



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

AGRICULTURAL MANAGEMENT PRACTICES

NOVEMBER 2014

MARKS: 200

TIME: 3 hours

This question paper consists of 14 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO sections.
2. Answer ALL the questions in the ANSWER BOOK.
3. Start EACH question on a NEW page.
4. Read the questions carefully and answer only what is asked.
5. Number the answers correctly according to the numbering system used in this question paper.
6. You may use a non-programmable calculator.
7. Round off ALL calculations to TWO decimal places, unless stated otherwise.
8. Write neatly and legibly.

SECTION A**QUESTION 1**

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

- 1.1.1 The type of soil that most likely contains large soil particles:
- A Clay soil
 - B Loam soil
 - C Sandy soil
 - D Clay loam soil
- 1.1.2 A physical characteristic of soil that a farmer CANNOT change by means of adding soil improvement substances:
- A Soil structure
 - B Soil texture
 - C Soil nutrient content
 - D Soil drainage
- 1.1.3 The document compiled by a farmer to plan for funds to be available for payments and expenditure or to apply for credit:
- A Cash Flow Statement
 - B Income Statement
 - C Trial Balance
 - D Budget
- 1.1.4 The climatic factors that will influence a natural production enterprise the most if there is an abnormal change in a particular season:
- (i) Temperature
 - (ii) Rainfall
 - (iii) Duration of daylight
- Choose the most appropriate combination for the statement above:
- A (i), (ii) and (iii)
 - B (i) and (ii)
 - C (i) and (iii)
 - D (ii) and (iii)
- 1.1.5 Produce on a field that is ready to be harvested is part of the ... on the Balance Sheet.
- A fixed costs
 - B variable costs
 - C assets
 - D liabilities

1.1.6 Which ONE of the following actions will be acceptable if a farmer pays by cheque?

- A Changing the date and signing next to the change.
- B Changing the numbers without changing the words.
- C Signing on behalf of your legal delegate.
- D Securing by writing the word 'non-transferable' across the cheque.

1.1.7 The information that is printed separately on the packaging of an agricultural product and not necessarily on the label:

- A Ingredients
- B Nutritional value
- C Expiry date
- D Producer's name

1.1.8 Before a farmer can start an agro-processing unit it is essential to ...

- A decide on the price of the product.
- B do market research on the product.
- C buy alternative land for processing.
- D invest on the stock exchange.

1.1.9 An important record for a livestock farmer with no crops or cultivated pasture, which will affect profitability if it is not controlled:

- A Feed record
- B Fertiliser record
- C Irrigation record
- D Crop-density record

1.1.10 Important aspects to consider when exporting farm produce:

- (i) The exchange rate of our currency
- (ii) The legislation of the importing country
- (iii) The time needed to transport the produce

Choose the most appropriate combination for the statement above.

- A (i) and (ii)
- B (i) and (iii)
- C (ii) and (iii)
- D (i), (ii) and (iii)

(10 x 2) (20)

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

COLUMN A		COLUMN B	
1.2.1	Soil sample	A	the number of animals kept per hectare without degrading the field
1.2.2	Rotational grazing	B	degradation of soil
1.2.3	Irrigation scheduling	C	value of a tractor for record purposes
1.2.4	Carrying capacity	D	a portion of soil obtained with a soil auger for analysis
1.2.5	Labour Tenants (Land Reform) Act	E	water plants only when it is necessary and using the correct amount
1.2.6	Calibration	F	game farming enterprise
1.2.7	Soil erosion	G	the total number of animals on a farm in a year
1.2.8	Grading	H	provides security for farm workers living on a farm
1.2.9	Agritourism	I	keeping animals in one camp for a certain period and then moving them to another camp
1.2.10	Entrepreneur	J	determining the fat content of a carcass
		K	setting of sprayers to deliver the correct amount of herbicide
		L	the person that creates job opportunities by starting a farming enterprise

(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 number (1.3.1–1.3.10) in the ANSWER BOOK, for example 1.3.11 Climate.

