



education

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SENIOR CERTIFICATE**

GRADE 12

AGRICULTURAL MANAGEMENT PRACTICES

FEBRUARY/MARCH 2009

MARKS: 200

TIME: 2½ hours

This question paper consists of 87 pages.

INSTRUCTIONS AND INFORMATION

1. **This question paper consists of 19 questions. Answer any FOUR questions in this question paper. Answer ONE crop production and THREE animal production enterprises OR TWO animal and TWO crop production enterprises OR ONE animal and THREE crop production enterprises.**
2. Study the questions carefully and make sure you answer what is required.
3. Start each production enterprise on a NEW page in the ANSWER BOOK.
4. Number the answers correctly according to the numbering system used in this question paper.
5. Write neatly and legibly.

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QUESTION 1: PIG PRODUCTION

- 1.1 Choose a description from COLUMN B that matches an item/word in COLUMN A. Write only the letter (A – L) next to the question number (1.1.1 – 1.1.10) in the ANSWER BOOK, for example 1.1.11 M. A description from COLUMN B can only be used ONCE.

COLUMN A	COLUMN B
1.1.1 Dehairing	A farming system where pigs are allowed to find their own food in the grazing fields
1.1.2 Iron (mineral)	
1.1.3 Feed conversion ratio	B protect farm workers from exploitation
1.1.4 Labour laws	C indigenous South African breed of pig with high adaptability and less expensive to rear
1.1.5 Free-range/Organic system	
1.1.6 Intermediate assets	D stage during the processing of pork after slaughtering to ensure high marketability of the meat
1.1.7 Poverty/Hunger alleviation	
1.1.8 Loin chops and spare ribs	E special feeding programme given to sows to improve production
1.1.9 Flush feeding	F obtained from the soil by barrowing pigs as nutrient supplement, recommended for new-born pigs
1.1.10 Kolbroek pigs	G young pigs from a litter valued as part of financial analysis
	H the measurement of the ratio of pig finishers' mass gains compared to feed intake, for economic purposes
	I important pork cuts sorted after slaughtering
	J social and economic benefits of raising pigs as a source of meat, which can be afforded by most people
	K method of curing pork to keep the meat drier, with more flavour
	L cutting part of the ear of a pig as a method of branding

(10 x 1)

(10)

- 1.2 The pictures below, labelled **A** and **B**, represent two different systems to keep pigs.

**A****B**

- 1.2.1 With reference to diseases which will influence his marketable product, name the risks that the pig producer faces when he keeps his animals in the situation indicated by PICTURE A. (4)
- 1.2.2 Name any TWO harsh weather conditions against which the enclosure, indicated in PICTURE B, will provide protection. (2)
- 1.3 Complete the following table to classify carcass weights of pigs by giving the mass values for 1.3.1 to 1.3.3.

CLASS	MASS
Porker	1.3.1
Light baconer	60 – 80 kg
Heavy baconer	1.3.2
Sausager	1.3.3

(3)

- 1.4 SAPPO (South African Pork Producers' Organisation) uses PORCUS as a classifying system in the grading and evaluation of pork. P has the highest percentage of lean meat and therefore the highest price per kilogram of meat. S has the lowest percentage of lean meat. The table below indicates the pork price for each grading value of light baconers.

CLASS	PRICE (c/kg)
P	777
O	767
R	738
C	631
U	586
S	532

Calculate the percentage price difference in price/kg between class S and class P baconers.

(3)

- 1.5 Yellow maize contributes 80% towards the total feed costs for pigs. Therefore the price of pork changes with the availability and price of yellow maize. The market prices of pork in South Africa for the year 1998 are shown below.

TIME OF YEAR (Month)	PRICE (Rand)
February	6,00
March	6,58
April	7,20
May	7,50
June	8,00
July	8,60
August	9,31

Use the information above to answer QUESTIONS 1.5.1 to 1.5.3.

- 1.5.1 Draw a line graph to represent the prices of pork for the year 1998. (3)
- 1.5.2 Give TWO possible reasons why the price of pork is usually lower at the beginning of the year and gradually increases towards August. (2)
- 1.5.3 Use the table above as a guide. Name the month when one would have maximum production and supply in the pig production unit. (1)

- 1.6 An extension officer from the Department of Agriculture advises a medium-scale pig farmer to find a market for everything that is produced from the pig enterprise, including waste.
- The extension officer goes on to advise the farmer that if he (the farmer) sells his pigs to the butcher, the butcher may only want the meat and not all the other products.
- Name any THREE of the products that the extension officer is referring to and indicate what each product is used for. (6)
- 1.7 Increasing the productivity of workers on a pig farm relies on effective daily planning and good supervision.
- 1.7.1 Indicate THREE daily activities of workers in a pig production enterprise. (3)
- 1.7.2 Explain ways to implement good supervision with reference to the following:
- (a) Usage of time by workers
 - (b) Quantity of work
 - (c) Quality of work (3)
- 1.8 Mr Jones sold 25 pigs for R18 000. He paid R2 500 for rented transport, R450 for administration/market fees and R200 for casual labour.
- 1.8.1 Calculate Mr Jones's marketing costs. (2)
- 1.8.2 Determine this farmer's gross profit. (2)
- 1.8.3 Advise Mr Jones on how to cut down on the marketing costs of sales by indicating the benefits of joining a marketing co-operative. (2)
- 1.9 Give TWO possible reasons for the electric stunning of pigs at the abattoir. (2)
- 1.10 Describe TWO dangers, for humans, when they eat pork that is infested with cysts, or meat from pigs that have been identified to have a disease. (2)
- [50]**

QUESTION 2: BEEF PRODUCTION

- 2.1 Choose a description from COLUMN B that matches an item/word in COLUMN A. Write only the letter (A – N) next to the question number (2.1.1 – 2.1.10) in the ANSWER BOOK, for example 2.1.11 O. A description from COLUMN B can only be used ONCE.

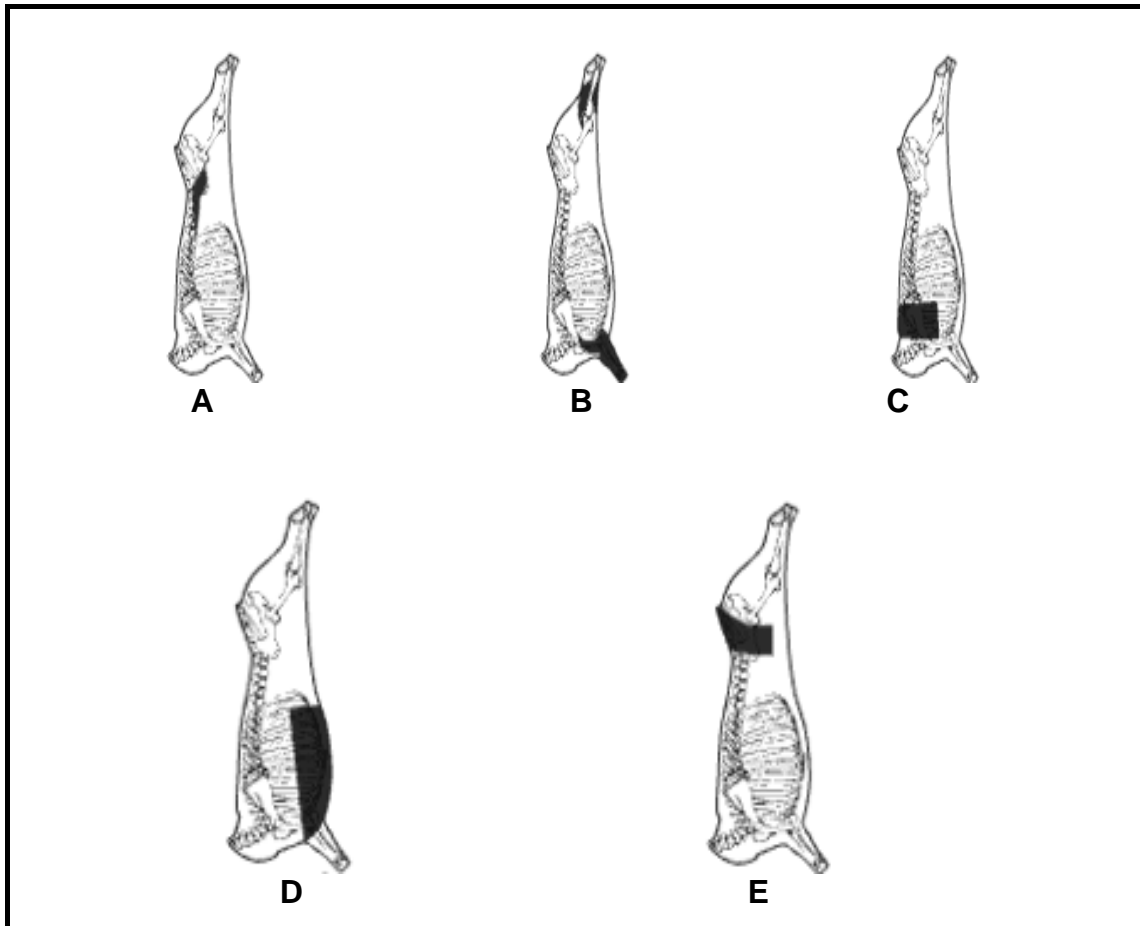
COLUMN A		COLUMN B	
2.1.1	Animal Diseases Act, 1984 (Act 35 of 1984)	A	used for softening meat muscles in the beef industry
2.1.2	Consumer taste/Preference	B	programme aimed at increasing productivity of workers
2.1.3	Skills development	C	used in abattoirs to prepare animals for slaughter without exciting the animals
2.1.4	Quarantine	D	it affects labour output on the farm, thus reducing production
2.1.5	Meat processors	E	a humane way of slaughtering a beef animal
2.1.6	Gross profit	F	deals with prevention and containing of contagious diseases
2.1.7	HIV/Aids	G	provides measures to maintain essential national quality standards
2.1.8	Waterfalls and beautiful views	H	place where animals are kept for observation before introduction to a healthy group of animals
2.1.9	Stunning gun	I	food safety
2.1.10	Tenderisers, for example paw-paw leaves	J	part of a marketing plan worth considering
		K	obtained by subtracting operational costs from the income of a business
		L	industry that deals with making beef sausages, corned beef and meatballs
		M	enhance agritourism when they occur close to the farm
		N	needed when animals are moved from one area to another

(10 x 1)

(10)

- 2.2 The diagrams below represent the wholesale cuts of a beef animal. Use the words provided in the list below and choose an option that best describes the cut of meat represented in each diagram labelled **A** to **E**.

rump; rump conventional; fillet; shin/shank; chuck; brisket



(5)

- 2.3 In an intensive beef production enterprise the challenge exists to optimise production. Name **THREE** components in the supply chain for this beef production enterprise, from primary source up to consumers.

(4)

- 2.4 Biltong and dried sausage ('droëwors') have been favourites with South Africans for close to 400 years. Name FOUR advantages of using the method of processing meat shown in the photograph below.



(4)

- 2.5 During the deregulation of agricultural industries, controlled marketing of products was terminated. The red meat industry has come under increasing pressure in the period following this deregulation.

Explain THREE pressures that arose from the situation explained above.

(3)

- 2.6 The choice of a specific beef production system depends on its profitability. The table below represents the efficiency of production of different herds.

HERD	NO. OF COWS	WEANED %	WEAN WEIGHT	PRICE/kg (R/kg)	INCOME/CALF (Rand)	TOTAL INCOME
A	100	80	200	R15,00	R3 000,00	R240 000,00
B	100	60	200	R15,00		

- 2.6.1 Calculate the income per calf for herd B.

(1)

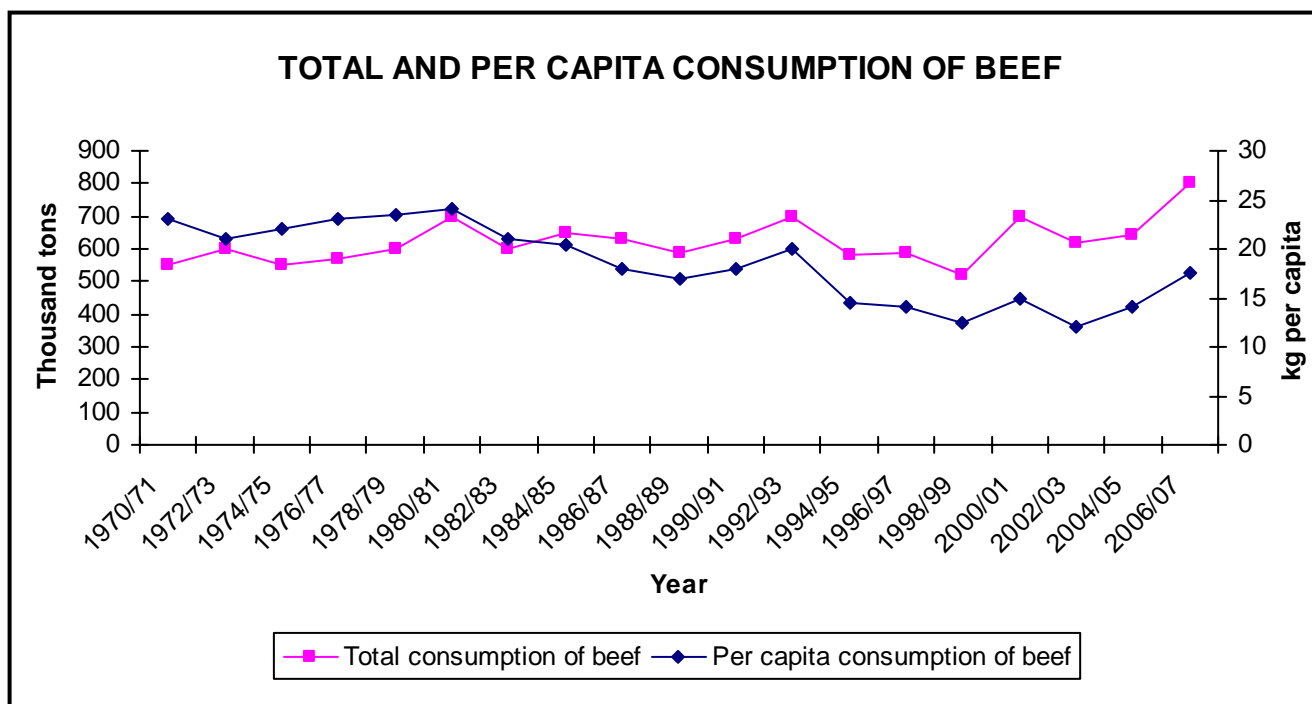
- 2.6.2 Determine the total income of herd B from calves sold.

(1)

- 2.6.3 Calculate the difference in income between herds A and B. Explain this difference with reference to the profitability of a beef production enterprise.

(3)

- 2.7 The price of a beef carcass depends on two factors at slaughtering. Name these TWO factors. (2)
- 2.8 The graph below represents the total and per capita consumption of beef in a certain part of the world.



- 2.8.1 Determine the total increase in beef consumption (measured in tons) from 1970/71 to 2006/07. (2)
- 2.8.2 The per capita consumption of beef has steadily decreased from 1970 to 2006. Name FOUR possible factors that could have been responsible for this decrease in the demand for beef. (4)
- 2.9 Value adding increases the price you get for your raw product. This is made possible by adding other ingredients and improving the consumer appeal of your products and subsequently increasing the profit. To become master of your own destiny in the market, a value-added business strategy must be drafted to achieve a value-added product.
- 2.9.1 Explain the meaning of the term *value adding*. (2)
- 2.9.2 List FOUR key ingredients for a successful value-added business. (4)

- 2.10 Depreciation is the loss of value of an asset due to wear and tear. This expense is used for tax adjustment. The following straight-line method is often used in the calculation of depreciation:

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

Where D = Annual depreciation

CP = Cost price or replacement value of the asset

S = Expected salvage value (usually 10% of the cost of the asset)

L = Expected useful life of the asset in years

- 2.10.1 A farmer bought a truck for R750 000 with a salvage value of R50 000 and an expected useful life of ten (10) years to be used for his beef enterprise. Calculate annual depreciation of the truck using the straight-line formula provided above. (3)

- 2.10.2 Determine the asset value for the truck in QUESTION 2.10.1 at the end of the fourth year. (2)

[50]

QUESTION 3: DAIRY PRODUCTION

- 3.1 Choose an item from COLUMN B that matches a description in COLUMN A. Write only the letter (A – T) next to the question number (3.1.1 – 3.1.10) in the ANSWER BOOK, for example 3.1.11 U. An item from COLUMN B can only be used ONCE.

