explain why a farmer would choose to buy livestock from an auction, instead of using internet marketing. (4)

3.9.2 The farmer bought the animal in the picture above for R50 000,00 at the auction. The cost of selling an animal at this auction is 5% of the selling price. Calculate the amount of money the seller will receive for the animal (ignore VAT). (4)

3.10 The picture below shows a farm worker that works only for the pre-harvesting period to spray pesticides.

3.10.1 Name the Act that requires the farmer to dress the worker in protective clothing when pesticides are sprayed. (1)

3.10.2 State if the worker is a seasonal worker or an occasional worker. Motivate your answer. (2)

3.10.3 State ONE way in which the protective clothing of the worker in the picture above can be improved. (1)
[50]

QUESTION 4: FINANCIAL PLANNING, RECORDKEEPING, HARVESTING, VALUE ADDING AND PACKAGING

Start this question on a NEW page.

4.1 Inputs form part of a whole farm budget.

4.1.1 Describe the term *whole farm budget*. (2)

4.1.2 Name the important aspects of inputs that the farmer must consider when compiling a budget. (3)

4.2 Explain the following concepts as used in the financial evaluation of a farm:

4.2.1 Gross profit (2)

4.2.2 Net profit (2)

4.3 Study the following financial statement and answer the questions that follow.

ASSETS	VALUE (R)	LIABALITIES	VALUE (R)
Harvested crops	292 000,00	NPK Fertilisers	156 000,00
Animal products	300 000,00	ABC Chemicals	675 000,00
Crop-processing machine	1 450 000,00	Maintenance and repairs	25 000,00
Balance in bank	218 000,00	Cooperative account	800 000,00
Livestock	802 000,00	Veterinary account	56 000,00
		Transport company	500 000,00
		Rent	500 000,00
		SUBTOTAL:	(b)
		NET WORTH:	(c)
TOTAL:	(a)	**TOTAL:**	(d)

4.3.1 Name the type of financial statement shown above. (1)

4.3.2 Calculate the values (a) to (d). (4)

4.3.3 Evaluate the growing potential of this farming enterprise. Give a reason for your answer. (3)

4.3.4 Give reasons why the value of the farm is not mentioned as an asset. (2)

4.4 Describe the type of mechanical records that a farmer will keep for a truck that transports products to the market. (4)

4.5 Name the source documents used by a livestock farmer to compile a financial statement. (4)

4.6 Indicate safety measures that a farmer must put in place when making electronic payments. (4)

4.7 Grading of animal products is important to obtain better prices. Name the aspects that are important when grading raw animal products. (4)

4.8 Discuss the disadvantages of processing agricultural products. (4)

4.9 Shape formation of packaging material differs between containers. Name aspects that influence the shape of packaging material for agricultural products. (3)

4.10 Give reasons for labelling an agricultural product. (4)

4.11 Describe the advantages of *good agricultural practices* during the processing of products. (4)
[50]

TOTAL SECTION B: 150
GRAND TOTAL: 200