Education and Sport Development

Department of Education and Sport Development
Departement van Onderwys en Sportontwikkeling
Lefapha la Thuto le Tlhabololo ya Metshameko
NORTH WEST PROVINCE

PROVINCIAL ASSESSMENT

GRADE 10

AGRICULTURAL SCIENCES
JUNE 2018

MEMORANDUM

MARKS: 150

This memorandum consists of 8 pages.

SECTION A

QUESTION 1

1.1.	**Multiple choice questions**		
1.1.1.	D✓✓		
1.1.2.	B✓✓		
1.1.3.	A✓✓		
1.1.4.	B✓✓		
1.1.5.	B✓✓		
1.1.6.	D✓✓		
1.1.7.	A✓✓		
1.1.8.	C✓✓		
1.1.9.	B✓✓		
1.1.10.	D✓✓	(10 x 2)	(20)
1.2.	**Column A and B**		
1.2.1.	A Only✓✓		
1.2.2.	B Only✓✓		
1.2.3.	A Only✓✓		
1.2.4.	A Only✓✓		
1.2.5.	B Only✓✓	(5 x 2)	(10)
1.3.	**One word/ term**		
1.3.1.	Biome✓✓		
1.3.2.	Pioneer plants✓✓		
1.3.3.	Food security✓✓		
1.3.4.	Deforestation✓✓		
1.3.5.	Pasture✓✓	(5 x 2)	(10)
1.4.	**Change the underlined words**		
1.4.1.	Xerophytes✓		
1.4.2.	Sustainable farming✓		
1.4.3.	Beef breeds✓		
1.4.4.	Sour veld✓		
1.4.5.	Urbanization✓	(5 x 1)	(5)
		TOTAL SECTION A	**[45]**

SECTION B

QUESTION 2: AGRO-ECOLOGY AND INDUSTRY

2.1 BIOMES OF SOUTH AFRICA

2.1.1 Biomes of South Africa

- Succulent Karoo✓
- Nama Karoo✓
- Grassland✓
- Savanna✓
- Fynbos✓
- Forest✓
- Thicket✓
- Desert✓
- Wetland✓ [Any 7] (7)

2.1.2 Season of rainfall

- All year round✓ (1)

2.1.3 TWO abiotic factors that determine the type of plants.

- Temperature✓
- Rainfall✓ (2)

2..2 Comparison between sweet and sour veld

FACTOR	SOURVELD	SWEETVELD
Rainfall	More ✓than 625mm per year✓	250-500mm per year✓
Winter temperature	Low temperature✓	Higher temperature✓
Palatability	Less palatable✓	More palatable✓
Nutritional status	Only good in the growing season✓	Good all year round ✓

(8)

2.3 Symbiosis

2.3.1 Mutualism

- Mutualism a symbiotic relationship between two organisms of different species in which both partners benefit from the relationship✓. E.g. Lucerne and Nitrogen fixing bacteria. ✓ (2)

2.3.2 Parasitism

- Parasitism is a symbiotic relationship between two

organisms of different species in which one partner is harmed✓. E.g. Tick and cow✓ (2)

2.4 **Four human activities that effect the existing ecosystem**

- Replacement of natural vegetation by building houses✓
- Man hunting game instead of conserving it✓
- Construction of dams and irrigation systems✓
- Pollution✓
- Use of agricultural chemicals change the relationship between organisms✓
- Introduction of domestic animals and crops change the composition of all ecosystem✓ [Any 4] (4)

2.5 **Case study – Background to land reform in South Africa**

2.5.1 **TWO land reform programmes that were established in 1994**

- Land restitution ✓
- Land redistribution✓
- Land tenure reform✓ [Any 2] (2)

2.5.2 **Wrongs doings of the past regarding land and corrections**

- Land was forcefully taken from owners without compensation✓, so the aim was to return land to its original owners or to compensate them with paying them money. ✓ (2)
- Land especially for agricultural purposes was given mainly to white farmers and rich people✓, so the aim was to ensure that poor or disadvantaged people also be given access to land to be used for settlement or farming purposes. ✓ (2)

2.5.3 **People moved**

- 475000✓ (1)

2.5.4 **The homeland and province involved**

- QwaQwa✓, Free State✓ (2)

[35]

QUESTION 3: ANIMAL STUDIES

3.1 **Different farming co-operation**

3.1.1 **Characteristics of browsers**

- Has strong hind legs✓ (1)

3.1.2 **Community that farm with breeds kept for mohair**

- Community 1✓ (1)

3.1.3 **FOUR economic importance of mohair**

- Used for textile industry✓
- Used for covering material✓ (upholstering)
- Used for making plushest✓
- Used for making blankets and jersey✓ (4)

3.1.4 **FIVE characteristics of Boer goat**

- Very fertile✓
- Resistant to diseases✓
- Very hardy and easy to adapt to harsh condition✓
- Ideal colouring is a white body with a red head and ears✓
- Has slightly dropping rump and four strong legs✓ (5)

3.2. **Ruminants and non-ruminants**

3.2.1 **Differences between ruminants and non-ruminants**

	Ruminants	Non-ruminants
(i)	has complex stomach✓	has simple stomach✓
(ii)	chew the cud✓	do not chew the cud✓

(4)