COLUMN A		COLUMN B
3.1.1	Type of farming system where the farmer makes use of a computerised turntable milk portal	A grading system B cheques
3.1.2	Soil, rainfall, labour, capital and information forms part of it	C subsistence farming D production factors
3.1.3	The process whereby a farmer switches from hand milking to milking with milking machines	E motivation F optimisation
3.1.4	The type of budget that you will set up using statements, invoices, cheque books and cash slips	G occasional labourer H salary discussion
3.1.5	The type of labourer that will be employed just to renew the milking facilities	I control J computers
3.1.6	The process whereby a farmer has an interview with his labourer and his trade union representative to discuss his coming to work late and under the influence of alcohol and to punish the labourer	K cash flow budget L marketing system M trade function
3.1.7	The managerial principle that uses clock cards and pacesetters for labourers	N resources O disciplinary action
3.1.8	Technology used to make payments via the internet	P advertising function Q labour budget
3.1.9	The grouping of milk as fresh milk, low fat milk, skimmed milk, 2% fat milk	R precision farming S mechanisation
3.1.10	An agricultural marketing function of which the aims are to promote milk and milk products	T permanent labourer

(10 x 1)

(10)

3.2 One of Mr Jones' labourers in the milking parlour suddenly starts coughing a lot. As a precautionary measure he moves the worker to the feeding area outside the dairy parlour. He needs confirmation from a doctor on the health and disease situation of this labourer.

3.2.1 Indicate the correctness of the actions taken by Mr Jones with regard to this labourer. Justify your answer. (2)

3.2.2 Name a contagious disease, associated with coughing, which can be transmitted by milk. (1)

3.2.3 Mr Jones has become aware that a labourer has an HIV-positive status. Will this labourer also need to be excluded from the milking parlour? Give a valid reason for your answer. (2)

3.3 The picture below indicates one of the products derived from milk.

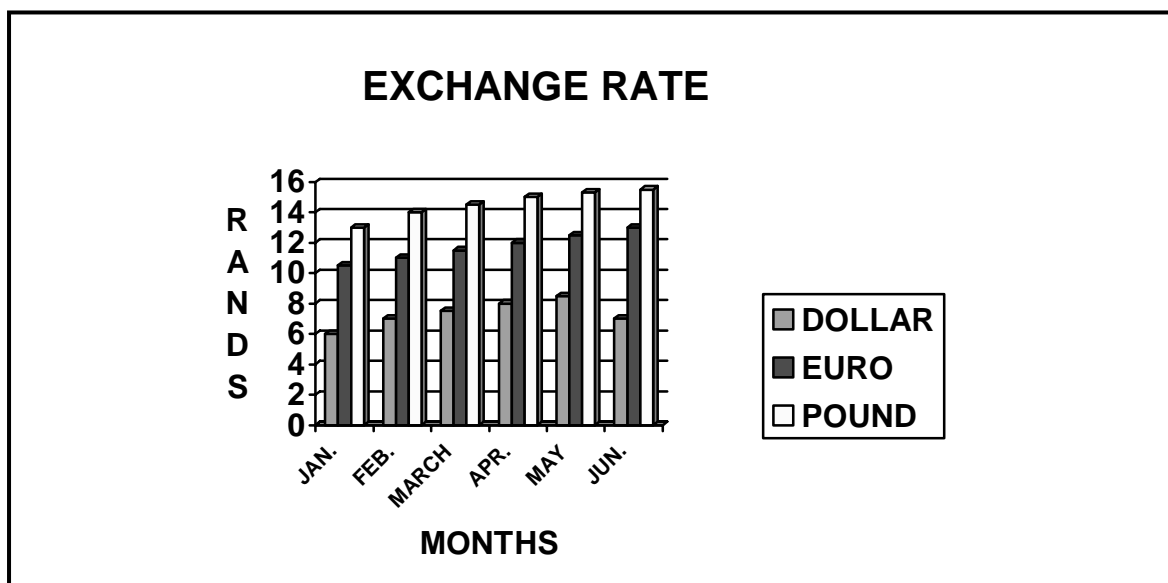


3.3.1 List FIVE steps in the process of producing this product. (5)

3.3.2 Name THREE precautionary measures to ensure that the product indicated in the picture above is of good quality. (3)

- 3.4 Ms Shabalala is a dairy farmer. On average she milks a 100 cows a day with an average milk production of 40 ℓ/cow/day. The production costs amount to R2,00/ℓ for milk and R13,00/ℓ for yogurt (excluding the price of milk). She can sell the milk for R3,00/ℓ and the yogurt for R20,00/ℓ.
- 3.4.1 Calculate the total production cost for the yogurt per litre. (1)
- 3.4.2 Tabulate the total monthly selling price and production costs, and compare the profit of fresh milk with yogurt on her farm. (6)
- 3.4.3 Ms Shabalala obtains a processing unit by means of a loan. Indicate the effect that the interest hike, as announced by the South African Reserve Bank, has on the profit her yogurt enterprise. (1)
- 3.5 Mr Glamini employs 20 labourers on his dairy farm. They work in teams of five workers per team. Each team has different tasks on this farm and the teams rotate between the different tasks each week. Two teams work from 04:00 until 12:00, and the other two teams work from 12:00 until 20:00 during the week. On a weekend only two teams work and the rotation of teams takes place on weekends. During weekends the teams only have to feed and milk the cows, which takes six hours each day. Each worker is entitled to 14 days leave per year, which includes weekends. The labourers earn R500 each a month and also get 2 ℓ milk per day. Their contract indicates that they are entitled to a 5% increase in their salaries per year. The milk price did not increase during the past year and Mr Glamini did not increase the workers' salaries. During the past few months the workers' performance has decreased and their dissatisfaction is visible.
- 3.5.1 With reference to the Labour Relations Act, 1995 (Act 66 of 1995), identify FOUR possible actions that Mr Glamini should take to improve the performance of his labourers to a more acceptable level. (4)
- 3.5.2 Identify the type of labourer that is mentioned in the case study above. (1)

- 3.6 You manage a dairy farm where different types of cheeses, which are mainly exported to Europe, are produced. You have decided to start an agritourism enterprise to enhance the profit of this farm. You decide to build accommodation facilities on the farm. Your daily programme includes a visit to the dairy and cheese factory. The graph below illustrates the exchange rate over a period of time.



- 3.6.1 Indicate the possible trend of people from Europe visiting your venture, taking the values in the graph into consideration. (1)
- 3.6.2 Identify the possible influence of the exchange rate on your decision to expand your cheese producing enterprise. (3)
- 3.6.3 Explain why it is important for you to keep records of the exchange rate. (3)
- 3.7 Paul is an upcoming farmer in a rural area where no electricity is available. He milks a few cows to supply milk to his village. A dairy specialist must advise him on procedures that ensure clean milk. Name FIVE procedures that you would include in his production enterprise to ensure the best quality milk. (5)
- 3.8 There are different milk products on the market. One of the products is fresh pasteurised milk and the other long-life milk. Briefly explain the difference between these types of milk, referring to different processes. (2)

[50]

QUESTION 4: SHEEP PRODUCTION (MUTTON)

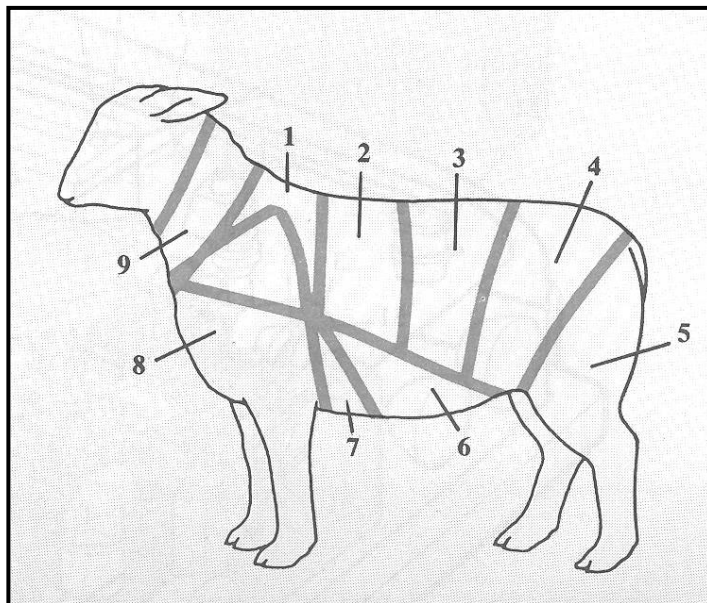
- 4.1 Choose a description from COLUMN B that matches an item/word in COLUMN A. Write only the letter (A – N) next to the question number (4.1.1 – 4.1.10) in the ANSWER BOOK, for example 4.1.11 O. A description from COLUMN B can only be used ONCE.

COLUMN A		COLUMN B	
4.1.1	Agricultural Product Standards Act, 1990 (Act 119 of 1990)	A	a plan that will indicate all aspects of the farming unit and its possibility for expansion
4.1.2	Business plan	B	an area where a carcass is dressed
4.1.3	Training	C	brings tourists to the countryside to escape from the over-populated cities
4.1.4	Veterinary stock movement permit	D	affects labour output on the farm thus reducing production
4.1.5	Abattoir	E	the first step to be implemented in an agricultural enterprise
4.1.6	Break even	F	the physiological age of the animal
4.1.7	Tuberculosis	G	provides measures to maintain essential national quality standards
4.1.8	Agritourism	H	improves labour output in agribusiness
4.1.9	Ripening	I	food safety
4.1.10	Budget	J	maximises space usage
		K	the point at which income generated from sales just equals the total costs incurred from those sales
		L	looks at all the important aspects of a business
		M	increases flavour and tenderness of meat
		N	needed when animals are moved from one area to the other

(10 x 1)

(10)

- 4.2 The diagram below represents the wholesale cuts of mutton. Identify numbers 1, 2, 4, 5, 6 and 8.



- (6)
- 4.3 Name the FOUR major management tasks that are expected from a manager of a mutton production enterprise. (4)
- 4.4 Indicate the effect on meat when it is left in open air and oxidation takes place. (4)
- 4.5 Animals have always played a very important role in the lives of the indigenous people of Southern Africa. Briefly discuss the importance of farm animals in the lives of these people. (3)
- 4.6 All agricultural enterprises, including mutton production, are subjected to risk and uncertainties. Sources of risks and uncertainties need to be well managed and taken into consideration when a farmer plans a production enterprise. Discuss the FIVE main sources of risks and uncertainties in a mutton enterprise and give an example of each. (10)
- 4.7 Mr Dube is starting a new mutton production enterprise on his farm. His current labour force is not large enough and he will have to appoint more labourers on the farm. He needs to draw up a job description for each labourer to ensure that all tasks are catered for. He also needs to make sure that the labourers know how to execute their tasks. On their free weekends these labourers play soccer matches against labourers from neighbouring farms.
- From the above case study, deduct FIVE different tasks that a manager should consider regarding labour. (5)

- 4.8 In order to have a sustainable production enterprise, veld management is very important to a sheep farmer. Each farmer should study the plant growth on his farm to determine the optimal growth for his region. Knowledge about his pastures will result in reduced costs if the farmer is able to manage it properly.
- 4.8.1 Briefly explain the importance of knowledge with regard to optimal plant growth. (2)
- 4.8.2 Name THREE ways to achieve the aims of optimum pasture management. (3)
- 4.8.3 Identify THREE advantages that optimal pasture management would have for the farmer. (3)
- [50]**

QUESTION 5: BROILER PRODUCTION

5.1 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 (5.1.1 – 5.1.10) in the ANSWER BOOK, for example 5.1.11 E.

5.1.1 Precision broiler production on a large commercial scale is based on a/an ...

- A intensive housing system.
- B extensive housing system.
- C free-range system.
- D Only B and C

5.1.2 Broilers are ready to be slaughtered at the age of ...

- A 30 days.
- B 42 days.
- C 50 days.
- D 55 days.

5.1.3 Avian flu is a disease that is compulsory to report according to the ...

- A Livestock Brands Act, 1962 (Act 87 of 1962).
- B Animal Diseases Act, 1984 (Act 35 of 1984).
- C Animal Improvement Act, 1998 (Act 62 of 1998).
- D Genetically Modified Organisms Act, 1997 (Act 15 of 1997)

5.1.4 Efficient mechanisation in farming is the solution to the ...

- A lack of schooling amongst labourers.
- B cost of having labourers trained.
- C increasing lack of farm labour.
- D production of better products.

5.1.5 A reason why long-term credit is used in a broiler production enterprise, may be to ...

- A pay debts.
- B buy chicken feed.
- C build more broiler houses.
- D buy new chickens.

5.1.6 Effective motivation of labourers to improve productivity is to ...

- A shorten the working hours.
- B acknowledge good productive work.
- C give a longer lunch break.
- D give some alcoholic beverages.

5.1.7 Which ONE of the following will NOT be part of a production record for a broiler production enterprise?

- A The number of chickens produced per cycle
- B The amount of money made per production cycle
- C The amount of feed used in a cycle
- D The cost of new water drinkers

5.1.8 A poussin is a ...

- A young broiler, approximately 6 weeks old.
- B young broiler, weighing 500 g – 750 g, with soft delicate meat.
- C male chicken, younger than 10 months.
- D slaughtered free-range chicken of any gender.

5.1.9 The normal feed conversion ratio (FCR) for broilers in an intensive system is ...

- A 1:2
- B 2:1
- C 2:4
- D 1:3

5.1.10 ONE of the following is NOT a necessity when placing day-old chicks:

- A Heating
- B Water
- C Feed
- D Lighting

(10 x 1)

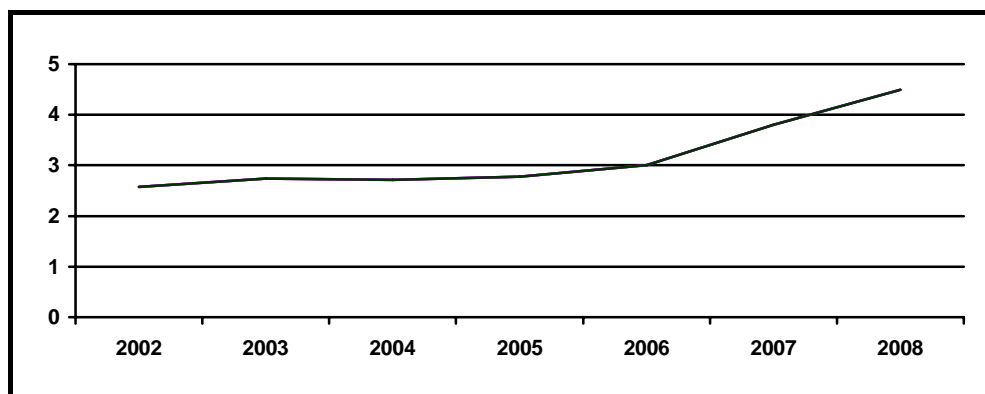
(10)

5.2 When starting a chicken farming business, it is important for the farmer to plan his enterprise properly. The first thing to do is to prepare a business plan. This will address questions regarding the feasibility of the enterprise. A market survey must be conducted to determine where to market the birds.

Name FIVE important aspects that a farmer should consider in this type of survey.

(5)

- 5.3 The graph below indicates the rise in labour costs/kg broiler produced for the period 2002 – 2008.



- 5.3.1 Give TWO reasons for the increase in labour costs over time. (2)

- 5.3.2 Name the measures a farmer can take to make sure that he has a happy workforce, so that he can get the most value for his money in respect of productivity. (4)

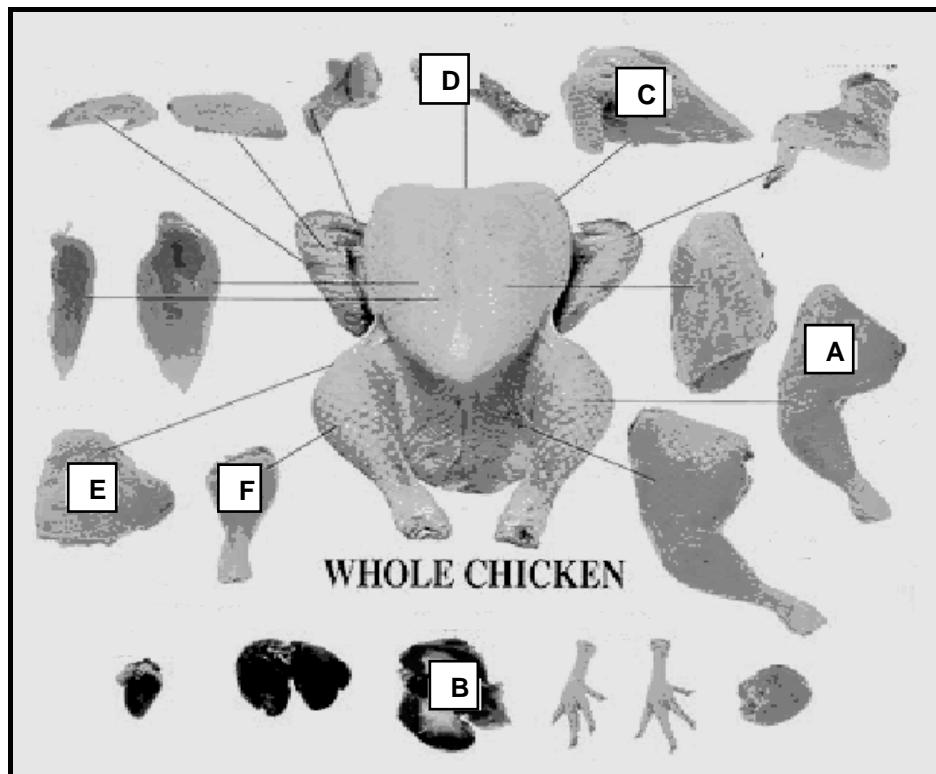
- 5.4 The following is an example of a spreadsheet needed for recordkeeping in a broiler production enterprise. Answer the question that follows.