1.3.1 The ability of soils to retain water after rainfall or irrigation

1.3.2 The commercial farming system on a small piece of land that needs a large number of labourers and/or a lot of capital with a high output

1.3.3 A natural resource that occurs during a specific season and which is essential for every living organism

1.3.4 The document that is needed to apply for a loan at a bank and which contains the future development and budgets of a farming enterprise

1.3.5 The collective term for all the different documents that are needed to complete an Income Statement

1.3.6 The marketing system whereby a farmer can sell an agricultural product to any one at an agreed price

1.3.7 A farm worker who has received numerous certificates for different agricultural courses and who has a lot of experience

1.3.8 The money that you receive from a financial institution that is payable over a few years with interest

1.3.9 A processing method that removes any substances that cause turbidity in liquids

1.3.10 The management principle that limits wastage and loss on a farm

(10 x 1) (10)

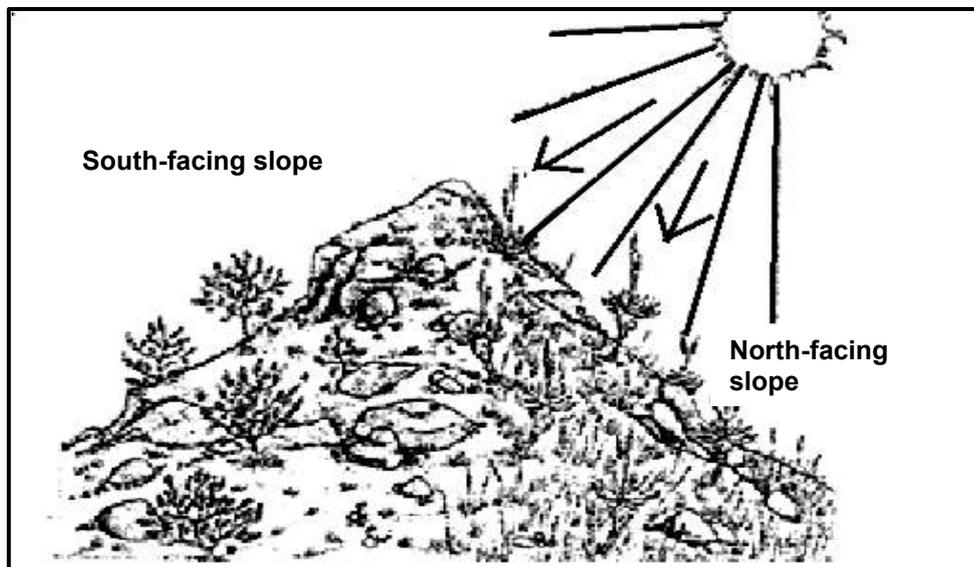
TOTAL SECTION A: 50

SECTION B**QUESTION 2: FARM PLANNING**

Start this question on a NEW page.

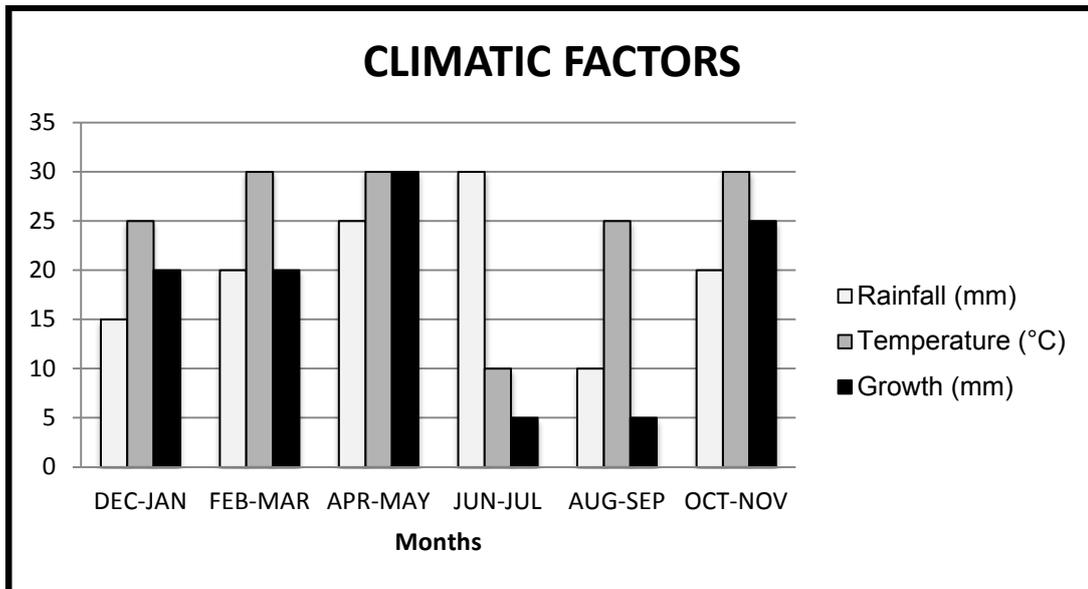
- 2.1 The Basic Conditions of Employment Act, 1997 (Act 75 of 1997) states that farm workers are entitled to leave. Name FOUR types of leave that a farm worker can take during the course of a year. (4)
- 2.2 Contours are used to prevent soil erosion on steep slopes. The incorrect establishment of contours increases the risk of soil erosion.
- 2.2.1 Define *soil erosion*. (2)
- 2.2.2 Describe *contour ploughing*. (1)
- 2.2.3 One of the advantages of contours is that the loss of agricultural resources is reduced. Briefly discuss this statement. (6)
- 2.3 Farming implements play an important role to increase productivity on a farm.
- 2.3.1 List the steps to follow in the decision-making process to acquire implements. (5)
- 2.3.2 Name TWO disadvantages of using implements. (2)
- 2.4 Give THREE important reasons why farm workers should sign a contract before assumption of duty. (3)
- 2.5 Compare conventional commercial farming systems and precision farming systems by referring to the following factors:
- 2.5.1 Essential information (2)
- 2.5.2 Technical level of equipment used (2)

