basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

AGRICULTURAL MANAGEMENT PRACTICES

FEBRUARY/MARCH 2011

MEMORANDUM

MARKS: 200

This memorandum consists of 12 pages.

SECTION A

QUESTION 1.1

1.1.1	A	B	C	X✓✓
1.1.2	X ✓✓	B	C	D
1.1.3	A	B	X✓✓	D
1.1.4	A	B	C	X✓✓
1.1.5	X ✓✓	B	C	D
1.1.6	A	B	C	X✓✓
1.1.7	A	B	X✓✓	D
1.1.8	A	X✓✓	C	D
1.1.9	A	B	X✓✓	D
1.1.10	X✓✓	B	C	D

(10 x 2) (20)

QUESTION 1.2

1.2.1	E✓✓
1.2.2	G✓✓
1.2.3	H✓✓
1.2.4	A✓✓
1.2.5	I✓✓
1.2.6	F✓✓
1.2.7	K ✓✓
1.2.8	B ✓✓
1.2.9	D ✓✓
1.2.10	C ✓✓

(10 x 2) (20)

QUESTION 1.3

1.3.1 Crumb structure✓
1.3.2 Extensive farming✓
1.3.3 Entrepreneur✓
1.3.4 Health records ✓
1.3.5 Capital ✓
1.3.6 Turnover✓
1.3.7 Balance sheet✓
1.3.8 Cash slip/receipt✓
1.3.9 Marketing✓
1.3.10 Agri SA/NAFU/Transvaal Landbou-unie SA✓

(10 x 1) (10)

TOTAL SECTION A: 50

SECTION B

QUESTION 2: ANIMAL AND CROP PRODUCTION

2.1 **THREE types of farming methods**

- A = Commercial farming✓
- B = Precision farming✓
- C = Subsistence farming✓ (3)

2.2 2.2.1 **The aims of irrigation scheduling**

- Determining when to irrigate.✓
- And how much water to apply.✓ (2)

2.2.2 **THREE inputs for irrigation program**

- Soil depth✓
- Soil structure✓
- Soil form✓
- Organic-material content✓
- Soil barriers✓
- Soil texture✓
- Type of crop✓
- Cultivar ✓
- Environmental factors (temperature, rainfall, evaporation, evapo-transpiration, humidity, wind)✓ (Any 3) (3)

2.2.3 **Instrument to determine soil moisture**

- Potentiometer/Tensiometer✓
- Neutron moisture meter✓
- Evaporation pan✓
- Carbon carbide bomb✓ (Any 1) (1)

2.3 2.3.1 **Ways to increase the productivity of labour**

- Economic planning of the farm activity✓
- Physical planning of the farm activity✓
- Planning of the production process✓
- Daily planning✓
- Supervision/Shared supervision✓
- Efficient mechanisation✓
- Adequate living condition✓
- Training/skills development✓
- Better working conditions ✓
- Giving more responsibilities ✓
- Making them shareholders/joint ventures✓
- Increase their motivation✓
- Expose them to recreational facilities✓
- Increase their remuneration✓ (Any 5) (5)

2.3.2 **FOUR problems related to labour as a production factor**

- Scarcity of labourers.✓
- Competition from industries.✓
- Lack of training.✓
- Poor labour management.✓
- Union activities. ✓
- Literacy levels. ✓
- Unskilled labourers. ✓ (Any 4) (4)

2.4 2.4.1 **Soil texture**

- Clay soil.✓ (1)

2.4.2 **Identify FIVE possible restrictions**

- Too high pH for normal/optimum crop production.✓
- Poor drainage.✓
- Poor aeration.✓
- Poor water infiltration.✓
- Poor tillage/difficult to till. ✓
- Very high salt content.✓
- Low organic matter.✓
- Cold especially in winter.✓ (Any 5) (5)

2.4.3 **THREE measures to improve the production potential of the soil**

- Add organic material/plough in organic material.✓
- Add acid containing fertilizers.✓
- Add gypsum.✓
- Reduce the soil pH. / Over-irrigate✓
- Till/cultivate the soil.✓
- Use special implements to cultivate. (disc plough) ✓
- Drainage of soil/drainage system ✓
- Plant special crops to recover soil. ✓ (Any 3) (3)

2.5 2.5.1 **Explain biological control**

- Use the pest enemy✓
- To inhibit reproduction of pest. ✓
- Lower appearance of pests in animals/plants. ✓ (3)

2.5.2 **THREE advantages of biological control**

- No pollution.✓
- Environmentally friendly. ✓
- Reduction in the use of herbicides/pesticides. ✓
- Lowering input costs. ✓
- Does not disturb the soil. ✓
- Does not create large empty areas for invaders. ✓
- Permanent/self-sustaining. ✓ (Any 3) (3)

2.5.3 **A precaution when using biological control**

- Be careful not to introduce new parasite or pest✓
- Avoid possibility of inbreeding to form hybrids. ✓
- Study full environmental effect.
- Do not use chemical control/restricted chemical control ✓