Farm name:				Pen No.:			
Date of placing:				Day-old chick supplier:			
Breed:				Breeding stock age:			
Age (days)	Daily mortalities	Cumulative mortalities	Cum % mortalities	Av. mass	Type of feed	Amount of feed	Max./Min. temp.
1							
2							
3							
4							
5							
6							

- Name FOUR types of records that need to be kept for a broiler production enterprise. (4)

- 5.5 Part of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) states that workers in an abattoir must wear protective clothing. Refer to the components of protective clothing that should be issued to a worker in a chicken abattoir to comply with this Act. (5)

5.6 The following is a schematic representation of a method to cut up a broiler.



Name cuts **B** to **F**.

(5)

5.7 Agritourism is an effective method of generating additional income on a farm.

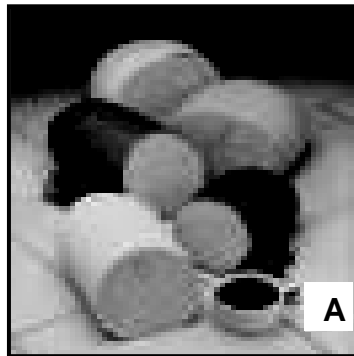
5.7.1 Explain why a farmer would prefer not to make his intensive broiler farm agritourism-friendly.

(3)

5.7.2 Name THREE methods that the farmer could present as an alternative to ensure an additional income.

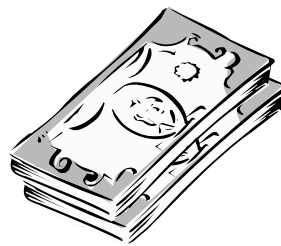
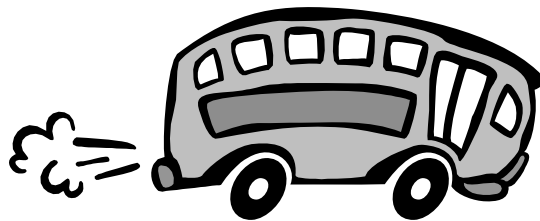
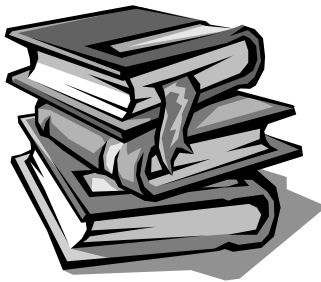
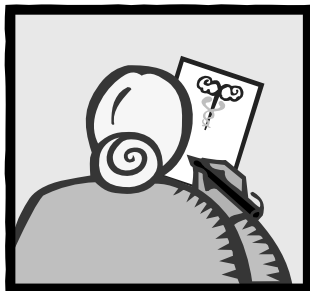
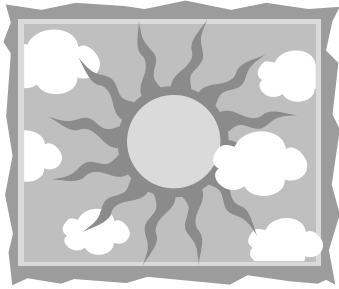
(3)

- 5.8 Product processing and packaging play an important role in the viability of a broiler production unit.



- 5.8.1 State in which case a chicken abattoir would prefer option A over option B. (2)
- 5.8.2 Explain the benefits of option A in such circumstances. (2)

5.9 Use the pictures below to answer the question that follows.



Name the factors that an entrepreneur has to consider before starting a new enterprise, such as boiler farming.

(5)
[50]

QUESTION 6: GAME FARMING

6.1 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 (6.1.1 – 6.1.10) in the ANSWER BOOK, for example 6.1.11 E.

6.1.1 The responsible use of veld and other natural resources to ensure sustainable game farming is part of ...

- A the Occupational Health and Safety Act, 1993 (Act 85 of 1993).
- B Agri-BEE.
- C the national land care programme.
- D land reform.

6.1.2 To keep records of the type and quantity of game sold is part of ... in management.

- A decision-making
- B leadership
- C control
- D organisation

6.1.3 The process whereby muscles become tense after slaughtering is called ...

- A cool crimping.
- B ripening.
- C aging.
- D rigor mortis.

6.1.4 The optimum temperature for the ripening of meat to take place:

- A 0 °C
- B 6 °C
- C 8 °C
- D 10 °C

6.1.5 The marketing of a product whereby the product can be sold to any person at an agreed price is called ...

- A free marketing.
- B controlled marketing.
- C co-operative marketing.
- D governmental marketing.

6.1.6 Which ONE of the following is NOT a product of game that can be sold at a higher price?

- A Biltong
- B Skin
- C Stuffed carcass
- D Hoofs

6.1.7 The size of the transporter will be influenced by the ...

- A price of game.
- B number of buyers.
- C type of game.
- D number of game on the farm.

6.1.8 Indicate which ONE of the following can be used to ensure rotational grazing on a game farm:

- A Camps
- B Electric fencing
- C Veld fires
- D Introducing new game

6.1.9 Indicate which ONE of the following statements is NOT related to a business plan?

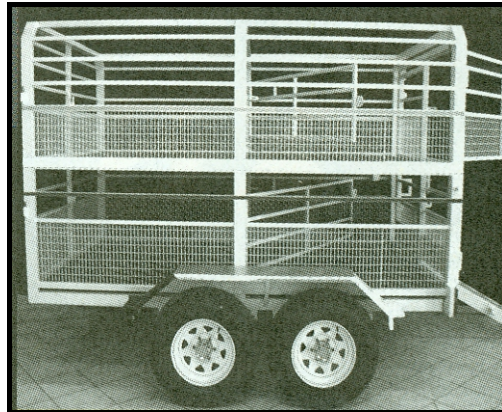
- A Show your knowledge of an enterprise.
- B Define objectives.
- C Define agreements between partners.
- D Evaluate the product line.

6.1.10 When processing fresh meat for human consumption, it is important to ...

- A use previously handled knives.
- B wear a hair protector.
- C wash the carcass.
- D mark every bone.

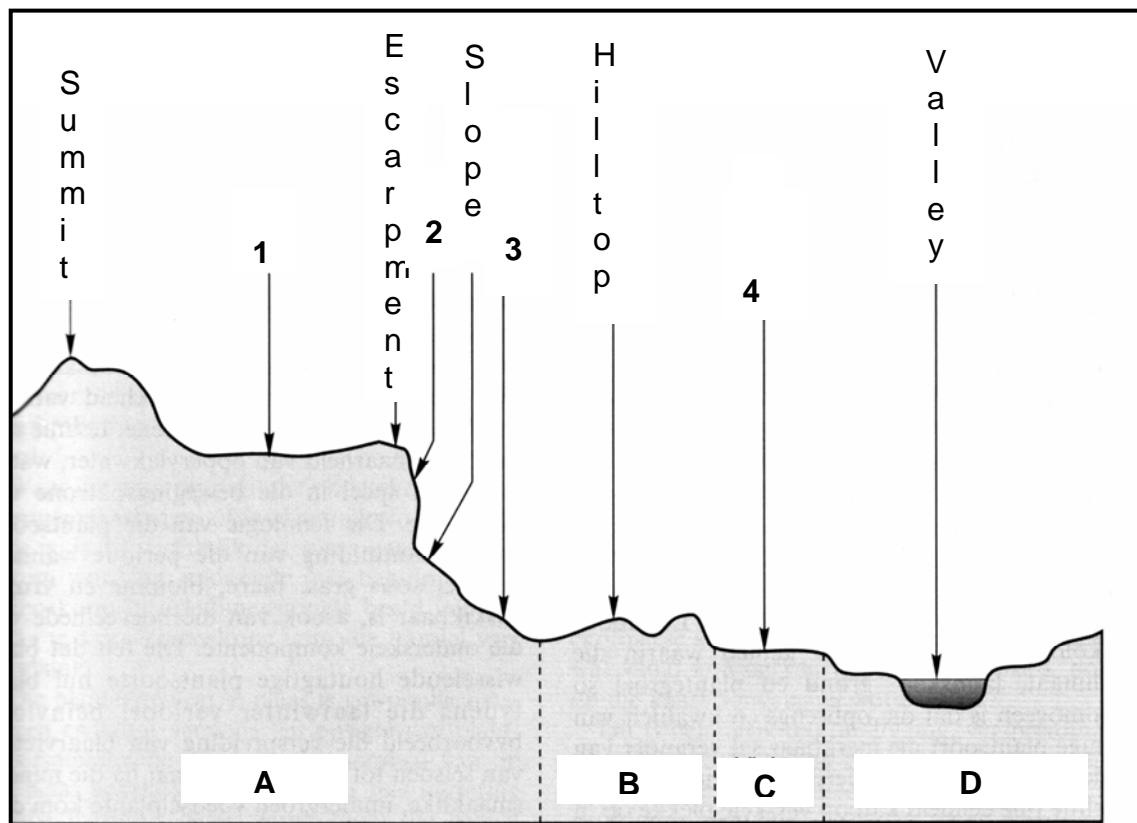
(10 x 1) (10)

- 6.2 The photograph below represents a vehicle that can be used to transport game. Indicate the road regulations with reference to such a vehicle.



(10)

- 6.3 The following is a representation of land forms on a game ranch.



- 6.3.1 Name the landscape parts numbered 1 to 4. (4)
- 6.3.2 Name the veld areas indicated by A to D. (4)

- 6.4 Cash flow budgets are a healthy base for obtaining credit as well as financial control of the cash position of an enterprise.

Compile a list to indicate features of such a cash flow budget. (6)

- 6.5 Many game farmers do their own marketing for hunting expeditions. You, as an experienced game farmer, wish to explain the content of a brochure to other farmers.

Compile a list of important information that needs to be included in such a brochure to advertise the different pricing structures. (6)

- 6.6 The planning phase to develop an effective game farm is a matter of utmost importance.

Support this statement by compiling planning guidelines that will ensure success. (6)

- 6.7 The Minister of Environmental Affairs and Tourism gives guidelines on forbidden hunting of protected game in terms of Section 97 of the National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004).

Name any FOUR unlawful hunting methods of protected game with reference to rifles. (4)
[50]

QUESTION 7: LAY-HEN PRODUCTION

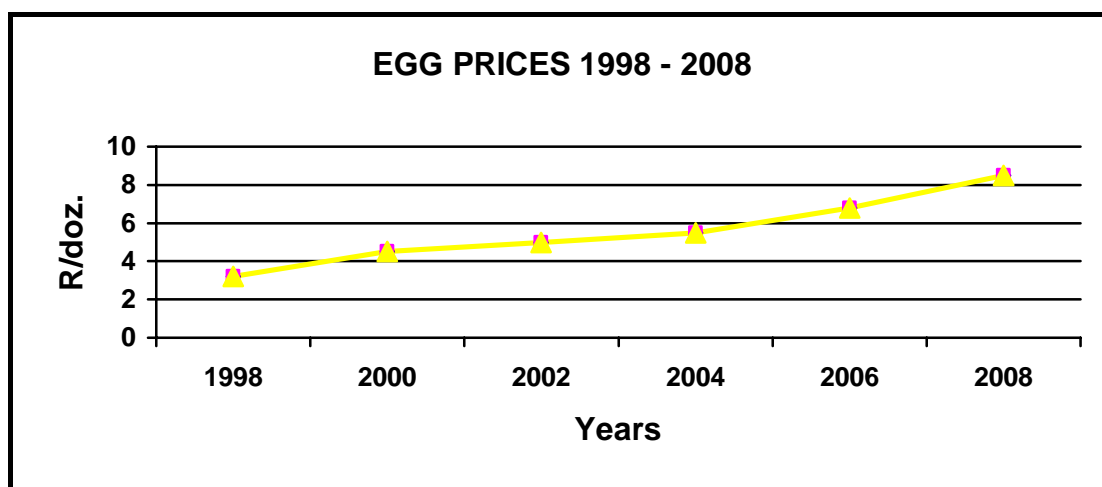
- 7.1 Choose a description in COLUMN B that matches the item/word in COLUMN A. Write only the letter (A – M) next to the question number (7.1.1 – 7.1.10) in the ANSWER BOOK, for example 7.1.11 N. A description in COLUMN B can only be used ONCE.

COLUMN A		COLUMN B	
7.1.1	Yolk	A	when hens peck at their own eggs
7.1.2	Free-range	B	too much money spent in relation to other production factors
7.1.3	Pool system	C	the yellow section of the egg (colour varies according to feed)
7.1.4	Agricultural Product Standards Act, 1990 (Act 119 of 1990)	D	rewarding exceptional working achievements
7.1.5	Cannibalism	E	the highest price a farmer can get for his product
7.1.6	Grading	F	improves labour output in agribusiness
7.1.7	Incentive wages	G	the production system where chickens are allowed access to the outdoors
7.1.8	Floor price	H	the activity of increasing the economic value of agricultural products/services, for example packaging, processing
7.1.9	Over-capitalisation	I	provides measures to maintain essential national quality standards
7.1.10	Training	J	when hens constantly peck at each other
		K	the principle on which co-operative marketing is based
		L	the lowest price a farmer can get for his product
		M	the actual sorting process of products into specific grades to distinguish particular characteristics

(10 x 1)

(10)

- 7.2 The graph below indicates the price of medium-sized eggs per dozen over a period of 10 years. Study the graph and answer the questions that follow.



- 7.2.1 Give at least THREE reasons for the price hike over the ten-year period. (3)

- 7.2.2 Name the TWO important records that a farmer should keep to ensure correct pricing of his products. (2)

- 7.3 The table below indicates a comparison between an intensive and an extensive layer production system.

LAYERS	EXTENSIVE	INTENSIVE
Yearly egg production	20 – 60	250 – 280
Average egg weight (g)	35 – 45	58 – 62
Adult hen weight (g)	600 – 900	2 000 – 3 000
Mortality (%)	75%	20%

- 7.3.1 Explain the difference between an *intensive* and an *extensive* layer unit. (2)

- 7.3.2 Explain how one of the above systems can be regarded as precision farming. (2)

- 7.3.3 You are a farmer in a rural area and do not have a market for your eggs. Which system would be the most suitable? Explain your answer. (2)

- 7.4 Farmer Brown owns a layer production unit. He wants to add value to his product by putting a 'FREE-RANGE' label on the box. According to the Agricultural Production Standards Act, 1990, he may only do so under certain circumstances.

Explain these circumstances.

(3)

- 7.5 Mr Dube has an intensive layer production unit with 2 000 hens.

- 7.5.1 Calculate the number of eggs he will get per day if his hens lay at 80% production.

(2)

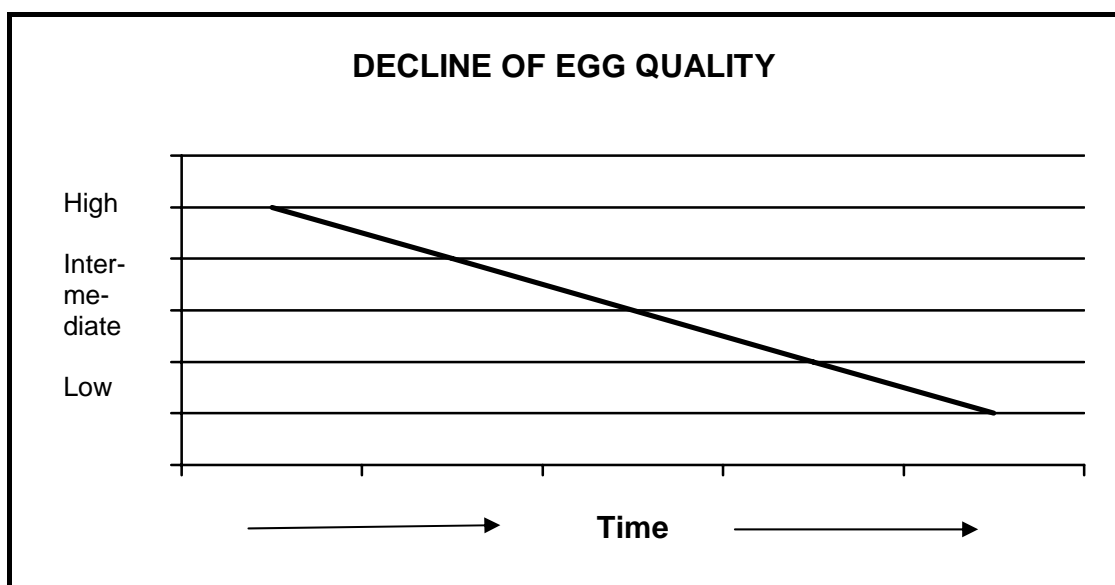
- 7.5.2 If the hens eat 120 g feed/day, determine the feed consumption in a 30-day month.

