



**higher education
& training**

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

**NATIONAL CERTIFICATE (VOCATIONAL)
FARM PLANNING AND MECHANISATION
NQF LEVEL 4**

XX February 2020

This marking guideline consists of 6 pages.

SECTION A**QUESTION 1**

1.1	1.1.1	False		
	1.1.2	False		
	1.1.3	True		
	1.1.4	True		
	1.1.5	True		
	1.1.6	False		
	1.1.7	True		
	1.1.8	False		
	1.1.9	False		
	1.1.10	False		
			(10 × 1)	(10)
1.2	1.2.1	D		
	1.2.2	F		
	1.2.3	J		
	1.2.4	E		
	1.2.5	M		
	1.2.6	K		
	1.2.7	O		
	1.2.8	B		
	1.2.9	A		
	1.2.10	H		
			(10 × 1)	(10)
1.3	1.3.1	Ruminant		
	1.3.2	Winnowing		
	1.3.3	Withholding period		
	1.3.4	Participatory management		
	1.3.5	Communal farming		
	1.3.6	Dry land		
	1.3.7	Vineyard		
	1.3.8	Diversification		
	1.3.9	Seepage		
	1.3.10	Drill planter		
			(10 × 1)	(10)
				[30]

QUESTION 2

- 2.1
- Use cultivars developed under local conditions.
 - Application of tillage designed to conserve soil and or water will assist.
 - Practicing crop rotation will help in improving soil fertility.
 - Use long fallows so that livestock also utilise the land. (Any relevant 3 × 1) (3)

- 2.2 2.2.1
- Use of picking shears
 - Snap picking (2)

- 2.2.2
- Removal of blemished fruit
 - Removal of deformed fruit
 - Removal of mechanically damaged fruit (3)

2.2.3

Tractor-trailer combination	Flatbed lorry
<ul style="list-style-type: none"> • Can carry 1–3 tons of fruit • High maintenance required in lining internal part of trailer • Poor maintenance of lining results in high fruit damage • Capital output not so huge (Any relevant FOUR) 	<ul style="list-style-type: none"> • Can accommodate about 5 tons of fruit • Bins in which to load fruit required • Low maintenance cost • Mechanical hoist needed for loading • Huge capital output (Any relevant FOUR)
(4 + 4)	

(8)

- 2.2.4
- Fibre content
 - Acid content
 - Sugar content
 - Juice content (4)

2.3 2.3.1

Precautionary measures are taken to ensure that there is a safe working environment for all workers.√ It also helps to protect workers against dangers to health in the working environment.√ Furthermore it is important to ensure that individual workers are placed in jobs suited to their physical abilities and emotional character.√ In addition precautionary measure are important to encourage workers to protect their health. √ (Any 3 × 1) (3)

- 2.3.2
- Unsafe construction
 - Inadequately guarded moving parts
 - Lack of protective clothing
 - Poor ventilation
 - Rough, sharp or slippery surfaces (Any 3 × 1) (3)

2.3.3

The farmer needs to check condition of engine,√ safety of the engine,√ appropriateness of the engine√ and condition of the equipment/implement to be used with engine.√ (4)

[30]

TOTAL SECTION A: 60

SECTION B**QUESTION 3**

- 3.1 3.1.1 Land covered by grass or other edible vegetation suitable for grazing
- 3.1.2 Property to which owner has a legal title or which he leases
- 3.1.3 Area of land which gets rainfall which runs into a river or dam
(3 × 2) (6)
- 3.2 3.2.1 Money they earn. The higher the income the greater the demands for goods.
- 3.2.2 The higher the number of consumers the greater the number of demands for goods.
- 3.2.3 Culture and standard of living that determine the consumer's preference for certain products.
(3 × 2) (6)
- 3.3 3.3.1 Publishes new information on technology from their research.
- 3.3.2 Provide advice to mostly small and emerging farmers on how to farm effectively.
(2 × 2) (4)
- 3.4 *Pastures* are those lands that are primarily used for the production of adapted, domesticated forage plants for livestock. (2)
- 3.5 3.5.1 Pascal's law (2)
- 3.5.2 Pressure exerted on one area of a closed fluid system is equally transmitted throughout the entire system[√] and the fluid in order to have a change in pressure everywhere within the system.[√] (2)
- 3.5.3
- Pump
 - Hydraulic cylinder
 - Control valves
 - Implement lifting mechanism
- (4)
- 3.5.4 Ensure that clean oil of correct grade prescribed by the manufacturer is used.[√] Always replace the dust seals when pipes are disconnected from the units.[√] Relieve the pressure in the system if work is done on it[√] and ensure that all connections and pipes are in perfect condition. [√] (4)