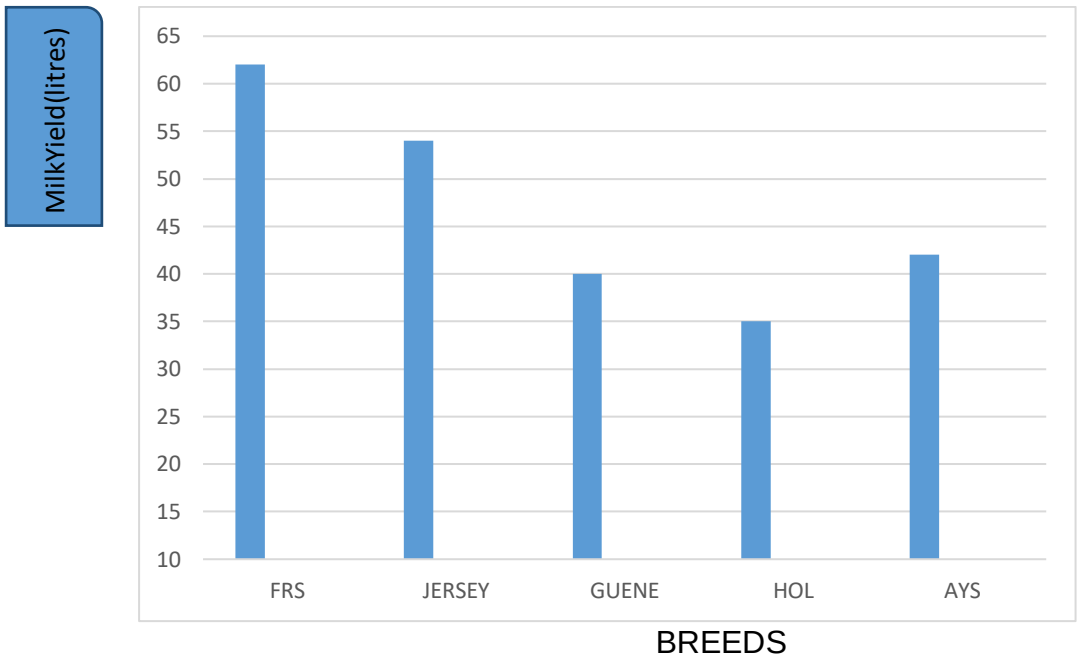
3.2.2 **FIVE importance of animals to man**

- provide food✓
- provide raw materials✓
- provide job opportunities✓
- boost the economy of the country✓
- Cattle can be used to pay lobola✓ (5)

3.3 **Milk and nutritional averages for different dairy breeds.**

3.1.1 **Bar graph**

Average milk yield of various dairy breeds



RUBRIC FOR GRAPH

ITEM	MARK
bar graph✓	1 mark
Heading✓	1 mark
labelling of x-axes✓	1 mark
labelling of y-axes✓	1 mark
Accuracy✓	1 mark
TOTAL	5 mark

(5)

3.3.2 **Breeds for milk and fat production**

(a) Friesland✓ (1)

(b) Jersey✓ (1)

3.3.3 **Difference between extensive and intensive farming.**

EXTENSIVE FARMING	INTENSIVE FARMING
Less supervision needed✓	More supervision needed✓
Animals move freely✓	Movement of animals is restricted✓
Animals search for their own food✓	Animals are fed a balanced diet✓
Less capital is used✓	More capital is used✓
Number of animals is not restricted✓	Large amount of animals are kept in feedlot✓

(8)

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QUESTION 4: SUSTAINABLE NATURAL RESOURCES UTILISATION

4.1 Differentiate between primary and secondary resources

- Primary resources – are natural✓, resources and include things such as soil and water✓
- Secondary resources – includes things such as seeds, plant stock and animals breeding stock✓, it also include fertilisers, irrigation equipment, labour✓ (4)

4.2 Definition of renewable-, non-renewable resources and sustainable agriculture.

4.2.1 Renewable resources

- those resources that can be replaced in a short time✓✓ (2)

4.2.2 Non-renewable resources

- those resources that cannot be replaces once they are used✓✓ (2)

4.2.3 Sustainable agriculture

- is the way of faming that does not deplete resources✓✓ (2)

4.3 Case study

4.3.1 Natural resources

- soil✓
- wind✓
- water✓ [Any 2] (2)

4.3.2 Secondary resources

- Irrigation✓
- Pesticides✓ (2)

4.3.3 Using resources sustainable

- using manure from feedlot to fertilize the soil✓✓
- using wind energy to irrigate sugarcane and pasture✓✓ (4)

4.3.4 Farming practices with a negative effect on the environment

- Use of pesticides which pollute the environment✓✓ (2)

4.3.5 Environmental friendly practices

- Intercropping✓✓ (2)

4.4 **Definition of soil degradation**

- Soil degradation- the loss of soil quality and productivity✓✓ (2)

4.5 **Poor agricultural practices**

4.5.1 **Poor agricultural practices causing soil degradation**

- Overgrazing✓
- Incorrect tillage✓
- Mono cropping✓
- Poor irrigation methods✓
- Overuse of fertilizers✓ (5)

4.5.2 **Table of soil degradation**

Physical degradation	Chemical degradation	Biological
(a) Soil erosion✓	(d) salinization✓	(F) loss of soil organisms✓
(b) Waterlogging✓	(e) acidification✓	
(c) Soil crusting✓		

(6)
[35]

TOTAL SECTION B: 105
GRAND TOTAL: 150