(2)

- 7.5.3 Calculate the feed budget for April 2008 if the price of feed is R170/50 kg.

(2)

- 7.6 The graph below indicates the decline in egg quality over time.



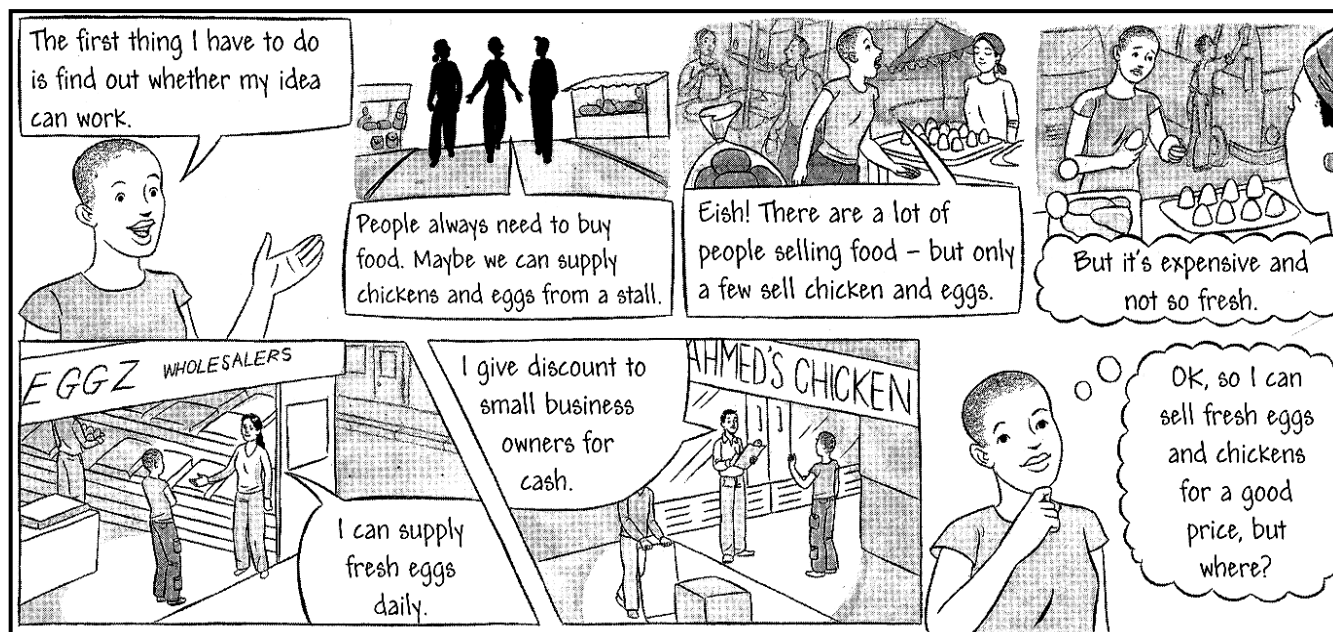
- 7.6.1 Suggest how this decline in quality can be slowed down.

(3)

- 7.6.2 Name TWO methods that can be used to determine the quality of eggs.

(2)

- 7.7 Marketing is defined as the process of satisfying human need by bringing products to people – supplying in the proper form and at the proper time. Study the pictures and answer the questions that follow.



- 7.7.1 Name FOUR steps in market research for an egg-selling enterprise. (4)

- 7.7.2 Give TWO reasons for the process in QUESTION 7.7.1. (2)

- 7.8 Mr Dube is the owner of a 20 000 layer production unit. He employs 20 full-time labourers, 1 for every 1 000 hens, to collect eggs, control water and feed and for the general care of the hens. To clean the batteries he employs 10 labourers every fortnight. Mr Dube pay his workers either directly or indirectly. Occasionally he gives them some eggs as well as some of the hens that do not produce well. The labourers receive their wages on a monthly or a weekly basis, according to choice.

- 7.8.1 Identify the TWO types of labourers on Mr Dube's farm. (2)

- 7.8.2 State the legal differences between these two types of labourers. (2)

- 7.8.3 Do the eggs and the hens that Mr Dube gives to his labourers account as part of his remuneration of the labourers? Explain your answer. (2)

- 7.9 The grading of eggs is not done according to size only, but also according to the quality of the egg shell. Briefly distinguish between grades A, B and C eggs according to shell appearance. (3)

[50]

QUESTION 8: SHEEP PRODUCTION (WOOL)

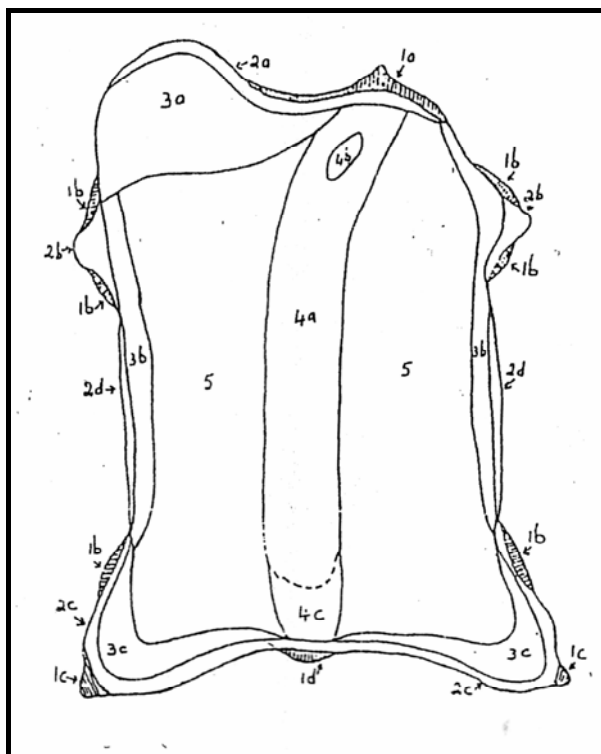
8.1 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'true' or 'false' next to the question number (8.1.1 – 8.1.10) in the ANSWER BOOK, for example 8.1.11 True.

- 8.1.1 All wool sheep farming enterprises are intensive farming systems.
- 8.1.2 The quality of wool is determined by the nutritional status of the sheep.
- 8.1.3 The optimal average time to shear a wool sheep is after wool growth of 8 months.
- 8.1.4 Dipping your sheep might have a negative influence on the quality of wool.
- 8.1.5 The Merino is South Africa's best wool sheep, in terms of wool quality.
- 8.1.6 Sufficient light and ventilation are very important in a shearing shed.
- 8.1.7 Fleece mass accounts for the quantity of clean wool produced by the sheep.
- 8.1.8 LOX wool is the best quality of wool.
- 8.1.9 An ewe that does not produce at least one lamb per year must be culled.
- 8.1.10 The lambing records are part of the production records of the farm.

(10 x 1)

(10)

- 8.2 The drawing below represents the fleece of a wool sheep. Describe the skirting of the fleece on the skirting table.



(6)

- 8.3 A farmer signs a contract with BKB to shear his sheep. BKB has contract workers who work for them during the shearing season. The contract with the farmer stipulates that he must provide housing as well as food for the shearers.

8.3.1 Indicate the type of labourer that these shearers will represent. (1)

8.3.2 Can the farmer deduct the cost of housing and food from the cash payments of the shearers? Explain your answer. (3)

8.3.3 A shearer cuts himself with the shearing scissors. He bleeds profusely. Indicate the precautions that the person helping him should take to protect himself. Explain your answer. (2)

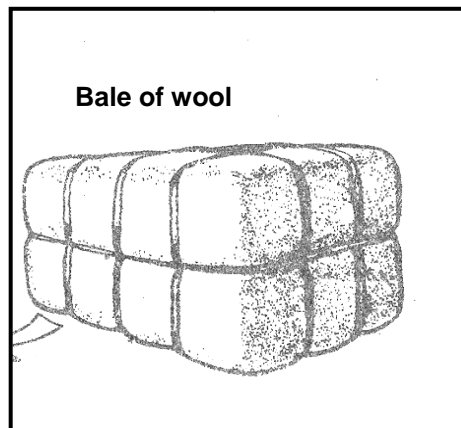
- 8.4 Production records in a wool farming system entails more than just keeping records of the offspring and the number of animals shorn per year. Give a wool farmer advice and name FOUR production records that he should keep. (4)

8.5 Farmer John shears 500 Merino sheep a season. He shears off 1 750 kg of clean wool and 25 kg of off-cuts.

8.5.1 A part of the wool has been separated into three classes, namely CP, BP and LOX. Briefly describe these THREE classes. (3)

8.5.2 Name the THREE characteristics which are used in the evaluation of wool. (3)

8.6 The picture below represents a bale of wool.



8.6.1 Indicate the mass range allowed for such a bale of wool. (1)

8.6.2 Describe the requirements for the marking of bales after closing them up and getting them ready to be moved to the processor. (4)

8.7 Farmer John farms with 1 000 Merino sheep in the South Eastern highveld of Mpumalanga. His sheep carry a 10-month-old wool crop before he shears them. The production of clean fleece wool rendered 3 000 kg wool of 19 μm . His attributable costs amounted to R60 000. He was paid R150 000 for his wool by BKB.

8.7.1 Calculate the profitability per 1 000 ewes. (2)

8.7.2 Calculate the profitability per sheep. (2)

8.7.3 Indicate if the year described above was profitable. (2)

8.8 Mr Dube wants to expand his wool sheep enterprise. He plans to buy a neighbouring farm and an additional 500 ewes. He also plans to hire more labour which will cost another R1 800 per month. To succeed, he needs to apply for extra financial assistance from either Land Bank or the Agricultural Credit Board.

8.8.1 From the case study above, identify ONE example of each of the following:

- (a) Long-term credit
- (b) Medium-term credit
- (c) Short-term credit

(3)

8.8.2 Before Mr Dube decided to expand his existing enterprise, he had to research the viable options for the production system.

Name FOUR main factors he had to consider to test the viability of his options.

(4)

[50]

QUESTION 9: LUCERNE PRODUCTION

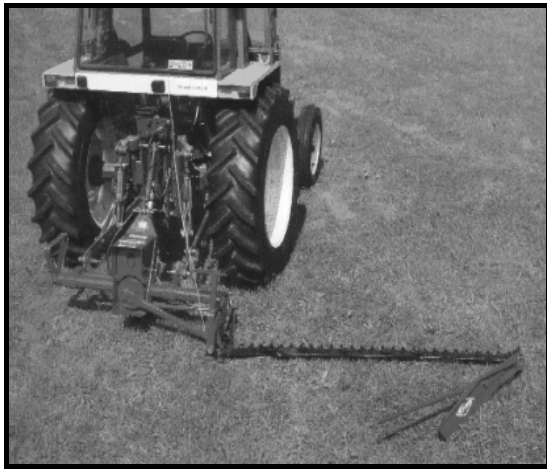
- 9.1 Choose a description from COLUMN B that matches a/an item/word in COLUMN A. Write only the letter (A – N) next to the question number (9.1.1 – 9.1.10) in the ANSWER BOOK, for example 9.1.11 O. A description from COLUMN B can only be used ONCE.

COLUMN A		COLUMN B	
9.1.1	Lucerne pellets	A	poor health resulting in loss of productivity from farm workers
9.1.2	Agribusiness and co-operatives	B	maximum possible profit
9.1.3	Inputs	C	help farmers by securing markets for their products
9.1.4	Land Reform (Labour Tenants) Act, 1996 (Act 3 of 1996)	D	fertilisers and pesticides
9.1.5	Cultural method	E	lucerne processed into pig and poultry feed
9.1.6	Sole proprietor	F	method of controlling pests and diseases by using good field practices such as the correct planting time
9.1.7	TB, HIV and Aids	G	one person owning a farm business
9.1.8	Net profit	H	the difference between total sales and the cost of goods sold (this is income remaining to cover operating expenses and leave a profit)
9.1.9	High wages for labourers	I	provides security to farm workers living on farms
9.1.10	Sub-surface drip irrigation	J	serves as incentive to farm workers
		K	involves supervision
		L	most efficient irrigation system, saves water, and saves on labour costs
		M	provides casual workers with job security
		N	the amount that remains as business income, after all costs, including tax, have been deducted

(10 x 1)

(10)

- 9.2 Using tractor-drawn implements is normally part of the harvesting of lucerne. The pictures below illustrate some of these implements.

**A****B**

- 9.2.1 Identify the implements labelled **A** and **B** in the pictures above. (2)

- 9.2.2 Differentiate between the functions of the implements labelled **A** and **B** in the pictures above. (2)

- 9.3 Value-added strategy involves a 'demand-side focus' which identifies the customers and their needs. The picture below shows lucerne pellets, which is one way of processing lucerne.



- 9.3.1 Describe the meaning of the term *value adding* in agricultural production. (2)

- 9.3.2 Value is determined by focusing on the benefits associated with the agribusiness product or service, such as ease of possession. Explain how a farmer can add value to his lucerne crop. (3)

- 9.4 The price of a product has to be determined accurately. The table below represents a balance sheet for A & Z Farm.

Balance Sheet for A & Z Farm as at 31 December 2008			
Assets	Rand	Liabilities and stockholders' equity	Rand
Current assets		Current liabilities	
9.4.1	Accounts payable	1 900
Inventory	3 500	Long-term liabilities	
9.4.2	Loans payable	3 700
Total current assets	10 400	Total liabilities	5 600
Fixed assets		Stockholders' equity	
9.4.3	9.4.4
Implements (Machinery)	3 700	Retained earnings	3 000
Total fixed assets	11 200	Total stockholders' equity (net worth)	13 000
Total assets	20 100	Total liabilities and stockholders' equity	20 100

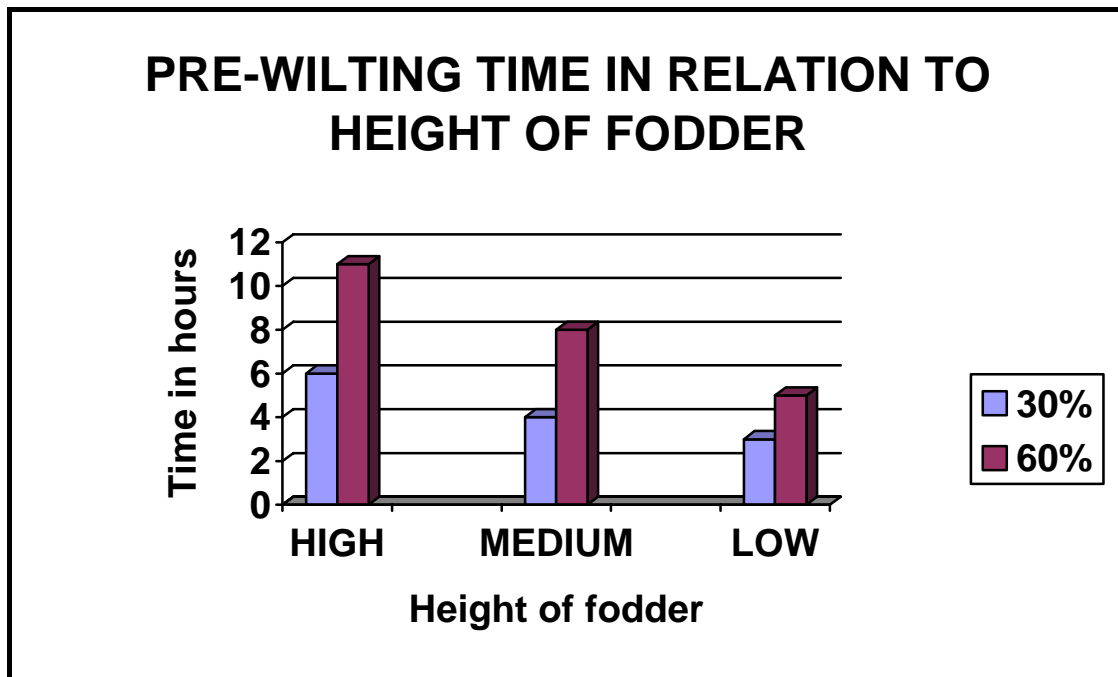
In the table above missing transactions are indicated by 9.4.1 to 9.4.4. Use the transactions below to complete these missing transactions.