- 2.6 Crop production is determined by the amount and intensity of the sunlight that reaches the plant. The amount of light a slope receives differs depending on the season, the time of day and the slope orientation, as indicated in the picture below.



- 2.6.1 Identify the slope where plants in South Africa will have a higher growth rate and give TWO reasons for your answer. (3)
- 2.6.2 Give reasons why the duration of daylight is important for animals and plants. (4)
- 2.7 Budgets play an important role in the successful management of a farm.
- 2.7.1 Distinguish between a *whole-farm budget* and an *enterprise budget*. (2)
- 2.7.2 Give FIVE examples of production budgets. (5)

2.8 The graph below shows the influence of climatic factors on growth rate in plants. Answer the questions that follow.



- 2.8.1 Indicate the period with the highest growth rate in the year. (1)
- 2.8.2 Explain how the relationship between rainfall and temperature influences growth rate. Refer to the graph in your answer. (8)
- [50]**

QUESTION 3: ENTREPRENEURSHIP, RECORDING, MARKETING AND BUSINESS PLANNING

Start this question on a NEW page.

- 3.1 State FOUR advantages of keeping records using a computer rather than keeping handwritten notes. (4)
- 3.2 A cheque can be used to pay for items bought at an auction. A farmer bought 10 weaners for R3 600 each at an auction and has to pay 10% commission on the transaction.

	NCS BANK Pretoria	Silver 3.2.1	334-567
Datum/Date			
Aan/To		Datum Date	3.2.2
Vir/For	Betaal Pay		of Toonder or Bearer
Saldo R	Die bedrag van The sum of	3.2.3	3.2.4
Dep R			
Totaal/Total R			 Bakgat Boerdery Bakgat Farming
Tjek/Cheque R			
Totaal/Total R			
2520	334567/: 11223344556677/:	2520	

Complete the above cheque and ensure that it is safeguarded against fraudulent actions. Write the correct information next to the question number (3.2.1–3.2.4) in the ANSWER BOOK. (4)

- 3.3 Depreciation can be calculated in various ways. Two such methods are the straight-line method or cost price method and the diminishing-balance method or book value method.

3.3.1 Define the term *depreciation*. (2)

3.3.2 Use the straight-line method to calculate the depreciation of a vehicle bought for R200 000 with a salvage value of R10 000 and an expected useful lifespan of 10 years.

The formula for the straight-line method is given as:

$$D = \frac{CP - S}{L}$$

where:

- D = Depreciation
- CP = Cost price
- S = Salvage value
- L = Lifespan

(2)

3.4

The information below is part of a farm's vegetable enterprise records. Use the information to answer the questions that follow.

TRANSACTIONS:

- Land preparation, R10 000
- Selling of cucumbers, R11 500
- Seed, R6 500
- Planting, R6 000
- Casual labour, R8 000
- Selling of tomatoes, R20 000
- Fuel and lubricants, R10 000
- Fertiliser, R10 000
- Disease, pest and weed control, R10 000
- Selling of cabbages, R9 400
- Repair and maintenance, R5 500
- Packaging and marketing, R4 000
- Selling of beetroot, R28 000

3.4.1 Redraw the table below in the ANSWER BOOK and complete it by entering the information in the appropriate columns and calculating the totals.

**INCOME STATEMENT FOR YEAR ENDING
31 DECEMBER 2014**

EXPENDITURE	RAND	INCOME	RAND
TOTAL		TOTAL	

(5)

3.4.2 Determine whether the farm had a profit or loss for this period and substantiate your answer with calculations.

(3)

3.4.3 List at least THREE possible solutions addressing the high expenditure without reducing the size of the vegetable enterprise.