(Any 1) (1)

2.6.1 **THREE criteria for dividing of pastures into camps**

- The botanical composition of the grazing/uniformity of the grazing ✓
- The grazing capacity of the area ✓
- Damaged grazing area/eroded area ✓
- The size of the farm ✓
- The type of farm animal ✓
- The type of terrain/slope/topography ✓
- The number of animals on the farm ✓ (Any 3) (3)

2.6.2 **Describe the position of such a contour**

- Follow the contour lines of the slope area/perpendicular to the slope direction. ✓ (1)

2.7 2.7.1 **The process to determine the potential of soil**

- Soil surveying ✓ (1)

2.7.2 **Identify a section utilised for types of farming and give a reason**

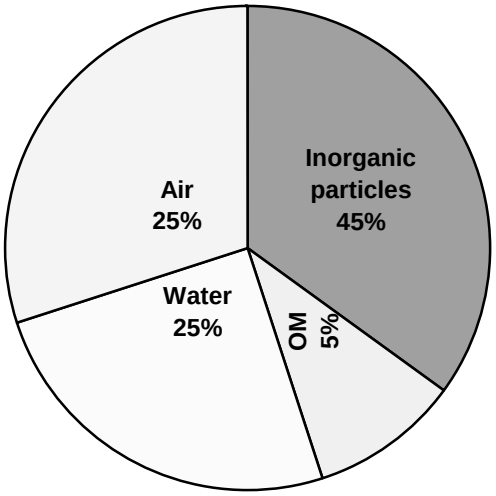
(a) A ✓ – mostly/dominantly low-potential land ✓ (2)
(b) B ✓ – mostly/dominantly high-potential land ✓ (2)

2.7.3 **Indicate the computer program or system**

GIS system (Geographical information system)/satellite programs/soil-surveying program ✓ (1)

2.8 2.8.1

COMPOSITION OF MOIST SOIL



OM = Organic matter

- Heading of the chart✓
- Correct structure✓
- Correct % distribution✓
- Correct labelling✓ (4)

2.8.2 **Choose option**

Perennial/Permanent crop ✓

- Good water – air ratio/high organic matter content ✓

OR

Annual crop production ✓

- Good water – air ratio/high organic matter content ✓ (2)

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QUESTION 3: RECORDING, FINANCIAL STATEMENTS AND ENTREPRENEURSHIP

3.1 3.1.1 **FOUR alternative methods of payment**

- Cash✓
- Debit card✓
- Credit card✓
- Postal orders✓
- Electronic transfers✓
- Direct deposits✓
- Battering✓ (Any 4) (4)

3.1.2 **Data that should be reflected on source documents**

- Amount ✓
- Date ✓
- Description of article/purchase ✓
- Company ✓
- Payment method ✓ (Any 4) (4)

3.2 **SIX reasons for keeping farm records**

- Evidence for the receiver of revenue.✓
- To assist in financial management decisions.✓
- To control labour.✓
- To assist in resource management decisions.✓
- To assist in physical farm management decisions.✓
- Provide as collateral for a loan at a bank. ✓
- Determine the value of the assets. ✓
- Physical planning of the farm. ✓
- Monitor progress in the enterprise. ✓ (Any 6) (6)

3.3 **Tabulate elements of a budget**

ELEMENT OF BUDGET	DESCRIPTION	EXAMPLE
Resources	Available resources that will be used for the farming enterprise ✓	Land, capital, water, labour, vegetation. ✓ (Any 1)
Inputs	All the expenditures of the farming enterprise ✓	Labour, mechanisation, material, biological inputs, financial inputs.✓ (Any 1)
Parameters	All the unknowns of the production process ✓	Prices, application of inputs, yields, time of inputs or outputs. ✓ (Any 1)

(6)

3.4 3.4.1 **The meaning of cash flow**

- The movement of funds through the business during a specific period✓
- And is represented by receipts and payments. ✓ (2)

3.4.2 **The factors for negative cash flow**

- Unforeseen expenses/accidents ✓
- Lower production ✓
- Lower market prices than anticipated ✓
- Natural disaster/Drought on farm ✓
- Non-payments✓ (Any 2) (2)

3.5 3.5.1 **Example of a fixed asset**

- Land ✓
- Buildings ✓
- Fence ✓
- Borehole ✓ (Any 1) (1)

3.5.2 **The main aim**

- To determine the financial health/standing of the business.✓✓ (2)

3.5.3 **Define the net worth**

- Total farm assets **minus** total farm liabilities.✓✓ (2)

3.5.4 **Calculation of the net worth**

- R793 000✓ – R620 000✓ = R173 000✓ (3)

3.5.5 **Current assets**

- Assets that are used within a single production year/season and are used for trade expenses. ✓
- Fertilizers, seeds, etc. ✓ (2)