Bank Balance	Accounts receivable	Truck for deliveries	Shared capital
R2 900	R4 000	R6 000	R10 000

(4)

- 9.5 Pre-wilting of lucerne after harvesting enhances the ensiling processes and reduces the breakdown of protein as well as the amount of fermentation fluid. Pre-wilting time should be kept as short as possible in order to stop yield losses due to breakdown of sugar in the plants.

The graph below represents the pre-wilting time in relation to the height of the fodder.



Determine, from the graph above, the effect of the height of the lucerne on the pre-wilting time at 60% DM.

(2)

- 9.6 Protective clothing is addressed in the Occupational Health and Safety Act, 1993 (Act 85 of 1993). A number of hazards are present when pesticides, equipment and machinery are handled on the farm on a daily basis.

**A****B**

Suggest the NAME and ONE function of the safety clothing marked **A** and **B** above.

(4)

- 9.7 Lucerne that is not grazed can also be used to make hay and, in exceptional cases, even silage. The making and storing of hay saves storage space. An additional benefit is that with proper planning lucerne hay can fill gaps in the fodder flow on a farm.

Explain the advantages of the baling of lucerne for the farmer as indicated in the picture below.



(5)

- 9.8 Read the case study below and answer QUESTIONS 9.8.1 and 9.8.2.

WHERE DID BIOTECHNOLOGY BEGIN?
Crop Improvement

Although plant science is a relatively modern discipline, its fundamental techniques have been applied throughout human history. When early man went through the crucial transition from nomadic hunter to settled farmer, cultivated crops became vital for survival. These primitive farmers, although ignorant of the natural principles at work, found that they could increase the yield and improve the taste of crops by selecting seeds from particularly desirable plants.

Farmers long ago noted that they could improve each succeeding year's harvest by using seeds from only the best plants of the current crop. Plants that, for example, gave the highest yield, stayed the healthiest during periods of drought or disease, or were easiest to harvest and tended to produce future generations with the same characteristics. Through several years of careful seed selection, farmers could maintain and strengthen such desirable traits.

The possibilities for improving plants expanded as a result of Gregory Mendel's investigations in the mid-1860s of hereditary traits in peas. Once the genetic basis of heredity was understood, the benefits of cross-breeding, or hybridisation, became apparent: plants with different desirable traits could be used to cultivate a later generation that combined these characteristics.

- 9.8.1 Define what you understand by the term *biotechnology in crop production*. (2)
- 9.8.2 Explain the advantages of biotechnology to an emerging farmer who shows an interest in this practice. (4)

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

One of the components of an agritourism business plan is a marketing plan. Agritourism marketing consists of several elements and two of these are location and media. If your farm is positioned near a national highway, you can capitalise on the number of motorists travelling by your site. If your farm is situated in a remote location, you may draw guests with the natural or serene qualities of your 'getaway' destination.

Media: Advertising through print, audio or television media may seem intimidating. It would be advisable to consult a reputable advertising agency. You may also contact publications, TV stations and radio stations to obtain free profiles of their subscribers.

- 9.9.1 Deduce the meaning of *agritourism* and explain how a farmer can take advantage of the location of his farm in agritourism. (3)
- 9.9.2 Recommend a strategy that you will follow to advertise your agritourism enterprise, using the media as described in the passage above. (2)

- 9.10 Many agricultural products are produced in secluded areas of the country, which need to be transported over long distances to the market. A commercial farmer wants to transport bales of lucerne from his farm to the market.



State the training that his driver needs to receive in order to effectively and efficiently transport bales to the market, as shown in the picture above.

(1)

- 9.11 A farmer produces lucerne hay at R840,00 /ton. He sells it to a speculator at R1 240,00/ton.

9.11.1 Calculate the farmer's gross profit per ton.

(2)

9.11.2 Calculate the farmer's net profit if he has to pay R200,00 for wages, rent and electricity.

(2)

[50]

QUESTION 10: CITRUS PRODUCTION

10.1 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 (10.1.1 – 10.1.10) in the ANSWER BOOK, for example 10.1.11 E.

10.1.1 Citrus is rich in vitamin ...

- A C.
- B A.
- C D.
- D B12.

10.1.2 An example of running costs on a citrus farm is the ...

- A trees.
- B pesticides.
- C sprayer.
- D sorting building.

10.1.3 The best time for a farmer to do repairs on his spraying equipment is during ...

- A the peak harvesting season.
- B spring when trees are in full blossom.
- C winter when the work volume on the farm is low.
- D summer when the citrus trees are in peak growing season.

10.1.4 Depreciation can be defined as ...

- A wear and tear.
- B being out of fashion (obsolete).
- C deterioration.
- D All the above-mentioned

10.1.5 Citrus is sprayed mechanically with water after harvesting to ...

- A remove pesticide residue.
- B remove any pests on the citrus.
- C remove the fuzz on the surface.
- D increase the sugar content of citrus.

10.1.6 Citrus is mostly harvested during ...

- A winter.
- B summer.
- C spring.
- D autumn.

- 10.1.7 When selecting canned citrus it is more healthy to find citrus with a label that states ...
- A Packed in artificial juice.
 - B Packed in its own juice with added sugar.
 - C Packed in its own juice and no sugar added.
 - D Packed in artificial juice and no sugar added.
- 10.1.8 Which citrus fruit is most commonly used as a breakfast fruit?
- A Lemons
 - B Oranges
 - C Limes
 - D Grapefruit
- 10.1.9 The cash flow of an enterprise can be easily obtained from the ...
- A income statement.
 - B daily balance sheet.
 - C budget sheet.
 - D yearly balance sheet.
- 10.1.10 Which ONE of the following is an example of an external factor in a business plan?
- A Donors
 - B New IT system
 - C Development of a new product
 - D Refurbishing a factory
- (10 x 1) (10)
- 10.2 In a citrus enterprise it is important that the entrepreneur knows the different pricing strategies to maximise the profit obtained. Indicate the different pricing strategies to take into account to convince people to buy your products. (6)
- 10.3 Computers play an important part in record keeping in a citrus enterprise. Name FOUR different types of computers that a citrus farmer can make use of when recording data. (4)
- 10.4 The land reform programme of the government consists of three components. Explain each of the following components:
- 10.4.1 Restitution (3)
 - 10.4.2 Redistribution (3)
 - 10.4.3 Tenure reform (2)

10.5 Precision farming may be used to improve field and farm management from several perspectives. Name FOUR of these perspectives. (4)

10.6 A labourer is not doing her work as she has been asked to. She comes late and goes home early and therefore disciplinary action has to be taken against her. Name SIX important aspects when taking such a disciplinary action. (6)

10.7 The table below is an extract from a budget for mature citrus production based on the one-year production of 141 trees on $\frac{1}{2}$ hectare of land.

ITEMS	COSTS
Variable costs	R12 000
Fixed costs	R2 500
TOTAL SPECIFIC COSTS	R14 500

10.7.1 Name the initial resource requirements to set up this budget. (4)

10.7.2 This farmer receives R15/bag for his oranges. Calculate how many bags he must sell to break even according to the table above. (2)

10.8 Describe the citrus packaging process. (6)
[50]

QUESTION 11: MAIZE PRODUCTION

11.1 Various options are provided as possible answers to the following questions. Choose the correct answer and write the letter (A – D) next to the question number (11.1.1 – 11.1.10) in the ANSWER BOOK, for example 11.1.11 D.

11.1.1 The poisons in mouldy, poor-grade maize are called ...

- A phytotoxins.
- B maize sickness.
- C aflatoxins.
- D food poisoning.

11.1.2 The staple food and main cereal for South Africans is ...

- A rice.
- B maize.
- C bread from wheat.
- D potatoes.

11.1.3 Which ONE of the following is the best way to keep thieves and animals away from maize fields?

- A Chain dogs around the field.
- B Employ security guards.
- C Electrify fences.
- D Erect fences.

11.1.4 ONE of the following is often added to maize meal during processing to improve the value of the maize and the health of the consumers:

- A Amino acids
- B Vitamins
- C Chlorine
- D Proteins

11.1.5 Occasionally it is essential to use fans to expel too much moisture from maize in storage in ...

- A humid regions.
- B wetlands.
- C semi-arid regions.
- D the rain forests.

11.1.6 The determination of the percentage of other colour maize kernels according to the Agricultural Product Standards Act, 1990 (Act 119 of 1990) is done by ...

- A estimating the percentage of coloured kernels.
- B counting the total number of coloured maize kernels in the consignment.
- C using special electronic instruments.
- D obtaining a 200 g sample of maize from a deviating sample.

11.1.7 Care should be taken to correctly adjust all the moving parts of a combine harvester to eliminate ...

- A cracking of maize kernels.
- B collapse.
- C storage pests.
- D spoiling of maize kernels.

11.1.8 To dust harvested maize with ashes and a mixture of special herbs in order to repel storage insect pests is part of ...

- A hidden scientific knowledge.
- B wonderful knowledge.
- C indigenous knowledge.
- D primitive knowledge.

11.1.9 High volume maize production accompanied by proper processing and storage is good for ...

- A consumer confidence.
- B food security.
- C bumper harvest.
- D production competitiveness.

11.1.10 Without causing damage to the environment, containers of chemical pesticides can be disposed of by ...

- A incineration.
- B dumping them in or near rivers.
- C dumping them in the bush/on dumping sites.
- D throwing them in open fields.

(10 x 1)

(10)

- 11.2 According to the standards and requirements regarding control of the export of maize in South Africa (1990), there are two types of maize that are named after the colours of the kernels.
- 11.2.1 Name the TWO types of maize. (2)
- 11.2.2 Name the type of maize that is usually processed into maize meal and maize flour. (1)
- 11.2.3 Indicate which type is usually used as an ingredient in livestock feed. (1)
- 11.3 Two commercial maize farmers grow maize in two different ecological regions. Mr Siza grows maize under irrigation in the semi-arid region of Limpopo and Mr Jama grows maize in the high rainfall region of Mpumalanga. The market price for export maize is the same for both.
- 11.3.1 Which ONE of these two farmers is likely to make more profit from his maize enterprise? Explain your answer. (2)
- 11.3.2 Name TWO major extra expenses that are incurred by the farmer who is likely to make less profit. (2)
- 11.4 Precision farming is a new method of farming that tailors inputs of fertiliser, pesticides, et cetera to match the variations in growing conditions within a field. The practice is known as site specific management.
- 11.4.1 Name TWO activities during the *pre-emergence* of the crop in the production of maize where precision farming can be useful. (2)
- 11.4.2 Name ONE activity during the *post-emergence* of the crop in the production of maize where precision farming can be useful. (1)
- 11.5 It is very important for an emerging farmer to draw up a business plan and identify the relevant sources of capital. Bank loans are the most common sources of capital. Copy and complete the table below to describe these forms of loans according to their duration and what each loan can be used for in a maize enterprise.

THREE major uses of capital are given for you to place in the table:

- Purchase of machinery
- Purchase of land
- Purchase of fertilisers

TYPES OF LOANS IN MAIZE PRODUCTION

	Long-term loan	Medium-term loan	Short-term loan
Duration
Uses of capital

(6)

- 11.6 On 27 May 2008 farmer Nsimbi sold 13 bags of maize for R1 490,00 and 40 unused, empty maize bags for R112,00 to a store manager in the village. The store manager paid R1 700,00 cash and he received R98,00 change.

Design a tax invoice indicating ALL the details of the transaction and mark this invoice as number 2.

(6)

- 11.7 Briefly describe each of the following types of labourers:

11.7.1 Temporary worker

11.7.2 Seasonal worker

11.7.3 Casual worker

(3)

- 11.8 Refer to the balance sheet for Marks Farming Enterprises below to answer QUESTIONS 11.8.1 to 11.8.3.

Marks Farming Enterprises, 30 December 2006
Balance Sheet

ASSETS	RANDS	LIABILITIES	RANDS
Current assets		Current assets	
Cash in hand	15 000	Labour salaries for next month	13 500
Intermediate assets		Intermediate assets	
Tools and machinery owned	184 000	Tractor loan outstanding	2 500

- 11.8.1 Calculate the percentage of the assets made up by tools and machinery.

(2)

- 11.8.2 Explain the influence on the costs of labour if the farmer increases the level of mechanisation.

(1)

- 11.8.3 Briefly explain the negative effects of high farm mechanisation on:

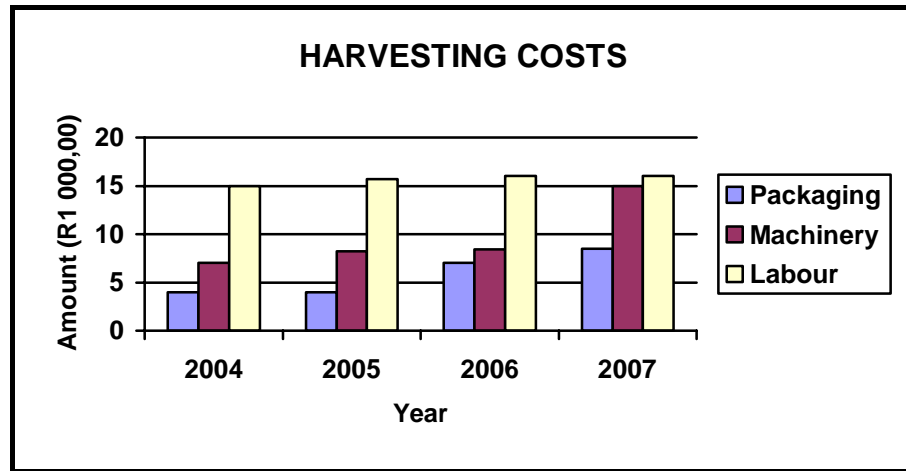
(a) Social justice

(b) Environmental justice

(2)

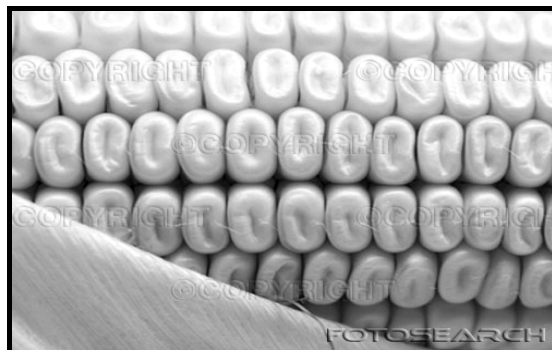
- 11.9 The bar graph below represents the costs of harvesting that were incurred by one commercial maize farmer.

Refer to this graph to answer QUESTIONS 11.9.1 and 11.9.2.



- 11.9.1 Calculate the difference between the total harvest costs for 2005 and the total harvest costs for 2007 to the nearest thousand rands. (3)
- 11.9.2 Name the TWO products where the rise in their prices caused the running costs of machinery to rise dramatically in 2007. (2)

- 11.10 The pictures below show certain processes during the harvesting of maize. Use the pictures to answer the questions.

**A****B****C**

- 11.10.1 Name any TWO foreign materials that will blow away with the wind during the process of cleansing maize kernels for grading, as shown in PICTURE A. (2)
- 11.10.2 Indicate any defect or quality lowering factor that may be identified on the maize in PICTURE B during grading. (1)
- 11.10.3 Explain which post-harvest practice caused the maize kernels in PICTURE C to shrivel. (1)
- [50]**

QUESTION 12: WHEAT PRODUCTION

- 12.1 Choose a description from COLUMN B that matches the item/word in COLUMN A. Write only the letter (A – Q) next to the question number (12.1.1 – 12.1.10) in the ANSWER BOOK, for example 12.1.11 R. A description from COLUMN B can only be used ONCE.

COLUMN A		COLUMN B	
12.1.1	Entrepreneur	A	determines the viability of a business idea
12.1.2	Business plan	B	means that something must be subtracted, like expenses
12.1.3	Gross income	C	a very important tool for any business
12.1.4	Discipline	D	helps in the efficient use of labour and capital
12.1.5	Cooperative	E	replacement cost
12.1.6	Gross profit	F	to eliminate undesirable behaviour and to create a feeling of solidarity in a business
12.1.7	Market research	G	a leadership style that favours a shared decision-making process
12.1.8	Target market	H	that portion of the market that you can reach with your product or service
12.1.9	Calculator	I	a detailed action plan of all aspects regarding the business objectives and setting them out on paper
12.1.10	Feasibility study	J	formed by a number of people who decide to work together for a common purpose
		K	a person who recognises opportunities for new products or services and establishes and manages a business
		L	a loan taken for one year or less for temporary uses, such as buying fertilisers
		M	helps the entrepreneur to determine the size of the land required, the sales levels and the types of consumers he/she will be dealing with
		N	the loss in value of an asset due to wear and tear
		O	sales less purchases
		P	an Act that deals with safety in the workplace, for example protective clothing
		Q	a loan taken for one to five years to buy capital items like machinery

(10 x 1)

(10)

- 12.2 Record-keeping is a key component of managing an efficient farm business. Therefore, records are not only kept for legal and taxation purposes, but also for a number of reasons.