(3)

3.5

A farmer had the following balances on 31 July 2013:

- Cash – R2 000
- Capital investment – R115 000
- Land (at cost) – R100 000
- Bank overdraft – R15 000
- Stock (at cost) – R20 000
- Debtors – R13 000
- Mortgage loan – R120 000
- Implements – R25 000
- Second-hand tractor – R50 000
- Buildings (at cost) – R50 000
- Creditors – R10 000

Use the above data to complete the missing information in the Balance Sheet below. Include values where applicable. Write only the answer next to the question number (3.5.1–3.5.6) in the ANSWER BOOK.

ASSETS	RANDS	LIABILITIES	RANDS
Fixed assets		Capital investment	115 000
3.5.1 →			
Buildings (at cost)	50 000	Mortgage loan	120 000
Movable assets			
3.5.2 →			
Implements (at cost)	25 000		
Current assets:		Current liabilities:	
Stock (at cost)	20 000	3.5.5 →	
3.5.3 →		Bank overdraft	15 000
3.5.4 →			
Total assets	260 000	Total liabilities	3.5.6

(6)

3.6 Preparing a business plan is important for a progressive farmer. Recommend FIVE essential steps that should be taken when preparing a business plan. (5)

3.7 A farmer has the option of using *contract marketing to supermarkets* or *farm-gate marketing*. Briefly distinguish between these TWO marketing channels. (4)

3.8 Market exchange is the process of selling and buying where the price of the product is established.

3.8.1 Define the term *fixed price*. (2)

3.8.2 Explain the advantages of a fixed price for an agricultural product. (3)

3.8.3 Name FOUR marketing strategies that the producer can use that are not too costly. (4)

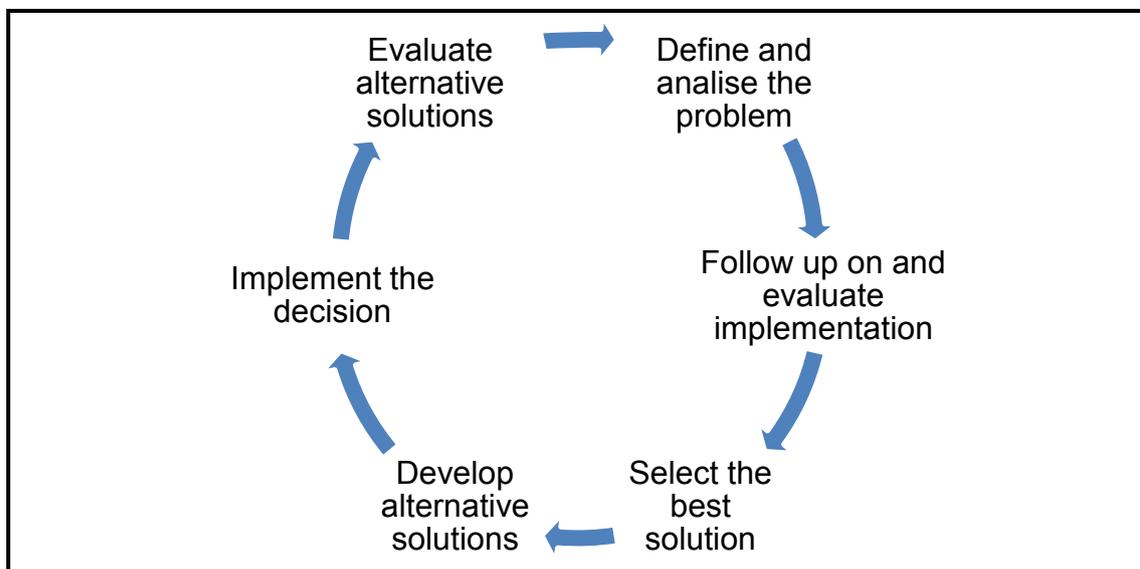
3.9 Discuss diversification as a business survival strategy. (3)

[50]