[30]

QUESTION 4

- 4.1 4.1.1
- Private land acquisition✓ where one buys land without assistance from government✓
 - Agricultural black economic empowerment✓ where previously disadvantaged South African are supported in buying land so that they fully participate in agriculture✓
 - Agriculture finance✓ where land bank give financial support to farmers to buy land in a form of land reform grants or access to credit✓
- (3 × 2) (6)
- 4.1.2 The law of supply and demand✓ determines the products grown and their selling price.✓ Furthermore agricultural products are perishable✓ and have high storage costs.✓ (4)
- 4.1.3 Agricultural marketing boards were closed down.✓ As a result the market forces (demand and supply) are now determined by agricultural input and output prices.✓ The government is not directly interfering in order to influence prices.✓ Producers, processors and consumers apply their own measures to manage price risk.✓ Import and export control were phased out✓ as well as subsidies.✓ (6)
- 4.2 4.2.1
- Intake stroke
 - Compression stroke
 - Power stroke
 - Exhaust stroke
- (4)
- 4.2.2 Exhaust stroke (2)
- 4.2.3 Drain the water and rinse the radiator by forcing a strong jet of water through it.✓ Then add an anti-rust or rust-preventative agent to the radiator water.✓ Ensure to use only distilled water or rain water in the radiator.✓ If water contains too much lime, treat the radiator with an agent that dissolves lime.✓ (4)
- 4.3 To allow a plough to have good penetration when ploughing,✓ that is not too deep or too shallow✓ (2)
- 4.4 Calibration is the setting of the applicator to distribute the material over the targeted areas at the recommended amount. (2)

[30]

QUESTION 5

5.1 1000 × number of seeds counted over 10 m
row spacing in metres

$$\underline{1000 \times 46 \text{ seeds}} \checkmark$$

$$8 \text{ cm} / (100)$$

$$\underline{46000} \checkmark$$

$$0.08 \text{ m}$$

$$\underline{57500 \text{ seed population/ha}} \checkmark$$

$$\underline{57500 \times 25\text{ha}} \checkmark$$

$$\underline{=1437500 \text{ seeds population /25ha}} \checkmark \checkmark$$

(6)

5.2 5.2.1 1 – Valves
2 – Camshaft
3 – Distributor
4 – Piston
5 – Crankshaft
6 – Alternator
7 – Timing belt
8 – Spark plug

(8)

- 5.2.2
- It (distributor) distributes current to all parts of the body where is needed.
 - It (alternator) charges the battery to replace the lost current as the vehicle or machine is using it when in operation.
 - Timing belt turns the engine of the vehicle or the machine.

(3)

- 5.3
- Seasonal differences
 - Altitude
 - Distance from the sea

(3)

- 5.4
- Grazing can be controlled thus allowing pasture to recover.
 - Grass can be conserved as hay for use during the dry season.
 - Crops are not damaged by stray animals.
 - Veld pasture rotation is possible.
 - It allows effective implementation of all farm plans.
 - It enhances possibilities of effectively running a mixed farm. (Any 5 × 1)

(5)

5.5 5.5.1 Production from a hectare of land during a production expressed as tons per hectare

(3)

5.5.2 Production from a day's work where certain numbers of workers work for 30 days to produce 100 tons of produce.

(2)

[30]

TOTAL SECTION B: 90
GRAND TOTAL: 150