Name FOUR purposes of keeping records for a wheat production enterprise. (4)

- 12.3 Value can be added to wheat in many ways. Apart from feed and food, wheat straw can be compacted to form building materials. Wheat fields can be grazed by animals in an animal production enterprise on the wheat farm. Wheat grain can also be converted into organic natural foods and sold at health food stores.

Name THREE possible ways in which wheat can be processed to add value to the harvested product. (3)

- 12.4 Read the extract below and answer the questions that follow.

THE EFFECT OF HIV/AIDS

South Africa is one of the countries most affected by HIV/Aids, with 5 to 6 million HIV-infected individuals. Nearly 20% of the 15 – 49-year-old population is infected and in parts of the country up to 40% of women of child-bearing age are infected. Overall, 12 – 13% of the population is infected and by 2005 this rate could reach 15%. About 2 300 new infections occur each day or more than 850 000 annually. Approximately 40% of adult deaths and 29,8% of all deaths in 2000 were due to Aids. Without effective prevention and treatment 5 – 7 million cumulative Aids deaths are anticipated by 2010 (with 1,5 million deaths in 2010 alone), and more than 1 million are projected to be sick with Aids. Recent studies predict the epidemic could cost South Africa as much as 17% in GDP growth by 2010. The extraction industries, education and health are among the sectors that will be severely affected. Over the last decade, national government leadership has not effectively addressed the epidemic, although a good HIV prevention strategy was initiated. In April 2002, a revitalisation of the HIV/Aids programme was announced by the cabinet with substantial funding increases anticipated in 2003/4. The impact of HIV/Aids cannot be overemphasised in the sub-Saharan region.

- 12.4.1 Indicate how farmers or entrepreneurs can combat the spreading of HIV/Aids among their farm workers. (3)

- 12.4.2 Name TWO effects that the disease has on learners at school. (2)

- 12.5 Planning is a management task where a plan of action is created. Planning deals with what needs to be done in the future, by whom, where, when and how.

Assist an emerging farmer by listing the logical steps in the planning process. (5)

12.6

HISTORY OF BIOTECHNOLOGY

Currently the most practical use of biotechnology is the cultivation of plants to produce food suitable for humans. Agriculture has been theorised to have become the dominant way of producing food since the Neolithic Revolution. The processes and methods of agriculture have been refined by other mechanical and biological sciences since its inception. Through early biotechnology farmers were able to select the best suited and highest-yield crops to produce enough food to support a growing population. Other uses of biotechnology were required as crops and fields became increasingly large and difficult to maintain. Specific organisms and organism byproducts were used to fertilise, restore nitrogen levels and control pests. Through the use of agriculture, farmers have inadvertently altered the genetics of their crops by introducing them to new environments and breeding them with other plants – one of the first forms of biotechnology.

Name FOUR advantages of biotechnology in agriculture, especially in crop production.

(4)

12.7

Break-even point is a point at which the costs are equal to the income or total income is equal to total expenses.

Given: the selling price (SP) of wheat is R3 000 per ton, fixed costs (FC) are R4 000/ha, and variable costs (VC) are R2 000/ha.

12.7.1 Calculate the break-even point in rands.

(2)

12.7.2 Calculate a farmer's gross income per season if he produces 4 tons of wheat/ha and he plants 10 ha.

(3)

12.8

Control is the managerial task that ensures the coordination and effective functioning of all business actions in a wheat enterprise. Control assists a farmer in checking whether everything in a given enterprise is going according to plan. Name THREE possible steps a farmer has to implement on a farm for efficient control over his/her workers.

(3)

- 12.9 The balance sheet is a measure of what the business is worth and the Total Assets must be equal to Total Liabilities.

A wheat farmer had the following entries in his books on 31 August 2008. Study the data of the financial records below and complete 12.9.1 to 12.9.6.

Cash	R2 000
Capital and reserves	R231 182
Bank	R20 000
Stocks (at cost)	R100 000
Debtors	R120 000
Implements	R60 000
Vehicles (tractor)	R90 000
Buildings (at cost)	R50 000
Creditors	R11 618
Long-term liabilities	R150 000

ASSETS	RAND	LIABILITIES	RAND
Fixed assets			
	12.9.1 ...	Capital and reserves	231 182
Implements (at cost)	60 000		
Current assets		Current liabilities	
	12.9.2 ...		12.9.5 ...
Debtors	120 000	Long-term liabilities	150 000
	12.9.3 ...		
	12.9.4 ...		
Total Assets	392 000	Total Liabilities	12.9.6 ...

(6)

- 12.10 Give ONE word for each of the following statements by choosing a word from the list below. Write only the word next to the question number (12.10.1 – 12.10.5) in the ANSWER BOOK.

sanitation; aeration; monitoring; protectant; fumigation; pesticides

- 12.10.1 The bins must be cleaned after emptying and all grain, dust and trash should be removed with a heavy-duty vacuum cleaner.
- 12.10.2 Farmers should treat their wheat in the bins with Malathion in order to kill insects.
- 12.10.3 During this process proper sealing of the bin with plastic and tape must be done to increase the probability of killing the pests inside the bin.
- 12.10.4 The stored grain must be subjected to this process at least once a month by sampling and measuring the temperature.
- 12.10.5 Wheat in storage should be cooled as soon as cool air is available.

(5)
[50]

QUESTION 13: SUNFLOWER PRODUCTION

13.1 Various options are provided as possible answers to the following questions. Choose the correct answer and write the letter (A – D) next to the question number (13.1.1 – 13.1.10) in the ANSWER BOOK, for example 13.1.11 E.

13.1.1 The Act that ensures that workers are provided with the necessary protective clothing and trained to operate machinery efficiently is known as the ...

- A Labour Relations Act, 1995 (Act 66 of 1995).
- B Basic Conditions of Employment Act, 1997 (Act 75 of 1997).
- C Occupational Health and Safety Act, 1993 (Act 85 of 1993).
- D Compensation for Occupational Injuries and Diseases Act, 1993 (Act 130 of 1993).

13.1.2 Promoting a product such as sunflower oil is important to convince people to buy a given product. ONE of the following is NOT a method to promote an agricultural product:

- A Trade fairs and exhibitions
- B Direct mailing
- C Advertisements
- D Free marketing

13.1.3 During planning a farmer has to show all estimated costs, returns, profits and, if possible, losses that may have been incurred during the running of the farming enterprise. This information is known as the ... of the enterprise.

- A draft
- B plan
- C summary
- D budget

13.1.4 A financial document in which a farmer can record the receipts and payments of his/her enterprise in detail, is known as the ...

- A inventory.
- B balance sheet.
- C cash analysis.
- D cash flow.

13.1.5 When farmers sell their sunflower grain through an organised body that is managed by a group of people where farmers are represented, it is called ...

- A co-operative marketing.
- B free marketing.
- C controlled marketing.
- D closed marketing.

13.1.6 Adding value to the sunflower production business may include ...

- A staff outings.
- B selling some of the produce as poultry feed.
- C saving fertilisers.
- D giving loans to labourers.

13.1.7 Genetically modified organisms (GMOs) help the agricultural industry by ...

- A improving income and quality of life of the semi-rural poor.
- B making crop management easier with less labour needed for the spraying of crops.
- C reducing hospital admission of people for pesticide poisoning on farms.
- D lowering production costs and a higher gross margin.

13.1.8 If a farmer owns a certain number of hectares that he/she bought from another person, this type of land ownership is known as ...

- A state ownership.
- B communal ownership.
- C private ownership.
- D trusted ownership.

13.1.9 An epidemic disease found in South Africa, which severely affects output per hectare in farms, is known as ...

- A anthrax.
- B cancer.
- C pneumonia.
- D human immunodeficiency virus (HIV).

13.1.10 ONE of the methods to dispose of empty pesticide containers without causing damage to the environment is to ...

- A dig a hole and bury them.
- B dump them into or near rivers.
- C dump them into the bushveld.
- D throw them in open grazing fields.

(10 x 1)

(10)

- 13.2 At a sunflower production enterprise there are disputes amongst workers. A verbal warning is one of the disciplinary actions that can be taken against any worker who has committed a minor offence. In the picture below a worker can be seen explaining to the manager what happened, and the shop steward is taking notes next to them. Explain THREE procedures that must be followed during a disciplinary hearing.



- 13.3 AgriBEE directly affects producers and landowners. The main focus is on access to land, existing infrastructure, inputs, financing expertise, training and marketing. What must be understood is the AgriBEE Scorecard, and that black economic empowerment must address the entire value chain of farming and agribusiness.

Name the FOUR aspects of the supply chain that AgriBEE tries to address.

(4)

- 13.4 Tissue culture is one of the branches of biotechnology that is applied in agricultural processes. This involves the selection of plants and manipulation of plants (micro-propagation), and the designing of transgenic plants to grow under specific environmental conditions or in the presence of certain agricultural chemicals. Hope exists for biotechnology to produce more environmentally-friendly solutions.



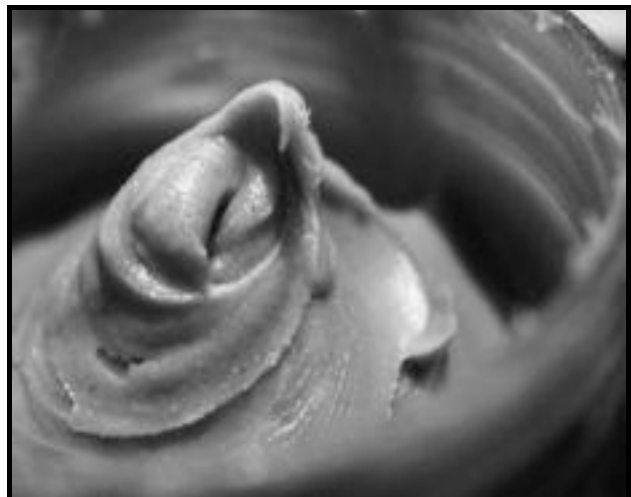
- 13.4.1 From the paragraph above, deduce a definition for *biotechnology*. (2)
- 13.4.2 Analyse the paragraph above and explain the importance of green biotechnology. (3)

- 13.5 Value-adding in agriculture may convert items into products of greater value, increase the economic value of a commodity or increase the consumer appeal of agricultural products such as Rama margarine, shown in the picture below.



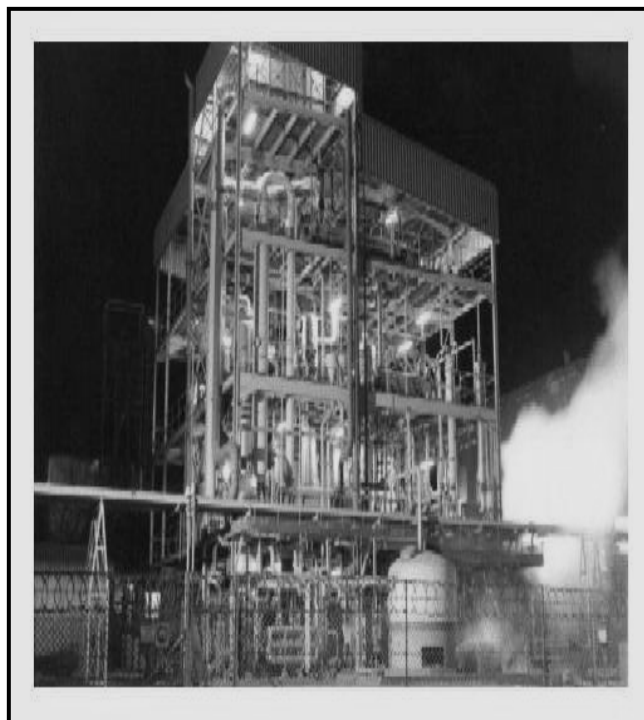
- 13.5.1 Explain how the term *value-adding* became one of the most common buzz-words in agriculture today, by defining it. (2)
- 13.5.2 Describe FOUR ways in which value can be added to agricultural items. (4)
- 13.6 The harvesting of sunflowers is a key operation and crop losses must be minimised during harvesting. List THREE major causes for crop loss in sunflower production. (3)

- 13.7 Agritourism is the practice of attracting travellers or visitors to an area used primarily for agricultural purposes. Study the pictures below and identify the activities a tourist can engage in on a farm.



(4)

- 13.8 Process flow and quality control of sunflower seed are the core activities to be followed before oil extraction. PICTURE A below shows that sunflower seed must be deshelled before oil extraction. The crude oil is pumped into storage tanks for further processing, as shown in PICTURE B. Further processing of crude oil consists of several steps.

**A****B**

- 13.8.1 Name any THREE steps to be followed when processing crude oil. (3)
- 13.8.2 State the objective of continuous quality control in the production of oil in a refinery. (3)

- 13.9 Sunflower oil is produced from oil-type sunflower seeds and it contains lecithin, tocopherols, carotenoids and waxes.
- 13.9.1 Name THREE uses of sunflower oil. (3)
- 13.9.2 A variety of health benefits are associated with the consumption of sunflower oil. Name THREE health benefits of this product. (3)
- 13.10 Producer prices are most important to farmers. Sunflower seed is one of the commodities traded on SAFEX and the SAFEX price serves as an indicator to producers on what they can ask for their produce on the market.
- 13.10.1 What does the abbreviation SAFEX stand for and what is the responsibility of SAFEX in the marketing system? (2)
- 13.10.2 What do you think determines the price of sunflowers in the grain market? (1)
- [50]**

QUESTION 14: VEGETABLE PRODUCTION

- 14.1 Complete the following sentences by using the words provided in the list below. Write only the word(s) next to the question number (14.1.1 – 14.1.10) in the ANSWER BOOK.

financial records; safety period; integrated control; tunnels; business plan; proteins; security/collateral; lubricating; precision farming; zero/no tillage

- 14.1.1 Before starting a vegetable production enterprise, you need to draft a ... which indicates the type of business, size of business, resources needed and target market.
- 14.1.2 Structures that consist of wooden frames covered with opaque plastic sheets used to protect growing vegetables from extreme weather conditions, such as frost and wind, are called
- 14.1.3 Vegetarians depend on vegetables for ..., a nutrient, which meat eaters get from animals.
- 14.1.4 The method used to control pests by combining chemical, biological and other methods of controlling pests, is called
- 14.1.5 The practice that helps to conserve soil structure, reduce soil compaction and control soil erosion when vegetable seedlings are planted without ploughing the soil, is called
- 14.1.6 ... is the period between the last chemical spraying of the vegetable crop against pests or diseases and the day of harvest or consumption of the vegetable.
- 14.1.7 The method of farming which aims at cutting down on production costs by applying inputs more efficiently with the help of GPS monitoring and GIS, is called
- 14.1.8 The two main types of records that are kept by a vegetable farmer are physical and ... records.
- 14.1.9 Implements used in vegetable production should be protected from rust by painting them and ... their moving parts with oil or grease.
- 14.1.10 The Land Bank and other banks may lend money readily to a co-operative and organised vegetable farmer groups, but may require more ... from an individual farmer before giving a loan. (10 x 1)

(10)

14.2 Name any THREE nutrients commonly found in vegetables. (3)

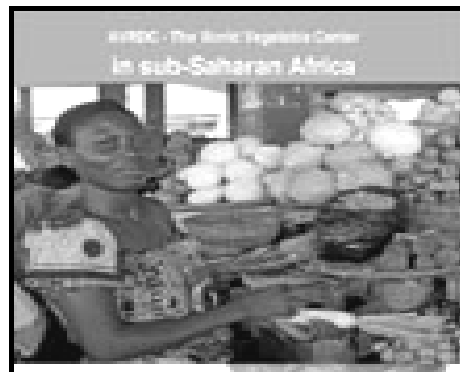
14.3 Describe the ideal soil texture for growing root vegetables, considering that during the harvesting of your root vegetables, cutting and bruising should be avoided. (3)

14.4 Compare the features of free marketing and contract marketing of vegetables by completing the table below. Write only the answers next to the question numbers (14.4.1 – 14.4.6) in the ANSWER BOOK.