QUESTION 4: HARVESTING, PROCESSING AND MANAGEMENT

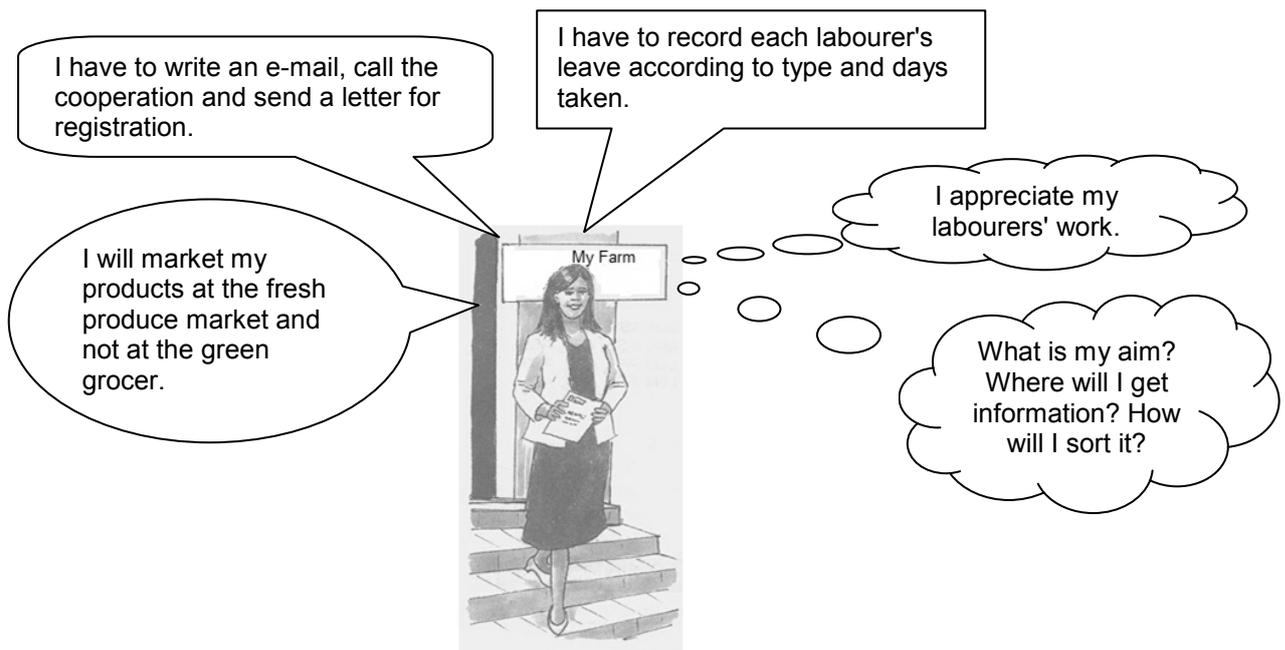
Start this question on a NEW page.

4.1 Decision-making is part of the management process of a farm. Study the flow diagram on the decision-making aspects below and arrange them chronologically (in the correct order).



(6)

4.2 Examples of daily management tasks are given in the picture below. State the FIVE managerial tasks in the picture below.



(5)

- 4.3 Consumers find it difficult to use unharvested agricultural products.
- 4.3.1 Define *harvesting* of an agricultural crop. (2)
- 4.3.2 Give the chronologically steps that a vegetable crop or soft fruit will follow from harvesting until it reaches the supermarket. (6)

4.4 Processing involves changing a raw product into a form that is easier for the consumer to use.

- 4.4.1 Explain fermentation as a method of preserving farm products. (4)
- 4.4.2 Differentiate between *processed food* and *raw food products* under the following. Redraw the table below in the ANSWER BOOK and complete it.

	Raw food product	Processed product
Shelf life		
Packaging and distribution		

- 4.5 Describe FOUR hygienic (sanitation) practices that farm workers should adhere to in the food processing industry. (4)
- 4.6 Different methods are used to package farm produce.
- 4.6.1 State FOUR advantages of packaging food products. (4)
- 4.6.2 Tabulate THREE ways of packaging food products with reference to material rigidity and give ONE example of material used in each case.

Way of packaging	Example of material used

- 4.7 Agritourism is a broad concept involving the agricultural industry and several facets of tourism.
- 4.7.1 Name the TWO main groups of tourists in South Africa. (2)
- 4.7.2 Redraw the table below in the ANSWER BOOK and briefly distinguish between the FOUR types of tourists.

Types of tourists	Description
Educational tourists	
Adventure tourists	
Cultural tourists	
Product route tourists	

- 4.7.3 Discuss awareness as a requirement for successful agritourism. (3)

TOTAL SECTION B: 150
GRAND TOTAL: 200



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GRADE 12

AGRICULTURAL MANAGEMENT PRACTICES

NOVEMBER 2014

MEMORANDUM

MARKS: 200

This memorandum consists of 13 pages.