3.6 **Income expenditure Statement**

DATE	INCOME	VALUE (R)	DATE	EXPENDITURE	VALUE (R)
28/12/09	sale of produce	38 600✓		Production	87 000✓
10/02/10	sale of produce	69 450✓		Marketing	2 500✓
10/05/10	sale of produce	61 500✓			
TOTAL		169 550 ✓	TOTAL		89 500 ✓
GROSS PROFIT = R169 550 – R89 500 = R80 050✓					

(8)

3.7 **THREE characteristics of an entrepreneur**

- Starting business on his own ✓
- Visionary/Creative ✓
- Successful ✓
- Able to recognise a business opportunity ✓
- Good management skills ✓
- Investigative ✓ (Any 3) (3)

3.8 3.8.1 **Contact details**

- Name of responsible person/farm ✓
- Address of the farm (postal/fax/e-mail/street) ✓
- Contact numbers ✓ (Any 2) (2)

3.8.2 **Type of enterprise**

- Sole ownership✓
- Shared ownership/partners/cooperative ✓ (Any 1) (1)

3.8.3 **Financial plan**

- Income ✓
- Expenditure ✓
- Profit ✓
- Description of items ✓ (Any 2) (2)

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

4.1 **FIVE reasons for the packaging**

- Protection against microbiological contamination, dirt, insects, light, moisture, migration of odour, colours, etc.✓
- Facilitates handling of the food.✓
- Conveys information.✓
- Identifies the product.✓
- Advertising.✓ (5)

4.2 4.2.1 **TWO negative effects of a high temperature on a stored product**

- Encourages grain to rot ✓
- Some products may start to germinate/moulding may occur ✓
- Breeding of some pests e.g. grain weevil✓
- Deterioration in quality/shelf life/nutritional value ✓ (Any 2) (2)

4.2.2 **Explain the main reason**

- Market price of the product will be higher at certain times of the year/market the product during periods of high demand ✓
- Higher income/profit ✓ (2)

4.2.3 **Example of a huge storage facility**

- Silo ✓
- Fruit shed ✓
- Meat freezers ✓
- Wool shed ✓ etc. (Any 1) (1)

4.3 **Comparison**

FEATURES	LABOUR INTENSIVE METHODS	MECHANISED OR HIGH-TECH METHODS
Time spent on task	Long✓	Short✓
Initial cost	Low✓	High✓
Running costs	Low✓	High✓
Quality of harvested produce	High✓	Low✓
Volume/quantity of product harvested	Low✓	High✓

(10)

4.4 4.4.1 **TWO main advantages of processing**

- Increase the value of the product/add economic value to the product✓
- Longer shelf live/preservation✓
- More marketable/consumer friendly✓
- Cost effective to transport✓ (Any 2) (2)

4.4.2 **TWO possible facilities or pieces of equipment when drying a fresh agricultural product**

- Dryer ✓
- Heater ✓
- Blower ✓
- Large area for light and air-drying ✓ (Any 2) (2)

4.4.3 **Possible way to preserve a processed agricultural product**

- Cooling/freezing✓
- Preservatives ✓
- Vacuum packaging ✓
- Type of packaging/container✓ (Any 1)

4.5 **THREE main advantages of producer organisation**

- Advertising of the product✓
- Promotion of the product✓
- Serve the interests of the producer/industry✓
- Technical support for the farmer✓
- Research on the product✓
- World-wide trends in the industry✓ (Any 3) (3)

4.6 4.6.1 **Short report**

- Biggest challenge = waste ✓
- Solution = generate electricity from waste ✓
- Benefit to the farm of this solution = saving on electricity bill/ Less waste to get rid off ✓ (3)

4.6.2 **Deduce the effect on the carbon footprint**

Lower carbon footprint ✓ (1)

4.7 4.7.1 **Schematic representation of a market chain**

Farmer/producer ✓ → any TWO applicable channels ✓ ✓→ consumer ✓ (4)

4.7.2 **ONE example of formal and informal marketing channels**

- **Formal**
  - Retailers ✓
  - Cooperatives ✓
  - Fresh produce markets ✓
  - Export markets ✓ (Any 1)
- **Informal**
  - Vendors/hawkers ✓
  - Farm stalls ✓
  - Spaza shops ✓
  - Flea markets ✓ (Any 1) (2)

4.8.1 **Identify the possible motivation**

(a) A/D ✓ (1)
(b) B ✓ (1)
(c) C ✓ (1)

4.8.2 **TWO basic facilities and infrastructure to start business on a farm**

- Sanitation ✓
- Recreation/accommodation/restaurant/tearoom
- Road/electricity/television/satellite TV ✓
- Water ✓ (Any 2) (2)

4.9.1 **Identify the types of marketing curves**

A – Demand curve✓
B – Supply curve✓ (2)

4.9.2 **Deduce from the graph**
R15,00 ✓✓ **OR** (R14 – R16) ✓✓ (2)

4.9.3 **Name and explain the market state**
Market equilibrium/price of product.✓
The point where market demand is equal to market supply/
Point where the demand and supply curves meet.✓✓ (3)
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TOTAL SECTION B: 150
GRAND TOTAL: 200