FEATURES	FREE MARKET	CONTRACT MARKET
Bargaining power of the farmer	14.4.1 ...	14.4.4 ...
Marketing costs	14.4.2 ...	14.4.5 ...
Consumer protection against exploitation	14.4.3 ...	14.4.6 ...

(6)

14.5 Study the pictures of vendors below and answer the questions that follow.



14.5.1 Suggest the kind of biodegradable materials/bags that these vendors should use to wrap or pack vegetables for their customers. (2)

14.5.2 From which environmental conditions must these vendors protect the vegetables in their stalls so that the vegetables remain fresh, healthy and not contaminated with pathogens/germs? (2)

- 14.6 Vegetables in large quantities can be sliced quickly using a vegetable slicer (machine) and then preserved for a longer shelf life.



Name FOUR methods that can be used to preserve vegetables, which are sliced in large quantities, as shown in the pictures above.

(4)

- 14.7 Explain why vegetables, such as cucumbers, must be stored in cool places and in airtight plastic bags.

(2)

14.8 Labour training programmes in vegetable production include training on the activities/practices of planting, crop management and harvesting to ensure high productivity among farm workers.

14.8.1 Briefly describe the content (exact tasks) to be focussed on when training workers to plant vegetable seeds. (2)

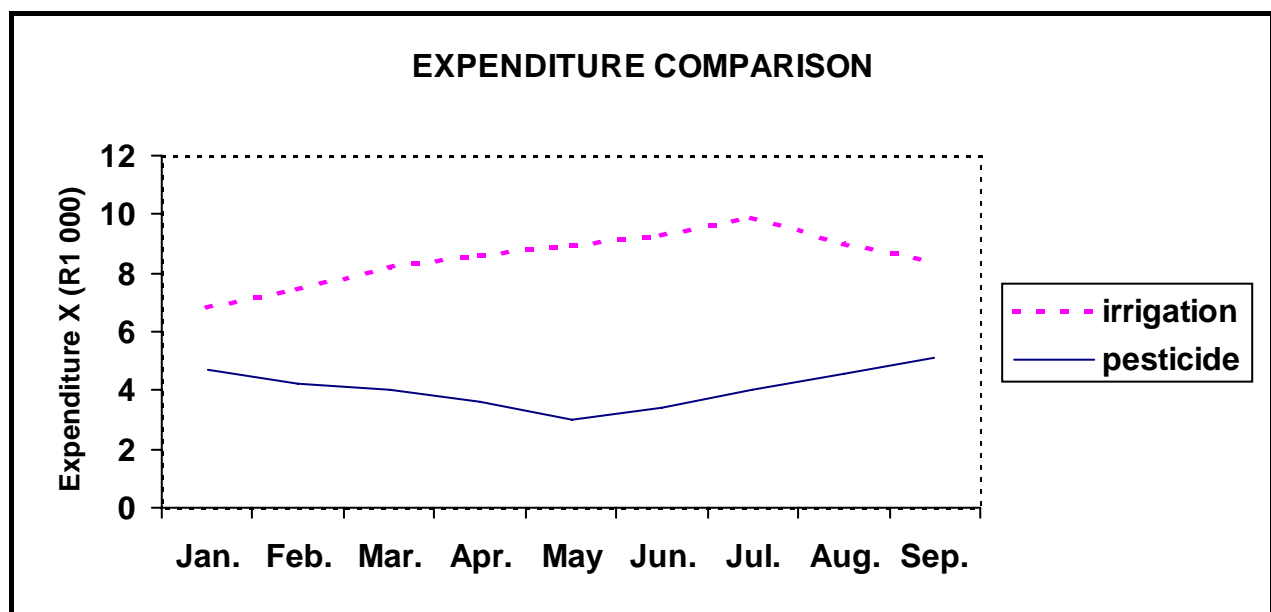
14.8.2 Briefly describe the content (exact tasks) to be focussed on when training workers on the management of vegetable crops. (2)

14.8.3 Briefly describe the content (exact tasks) to be focussed on when training workers on the harvesting of vegetables. (2)

14.9 The following information was made available for a vegetable enterprise balance sheet: Payment of two labourers' wages at R1 500 each per month, 50 unused packaging cardboard boxes, 10 garden forks, 2 wheelbarrows, office stationery debt, R15 000 in the business bank account.

Group this information into TWO groups by writing each item under the correct heading, either ASSETS or LIABILITIES. (6)

14.10 The graph below indicates farmer Michael's expenditures on irrigation and pesticides over a period of nine months in the Eastern Cape. Use this information to answer QUESTIONS 14.10.1 to 14.10.3.



14.10.1 Indicate during which month farmer Michael spent more money on irrigation. Explain your answer. (3)

14.10.2 What month indicates a low expenditure on pesticides? Explain your answer. (2)

14.10.3 Farmer Michael could save a lot on irrigation by using grass straw to cover the ground in his garden during the dry season. Name this conservation practice. (1)

[50]

QUESTION 15: PEACH PRODUCTION

15.1 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 (15.1.1 – 15.1.10) in the ANSWER BOOK, for example 15.1.11 E.

15.1.1 Peach production requires ... years of investment before trees yield substantial amounts of fruit to start rendering income to the peach grower.

- A 2 – 3
- B 4 – 5
- C 6 – 8
- D 1 – 2

15.1.2 The yearly gross income of the peach grower depends on the ...

- A price and volume.
- B yield.
- C price.
- D quality of his fruit.

15.1.3 When a peach grower wants to establish a new peach orchard, he must plan for ... before he can start.

- A cultivar and rootstock choice, tree density and orchard layout
- B site preparation and orchard layout
- C cultivar choice
- D enough capital

15.1.4 The best soil pH for peaches is ...

- A < 4,5.
- B 4,5 – 6,5.
- C 6,5 – 7,5.
- D > 7,5.

15.1.5 An example of an item in the production record of a peach farm, is ... Which ONE does NOT fit?

- A cultivar choice.
- B diesel costs.
- C number of labourers.
- D yield.

15.1.6 When fruit samples are taken it should represent a uniform block of the same ...

- A orchard.
- B cultivar and rootstock.
- C age, cultivar and rootstock.
- D rootstock and age.

15.1.7 The reason for waxing peaches is to ...

- A let it ripen.
- B improve the quality.
- C keep insects away.
- D delay the loss of moisture.

15.1.8 The problem with exported peaches is that they ...

- A bruise easily.
- B ripen quickly.
- C change colour.
- D absorb water.

15.1.9 Peach trees reach peak production after ... years.

- A 3
- B 15
- C 15 – 20
- D 5

15.1.10 The price of peaches depends on the ...

- A export market and quality of the fruit.
- B cultivar.
- C cultivar, type of market and the export market.
- D type of market.

(10 x 1) (10)

15.2 Soil management plays an important role in a peach orchard. Land degradation can occur easily. Name and explain the different ways in which land degradation can occur. (6)

15.3 A business plan must be drawn up when you want to start a new peach enterprise. Part of the business plan is to identify your own skills as an entrepreneur.

Name the skills that will apply to you, as entrepreneur, who want to start a new peach enterprise. (6)

- 15.4 A new trend is to make use of sprayers that are equipped with GPS sensors and various other types of measuring equipment.
- 15.4.1 Name any THREE advantages of such spraying equipment. (3)
- 15.4.2 What does *GPS* mean? (2)
- 15.4.3 Name the type of farming that utilises GPS fully. (1)
- 15.5 Planning is a dynamic process which makes provision for adaptation due to conditions. Agricultural production is therefore a dynamic process. Explain the reasons for re-planning on a peach farm. (8)
- 15.6 During the harvesting of peaches the crew foreman has to supervise the process. Name THREE duties the crew foreman has to perform during harvesting. (3)
- 15.7 When you sell goods, you have to decide what price you are going to charge for them. The price of goods in any market depends on the interaction of three factors. Name the THREE factors and describe how each will determine the price. (7)
- 15.8 The table below indicates the selling price of a carton of peaches on the local market. In 2007 the average cost to produce a carton of peaches was R10 and the inflation rate is 15%.
- | YEAR | 2006 | 2007 |
|--------------------------|------|--------|
| Average price of peaches | R11 | R12,50 |
- 15.8.1 Calculate the price increase over the two years as a percentage. (2)
- 15.8.2 Will it be cost effective to produce peaches in 2008 if the price follows the same tendency? Explain your answer. (2)
- [50]**

QUESTION 16: HYDROPONICS

16.1 Give ONE word/term for each of the following descriptions. Write only the word/term next to the question number (16.1.1 – 16.1.10) in the ANSWER BOOK, for example 16.1.11 Weather.

- 16.1.1 The amount produced per hectare in a given season
- 16.1.2 The crops have to adhere to these standards, set by the consumer, to be acceptable to the consumer
- 16.1.3 The name of the product into which plants are planted to absorb water and nutrients
- 16.1.4 The term used when a farmer changes his product into something of more value to increase his income
- 16.1.5 The type of temporary labourer that comes to trellise the plants every month
- 16.1.6 Resources that occur in nature such as water, land and vegetation
- 16.1.7 The type of capital that is normally expensive and paid off over a twenty-year period
- 16.1.8 The type of farming system where one makes use of devices, such as computers, GPS and potentiometers to ensure optimal use of resources
- 16.1.9 The type of market where a farmer can sell his produce from his farm or at a flea market
- 16.1.10 The type of fertiliser that is produced naturally and which does not involve any chemical assistance in the manufacturing process

(10 x 1)

(10)

16.2 The photograph below shows a person using an insecticide.



From a managing point of view, name the important principles with regard to the following:

16.2.1 Safeguarding the workers when insecticides are used (5)

16.2.2 The handling of poison such as insecticides and pesticides (5)

16.3 Study the table below on the production of tomatoes in a hydroponic system in a seven-month cycle and answer the questions that follow.

DESCRIPTION	QUANTITY	UNIT PRICE	AMOUNT
Sawdust	500	R80	R40 000
Seedlings	30 000	R2,50	A
Fertiliser			R80 000
Labour: 10 workers for 140 days	1 400	R45	B
Packaging of tomatoes	30 000	R3	R90 000
Chemicals			R8 000
TOTAL			C

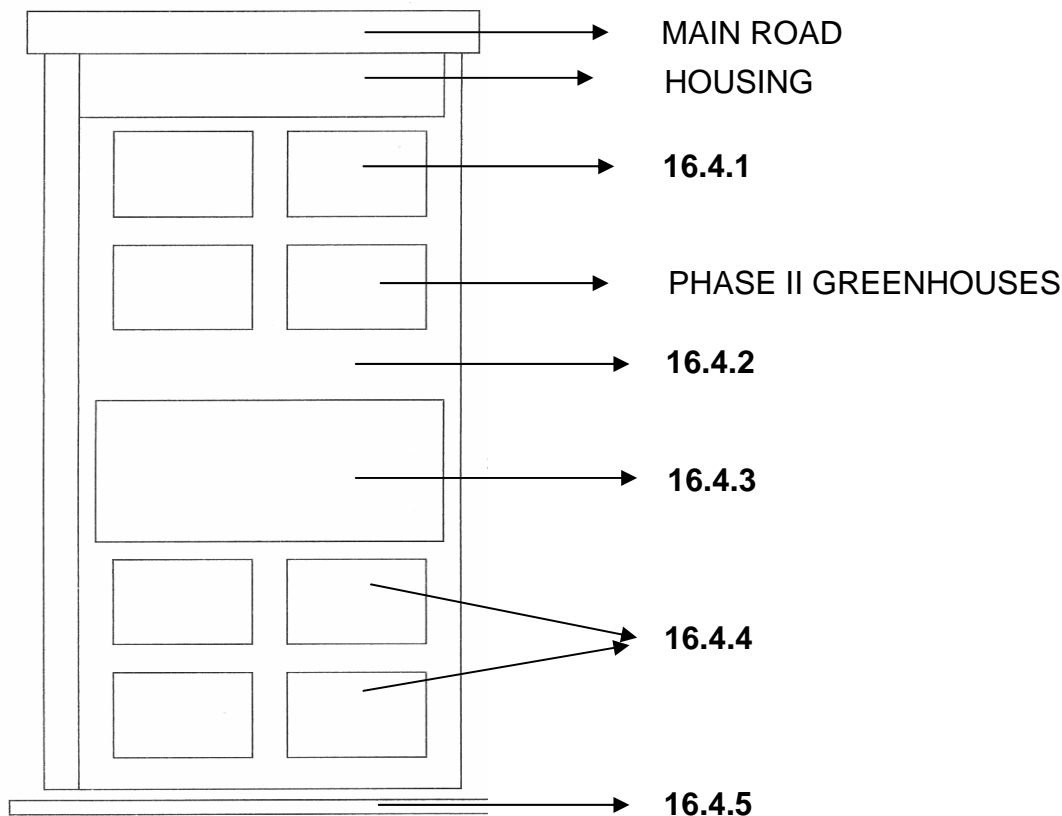
Possible income: 30 000 boxes @ R15/box.

16.3.1 Calculate the costs indicated by the letters **A**, **B** and **C**. (6)

16.3.2 Calculate the possible income in a cycle. (2)

16.3.3 Indicate whether it will be possible to expand the enterprise. Give a reason for your answer. (3)

16.4 The following drawing indicates a production unit, in different phases, on a long, narrow piece of land. Complete the drawing by including the labels for 16.4.1 to 16.4.5.



(5)

16.5 You plant different types of vegetables. Explain, step by step, how you will increase the value of your product by processing and freezing it. (6)

16.6 To expand your hydroponics enterprise you can make use of different sources of capital.

16.6.1 Name the sources of capital. (2)

16.6.2 Explain the difference between *medium-term* and *short-term capital* and indicate where each one will be used. (4)

16.7 Describe the importance of a cash flow budget. (2)

[50]

QUESTION 17: VITICULTURE

- 17.1 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'true' or 'false' next to the question number (17.1.1 – 17.1.10) in the ANSWER BOOK, for example 17.1.11 True.
- 17.1.1 All pesticides used in a table grape enterprise must be registered for the specific type (cultivar) of grape as well as for the specific pest or disease.
- 17.1.2 Labour used only during the picking season classify as full-time labour.
- 17.1.3 A producer must keep records of which pesticides he used and when he used them for at least 12 months.
- 17.1.4 Chemicals can be used after harvesting of the grapes to enhance the longevity of the fruit.
- 17.1.5 Grapes for delivery must be tested for any chemical residues during the harvest period.
- 17.1.6 All labourers who work in the packaging shed must receive comprehensive training in hygiene and health issues.
- 17.1.7 Pesticides can be used after the expiry date as long as they are still effective.
- 17.1.8 Grapes can be harvested green and kept to ripen with time.
- 17.1.9 Grapes can be harvested at any time during the day, irrespective of the temperature.
- 17.1.10 Harvested grapes must be kept in a sulphurdioxide atmosphere to keep respiration low and constant. (10 x 1) (10)
- 17.2 It is very important that the packaging store on the farm is functional and well equipped. Name and explain FOUR of the most important requirements that the store should comply with. (8)
- 17.3 Table grapes can be divided into three classes according to their quality.
- 17.3.1 Name THREE quality parameters according to which this classification is done. (3)
- 17.3.2 Name the THREE classes. (3)

- 17.4 One of the important requirements when one person agrees to work for another, is the drafting of a service contract. This service contract must comply with the stipulations of the Basic Conditions of Employment Act, 1997 (Act 75 of 1997).

State FIVE entries that must be included in the service contract.

(5)

- 17.5 Mr Fick produces table grapes in a suitable area in Limpopo. Because of the climate in that area, he manages to have his produce on the fresh produce market very early in October. During that time of the year there is a serious shortage of fresh fruit, especially at the KwaZulu-Natal coast.

Study the table below and answer the questions that follow.

PLACE	PRETORIA	DURBAN
Distance	150 km	750 km
Petrol price/km	R1	R1
Number of cases	250	250
Price/case	R90	R120

- 17.5.1 Calculate the income difference of transporting his grapes to the Durban fresh produce market instead of the Pretoria fresh produce market, using the information in the table above.

(5)

- 17.5.2 Explain the viability of marketing his grapes on the Durban fresh produce market.

(2)

- 17.6 When a table grape enterprise is managed there are many financial factors to take into consideration. Net income is the gross income minus expenses.

Indicate FOUR types of expenses that should be subtracted to calculate the net income.

(4)

- 17.7 Agritourism is the practice of attracting travellers or visitors to an area used primarily for agricultural purposes. Traditionally the areas in South Africa where grapes are produced, are situated in some very scenic parts of our country. Name FOUR activities that can be used to enhance your farm's value regarding agritourism.

(4)

- 17.8 In most farming enterprises there are times where the farmer needs to obtain credit, for example to expand his enterprise.

Name the SIX important factors that a bank will take into account before approving a credit request.