SECTION A**QUESTION 1: SHORT QUESTIONS****1.1 Multiple Choice**

1.1.1 C ✓✓

1.1.2 B ✓✓

1.1.3 A ✓✓

1.1.4 B ✓✓

1.1.5 C ✓✓

1.1.6 D ✓✓

1.1.7 C ✓✓

1.1.8 B ✓✓

1.1.9 A ✓✓

1.1.10 D ✓✓

(10 x 2) (20)

1.2 Matching items

1.2.1 D ✓✓

1.2.2 I ✓✓

1.2.3 E ✓✓

1.2.4 A ✓✓

1.2.5 H ✓✓

1.2.6 K ✓✓

1.2.7 B ✓✓

1.2.8 J ✓✓

1.2.9 F ✓✓

1.2.10 L ✓✓

(10 x 2) (20)

1.3	Term/Word(s)		
1.3.1	Water-holding capacity ✓		
1.3.2	Intensive farming ✓		
1.3.3	Rainfall ✓		
1.3.4	Business plan ✓		
1.3.5	Source document ✓		
1.3.6	Free marketing ✓		
1.3.7	Skilled/schooled/qualified labourer ✓		
1.3.8	Loan/credit ✓		
1.3.9	Filtration ✓		
1.3.10	Control ✓	(10 x 1)	(10)
			[50]
		TOTAL SECTION A:	50

SECTION B**QUESTION 2: FARM PLANNING****2.1 FOUR types of leave**

- Annual leave/holiday leave ✓
- Maternity leave ✓
- Urgent personal matters ✓
- Family responsibility leave ✓
- Sick leave ✓
- Special leave ✓
- Occupational accident leave ✓
- Unpaid leave ✓

(Any 4) (4)

2.2 2.2.1 Definition of erosion

- It is the removal of soil from the surface ✓
- By means of wind and runoff ✓

(2)

2.2.2 Description of contour ploughing

- It is the farming practice of ploughing across or against the slope/ 90° degree angle to the general land slope ✓

(1)

2.2.3 Advantages of contours

- Reduces run off and erosion ✓
 - Cross-slope farming with other conservation practices meet the goal of conservation ✓
- Overland water flow is reduced ✓
 - The higher the ridge height, the more overland water will be slowed down ✓
 - Control water flow into waterway ✓
- Reduces nutrient loss ✓
 - Contour ploughing combined with mulch cultivation prevents leaching of nutrients ✓
 - Nutrient loss due to loss of soil is prevented ✓

(Any 6) (6)

2.3 2.3.1 Steps in decision-making process to acquire implements

- Identify the need for the implement ✓
- Gather information on the different implements available ✓
- Evaluate the advantages and disadvantages of each implement ✓
- Link productivity to the price of the implement ✓
- Make a choice and verify decision ✓

(5)

2.3.2 **Disadvantages of using implements**

- Implements are expensive ✓
- Use of implements needs a higher skilled labourer ✓
- Implements can destroy certain properties of soils ✓
- No market if not in use anymore ✓
- Depreciation of implements ✓
- Breakage ✓
- Can lead to unemployment ✓

(Any 2) (2)

2.4 **THREE reasons for signing a contract**

- Requirement of labour act ✓
- To have a legal agreement between the employer and the employee ✓
- To protect the rights of both parties ✓
- To formally define the conditions of employment and the employer-employee relationship ✓
- To refer to the contract in case of disputes ✓
- To define what is clearly requested from the employee/Job description ✓

(Any 3) (3)

2.5 **Comparison between conventional commercial and precision farming**

2.5.1 **Prerequisite information**

Precision farming	Conventional commercial farming
<ul style="list-style-type: none"> • More detailed information of agricultural practices ✓ 	<ul style="list-style-type: none"> • Less detailed information of agricultural practices ✓

(2)

2.5.2 **Technical level of equipment used**

Precision farming	Conventional commercial farming
<ul style="list-style-type: none"> • Needs more technically advanced equipment ✓ 	<ul style="list-style-type: none"> • Equipment don't rely on advanced technical equipment/more mechanical equipment ✓

(2)

2.6 2.6.1 **Slope with higher growth rate**

- North-facing slope ✓

Two reasons

- The sun reaches the slope more directly ✓
- Plants grow in a higher average temperature environment ✓

(3)

2.6.2 **Importance of daylight length on animals and plants**

- It influences reproduction cycles ✓
- Influences plant and animal growth ✓
- Responsible for photosynthesis ✓
- Responsible for ripening of fruit ✓

(4)

- 2.7 2.7.1 **Distinction between whole-farm budget and enterprise budget**
- Whole-farm budget is a summary of the financial estimates of all the divisions of the entire farm business ✓
 - Enterprise budget is a budget for a particular enterprise/production unit or section of the farm ✓
- (2)
- 2.7.2 **FIVE examples of production budgets**
- Enterprise budget ✓
 - Feed budget ✓
 - Mechanisation/service budget ✓
 - Investment budget ✓
 - Financial budgets ✓
 - Marketing budget ✓
 - Cash flow budget ✓
 - Fuel budget ✓
 - Labour budget ✓
- OR**
- Any five enterprise budgets (Any 5) (5)
- 2.8 2.8.1 **Period of highest growth rate**
- April – May ✓
- (1)
- 2.8.2 **Relationship between rainfall and temperature**
- Rainfall and temperature together are conducive for plant growth ✓
 - By itself rainfall or temperature is not necessarily favourable for growth ✓
 - As observed during the period Jun–Jul ✓
 - Where the temperature was too low for growth/too cold during winter ✓
 - During the period Aug–Sept the growth was low despite average rainfall and temperatures ✓
 - The reason can be that the humidity during the period was too high ✓
 - Transpiration was low and therefore plants grow slowly ✓
 - The combination of rainfall, temperature and humidity is important for growth to be at its optimum point ✓
- (8)
[50]

QUESTION 3: ENTREPRENEURSHIP, RECORDING, MARKETING AND BUSINESS PLANNING**3.1 Advantages of keeping records using a computer**

- Easier to access information ✓
- A lot of information can be stored in less space ✓
- Comparisons can be made easier ✓
- Calculations can be done easier ✓
- Transfer of information is easier ✓
- There is quicker reproduction of information ✓
- Can make use of trusted and tested production and financial programmes ✓ (Any 4) (4)

3.2 3.2.1 Not transferable ✓/not negotiable✓/2 lines crossing✓ (1)

3.2.2 Any complete date ✓ (1)

3.2.3 Thirty nine thousand six hundred rand only /no cents✓ (1)

3.2.4 R39 600,00/R39 600 -- ✓ (1)

3.3 3.3.1 Depreciation

- Depreciation is the monetary value✓ that non-current assets loses over time ✓ (2)

3.3.2 Calculation of depreciation

- Annual depreciation = $\frac{R200\ 000 - R10\ 000}{10}$ ✓
- = $\frac{R190\ 000}{10}$
- = R19 000✓ (2)

3.4 3.4.1

**INCOME STATEMENT FOR YEAR ENDING
31 December 2014**

EXPENDITURE	RAND	INCOME	RAND
Land preparation	R10 000	Cucumbers	R11 500
Planting	R 6 000	Beetroot	R28 000
Casual labour	R 8 000	Tomatoes	R20 000
Seed	R 6 500	Cabbages	R 9 400
Fuel and lubricants	R10 000		
Fertiliser	R10 000		
Disease, pest and Weed control	R10 000		
Repair and maintenance	R 5 500		
Packaging and marketing	R 4 000		
TOTAL	R70 000	TOTAL	R68 900

Rubric

- Correct entries in expenses ✓
- Correct entries in income ✓
- Correct calculation of expenses ✓
- Correct calculation of income ✓
- Drawing of table with labels ✓ (5)

3.4.2 **Determination of profit/loss and substantiate**

- It is a loss ✓
- Profit/loss = R68 900 – R70 000 ✓
- = – R 1 100 or (R1 100) ✓ (3)

(Mark positively with statement values)3.4.3 **Three possible solutions**

- Plan better to save fuel costs ✓
- Make use of biological control methods to reduce costs on poisons ✓
- Make use of compost/organic material to save fertiliser costs ✓
- Servicing/replacing implements to reduce maintenance costs ✓
- Fewer casual labourers ✓
- Make better use of mechanisation ✓ (Any 3) (3)

- 3.5 3.5.1 Land (at cost) R100 000 ✓ (1)
- 3.5.2 Second-hand tractor R50 000 ✓ (1)
- 3.5.3 Debtors R13 000 ✓ (1)
- 3.5.4 Cash R2 000 ✓ (1)
- 3.5.5 Creditors R10 000 ✓ (1)
(Order of answer to 3.5.4 and 3.5.5 can swop around)
- 3.5.6 R260 000 ✓ (1)
(Mark positively)

3.6 **Steps in preparing a business plan**

- Decide on the kind of business you want to start ✓
- Collect information about the chances of success and chances of failure/feasibility studies/opportunities (markets) and risks data (sources of capital/loans) ✓
- Focus and analyse the data/information collected so as to refine ideas on the business ✓
- Outline the specific requirements/inputs, management issues, anticipated returns ✓
- Test your plan/set goals and targets, make a detailed management plan ✓ (5)

3.7 **Differentiation between contract marketing and farm-gate marketing**

Contract marketing	Farm-gate marketing
A signed contract between the producer and the consumer ✓	No contract signed ✓
Price is fixed ✓	Fluctuating prices ✓
Products are graded ✓	No grading ✓
Packaging is according to the regulation ✓	No regulation for packaging/no need for packaging ✓
Guaranteed income ✓	No guaranteed income ✓
Obligated to deliver to contract ✓ (Any 2)	Sell to any one ✓ (Any 2)