(6)

[50]

QUESTION 18: POTATO PRODUCTION

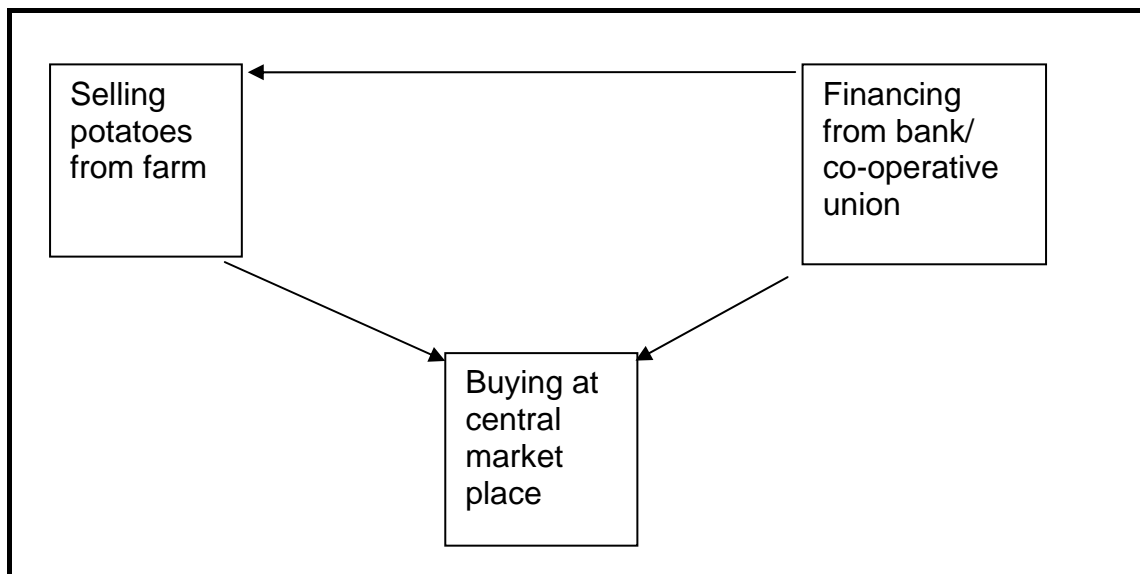
- 18.1 Choose a description from COLUMN B that matches the item/word in COLUMN A. Write only the letter (A – K) next to the question number (18.1.1 – 18.1.10) in the ANSWER BOOK, for example 18.1.12 H. A description from COLUMN B can only be used ONCE.

COLUMN A		COLUMN B	
18.1.1	Occupational Health and Safety Act, 1993, (Act 85 of 1993)	A	to enhance high production, high profits and reduce disease incidence caused by monoculture
18.1.2	Current account	B	suitable machinery for harvesting potatoes on a large scale
18.1.3	Planning	C	certified seeds, fertilisers and pest control
18.1.4	Crop rotation by dividing field into camps	D	farming system that is becoming popular in potato production
18.1.5	Production records	E	recommended bank account that allows the use of cheques
18.1.6	Value-adding activities	F	grading, packaging and processing of potatoes
18.1.7	Ideal ecological region	G	contains regulations that are meant to control grading, packing and marketing of potatoes sold in the Republic of South Africa
18.1.8	Potato digger and harvester	H	documents in writing or on the computer showing how much potatoes are produced in a season
18.1.9	Production inputs	I	the first stage in the management function on a potato farm
18.1.10	Irrigated potato farming	J	environment with the suitable climatic conditions and soil for potato production
		K	legislation that aims to protect farm workers and ensure safety in the workplace

(10 x 1)

(10)

18.2 Use the diagram of a potato marketing function below to answer QUESTIONS 18.2.1 to 18.2.3.



18.2.1 Explain storage of potatoes to make sure it reaches the market in good quality in terms of the following:

- (a) Temperature requirements
- (b) Ventilation

(1 x 2)

(2)

18.2.2 Name any TWO marketing functions that are important between the selling and buying centres, as indicated by the arrows in the diagram above.

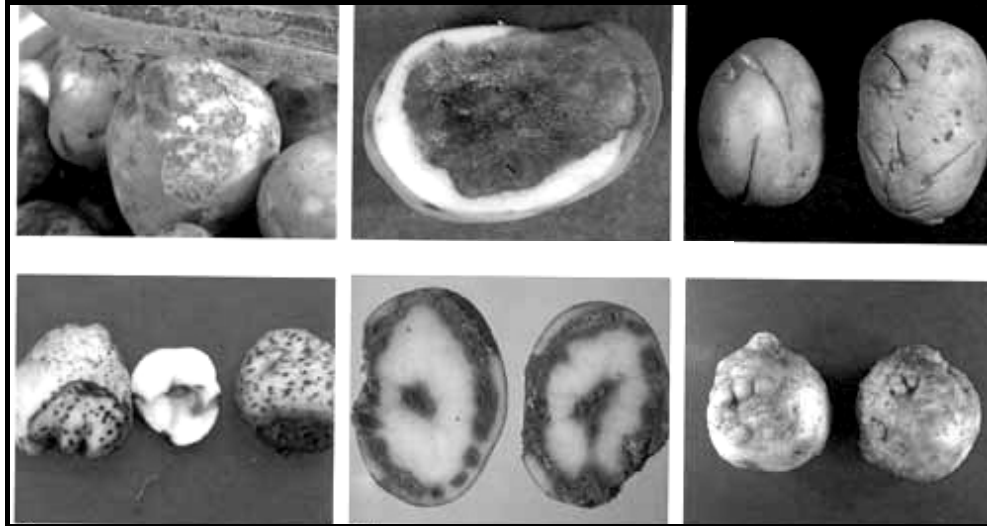
(2)

18.2.3 Explain why a potato farmer needs finance (money) in the process of selling his produce.

(2)

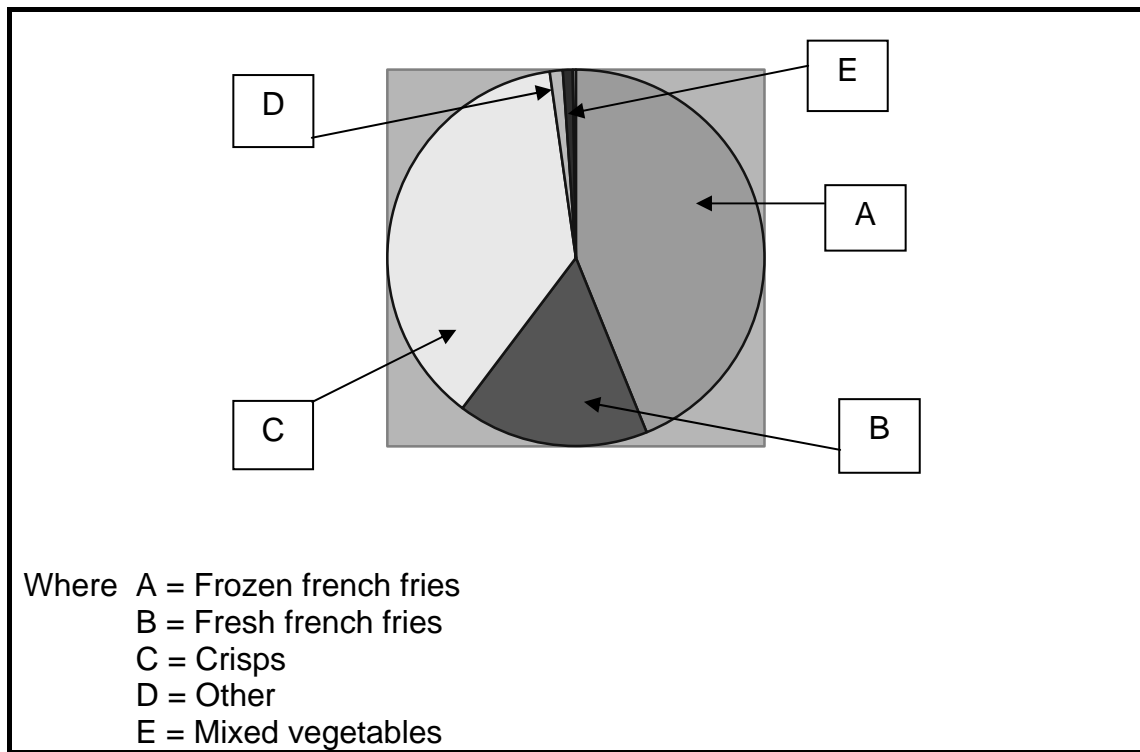
- 18.3 During packaging, potatoes are classified into classes 1, 2, 3 and lowest class, which consists of tubers with defects.

Study the pictures of tubers below and answer the questions that follow.



- 18.3.1 Name any FOUR defects shown by the potato tubers in the pictures above. (4)
- 18.3.2 Indicate if any of the tubers in the pictures above can be classified as class 2. Explain your answer. (2)

- 18.4 The pie chart below represents the potato processing industries in South Africa. Use the information in the pie chart to answer the questions that follow.



- 18.4.1 If the frozen french fries industry forms 43,9% of the potato processing industry in South Africa, what is the total percentage formed by the other industries in potato processing? (2)
- 18.4.2 Name the THREE industries, in sequence from large to small, with the largest consumption of fresh potatoes for processing. (3)

18.5 Use the information provided below to answer QUESTIONS 18.5.1 to 18.5.3.

BUDGET for Themba's Potato/ha (2006)

COSTS/ITEMS	RAND	INCOME/OUTPUT	RAND
Soil preparation, spraying and harvesting	5 050	Sale of 2 500 x 10 kg bags of potatoes	80 000
Uncertified seeds	2 500		
Fuel and lubricants	4 020		
Fertiliser	4 900		
Disease, pest and weed control	5 450		
Repair and maintenance	4 500		
Packaging	3 340		
Marketing	3 100		
Transport	4 320		
Other	<u>3 800</u>		
	40 980		
GROSS MARGIN	<u>-----</u>		
	<u>80 000</u>		<u>80 000</u>

BUDGET for Fana Potato Investments/ha (2006)

COSTS/ITEMS	RAND	INCOME/OUTPUT	RAND
Soil preparation, spraying and harvesting	7 050	Sale of 4 200 x 10 kg bags of potatoes	134 400
Certified seeds	6 000		
Fuel and lubricants	5 020		
Fertiliser	6 000		
Disease, pest and weed control	5 950		
Repair and maintenance	4 800		
Packaging	3 940		
Marketing	3 700		
Transport	4 720		
Irrigation costs	<u>4 000</u>		
Other	<u>5 200</u>		
	56 360		
GROSS MARGIN	<u>-----</u>		
	<u>134 400</u>		<u>134 400</u>

The two potato farms are located in the same geographical area and share the same market.

Current selling price: R32,00 per 10 kg bag of potatoes

Gross margin = output less variable costs (in rand)

- 18.5.1 Calculate the gross margins of the two farmers. (2)
- 18.5.2 Who is the most productive farmer? (1)
- 18.5.3 Discuss any THREE identifiable farming practices that make the farmer of your choice in QUESTION 18.5.2 more productive. (3)
- 18.6 Explain any THREE conditions under which an employer can deduct money from a farm worker. (6)
- 18.7 Create a balance sheet by sorting the following items from the financial records of a potato enterprise into assets and liabilities. Also indicate the net capital for the year 2006:
- Machinery worth R193 000, loan for fertilisers and chemicals, R54 000; wages for workers, R85 600, cash at hand R60 540. (4)
- 18.8 When drafting a potato production business plan, the benefits that come with the business should be explained.
- 18.8.1 Justify the benefits of a potato farm business for the economy of the country/state. (2)
- 18.8.2 List the benefits of a very big potato farm business for the society/community. (2)
- 18.9 Advise a farmer about the best time to take his potatoes to the market, so that he can make the greatest possible profit from the sale of his produce. Use the words *supply* and *demand* in your answer. (3)
- [50]**

QUESTION 19: VINICULTURE

19.1 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'true' or 'false' next to the question number (19.1.1 – 19.1.10) in the ANSWER BOOK, for example 19.1.11 True.

19.1.1 There is no need for contours on steep sandy soils where grapes are produced.

19.1.2 A seasonal budget is an absolute necessity before harvesting grapes.

19.1.3 The current price of wine will have an influence on the budget for a viniculture enterprise.

19.1.4 Because producing wine is a long-term investment, it is difficult to have a positive cash flow throughout the season.

19.1.5 The grapes that a farmer gives to his labourers must be reflected in the expenditure statement.

19.1.6 The lapse of time between harvesting grapes and selling wine is NOT part of the production records.

19.1.7 Pinotage is a sweet red wine.

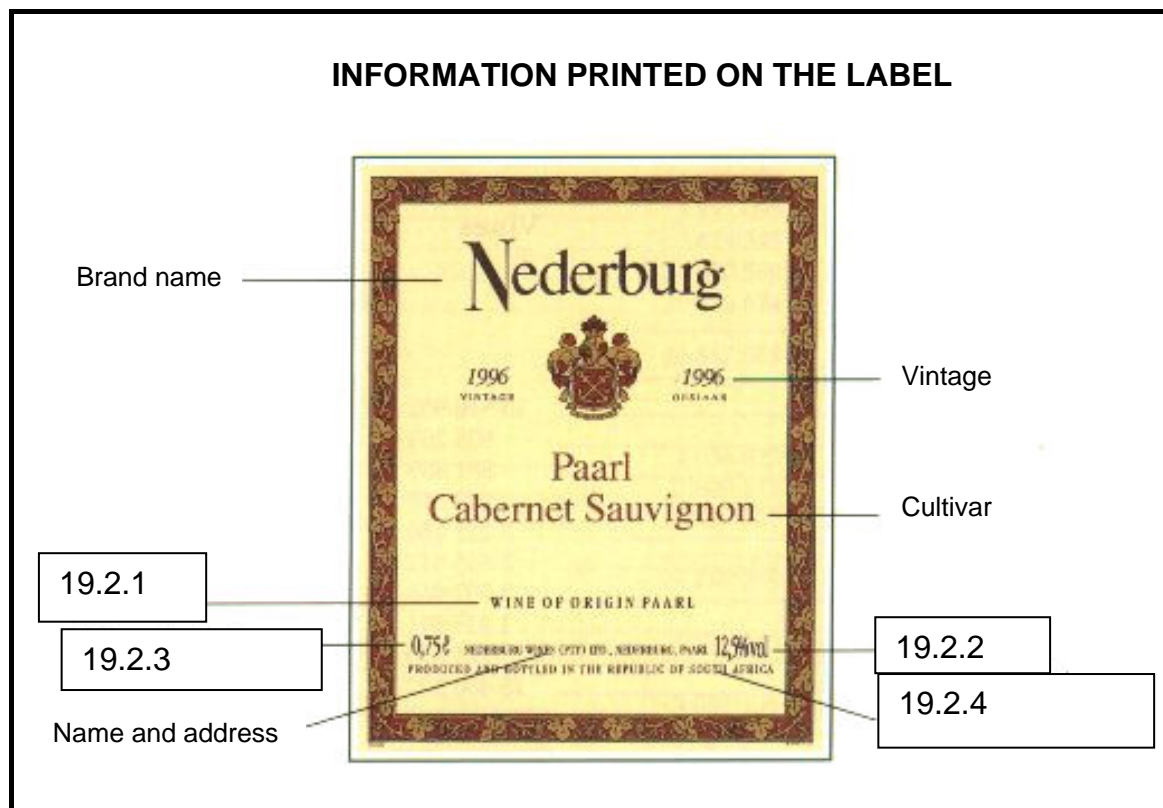
19.1.8 For the winemaker it is important to identify the demand for a specific type of wine on the international market.

19.1.9 Winemaking can be part of the agritourism industry.

19.1.10 The success of a decision is based on the speed and accuracy thereof.

(10 x 1) (10)

- 19.2 The picture below shows a label for a wine bottle. Certain regulation criteria are set for these labels. Write down the correct labels indicated by 19.2.1 to 19.2.4. (4)



- 19.3 List FIVE viniculture practices labourers should perform on the farm. (5)
- 19.4 In modern farming, precision farming is an utmost necessity. Explain FIVE advantages of precision farming. (5)
- 19.5 To prevent soil erosion a farmer can make use of intercropping.
- 19.5.1 Briefly explain the term *intercropping*. (3)
- 19.5.2 Name the basic principles to keep in mind during intercropping. (5)
- 19.6 It is important for quality insurance to take a fruit sample. Briefly explain the procedure when taking such a sample. (5)
- 19.7 The clarification of juice is an important process in the processing of wine. It takes place overnight naturally. Briefly describe what a winemaker can do to enhance this process. (6)

- 19.8 When setting prices for the wine produced, three methods can be used.
Name these THREE methods. (3)
- 19.9 Briefly explain the different planning periods that occur in viticulture. (4)
[50]
- TOTAL: 200**