(4)

3.8 3.8.1 **Definition of fixed price**

- It is when the price has been set for goods and services ✓
- With no bargaining permitted over the price ✓

OR

- The price is held constant ✓
- Regardless of the cost of production ✓ (2)

3.8.2 Three advantages of a fixed price

- Know the price that one will receive ✓
- Makes planning easier ✓
- More constant income/fluctuations on the market has no effect ✓
- Set the right price at the first time ✓

(Any 3) (3)

3.8.3 FOUR marketing strategies

- Plan initial promotion/local radio station ✓
- Set up a website/social media ✓
- Set up a free listing for your business in search engine local directories ✓
- Set up your business profile or page on chat sites ✓
- Print the business cards and business stationery/flyers ✓
- Contact all the persons from whom you can buy products or services and provide them with your business card ✓
- Produce high quality product ✓

(Any 4) (4)

3.9 Discussion of diversification as business survival strategy

- Have more than one production unit/value adding ✓
- To protect the farmer from financial risk ✓
- If one enterprise experience disaster/market price plunging ✓

(3)
[50]

QUESTION 4: HARVESTING, PROCESSING AND MANAGEMENT**4.1 Chronological steps in the decision making process**

- Define and analyse the problem ✓
- Develop alternative solutions ✓
- Evaluation of alternative solutions ✓
- Select the best solution ✓
- Implementation of decision ✓
- Follow implementation up and evaluate ✓ (6)

4.2 Tasks of a manager

- Control ✓
- Planning ✓
- Motivation ✓
- Communication ✓
- Decision making ✓ (5)

4.3 4.3.1 Definition of harvesting

- It is the collection of the crop ✓
- When the crop is ready to pick/at matured stage ✓ (2)

4.3.2 Steps that crop will follow

Step 1	Harvesting ✓
Step 2	Transporting to the pack house ✓
Step 3	Storing of ungraded product ✓
Step 4	Grading and sorting ✓
Step 5	Packaging ✓
Step 6	Storing of graded product ✓
Step 7	Distributing/Transport ✓

(6)

(Any 6 in correct order)

4.4 4.4.1 Fermentation as method of preservation

- Sugar fermentation ✓
- Through yeasts/bacteria for production of beer/bread/wine ✓
- Oxidation of alcohol to form vinegar ✓
- Lactose fermented ✓
- Into lactic acid ✓
- That causes milk to coagulate to make cheese ✓ (Any 4) (4)

4.4.2 **Comparison of value of processed food to that of the raw food products**

	Raw food product	Processed product
Shelf life	Short ✓	Long ✓
Packaging and distribution	Difficult and costly ✓	Simple and less costly ✓

(4)

4.5 **FOUR good hygienic practices in the food processing industry**

- Wear clean overalls/laboratory coats ✓
- Wear clean boots/protected shoes ✓
- Protect your head/hair ✓
- Put on the mouth and nose guards ✓
- Clean and disinfect the floor regularly ✓
- Sterilize the equipment used often ✓
- Wash hands regularly with a disinfectant ✓
- Smoke free environment ✓

(Any 4) (4)

4.6 4.6.1 **FOUR advantages of packaging food products**

- To protect against microbiological contamination, dirt, insects, moisture, light, odours and colours ✓
- To facilitate the easy handling of food ✓
- To convey information ✓
- To identify the product ✓
- Attractiveness of product ✓
- Add value to the product ✓
- Longer shelf life ✓

(Any 4) (4)

4.6.2

Ways of packaging	Example of material used
• Rigid packaging ✓	• Metal cans/glass jars/bottles/laminated containers ✓
• Semi-rigid packaging ✓	• Aluminium containers/cartons/polystyrene ✓
• Flexible packaging ✓	• Types of plastic film/paper/aluminium foil ✓

(6)

- 4.7 4.7.1 **Main group of tourists**
- Domestic/local tourists ✓
 - International tourists ✓
- (2)

4.7.2

Types of tourists	Description
Educational tourists	People visit places to do research ✓
Adventure tourists	People want to do exciting things while on holidays ✓
Cultural tourists	People travel to do cultural events/interests ✓
Product routes tourists	It is associated with countryside/ tourists follow routes to see agricultural products produced/processed ✓

(4)

- 4.7.3 **Awareness for successful agritourism**
- Be environmental sensitive/preserve indigenous plants and animals ✓
 - Investigate the possibilities of developing land for agritourism purposes ✓
 - Contract local tourist operations to sell goods ✓
 - Make the destination a friendly area ✓
- (Any 3) (3)
[50]

TOTAL SECTION B: 150
GRAND TOTAL: 200