GRADE 11

LIFE SCIENCES

TERM 4 ASSIGNMENT 2019

(HUMAN IMPACT ON THE ENVIRONMENT)

MARKS: **56**

TIME: **2 hours**

SPECIFIC AIMS:

1. Knowing Life Sciences.
2. Application of Life Science.
3. Doing science or investigation.

PART 1

QUESTION 1: **THEME: Skills - Short Paragraphs.**

1.1 Differentiate between greenhouse effect and global warming (4)

1.2 Explain how increasing CO_2 emission decrease food security (4)

1.3 Explain how thermal pollution can impact on the quality of water biodiversity. (4)

1.4 Explain the DISADVANTAGE of using biological and mechanical methods when controlling invasive alien plants. (4)

{16}

QUESTION 2: THEME: Water - Skills

A farmer conducted an investigation to determine which type of fertiliser would increase the yield of her wheat crop.

- She divided her farm into three 1 hectare plots and treated them as follows:

Treatment	Hectare A	Hectare B	Hectare C
Type of Fertiliser	None	Contains nitrogen	Contains phosphorus
Amount of fertiliser (kg)	None	10	10

- He planted the same type of crop, namely wheat, during November each year for five years.
- He used water from a river which flows through the farm to irrigate her crop.
- He recorded the yield per plot for each year. The yield was measured by calculating the number of kilograms of wheat produced per hectare.

2.1 State

(a) TWO planning take whilst preparing for the investigation (2)

(b) A suitable hypothesis for the investigation (2)

(c) The dependent variables in this investigation (1)

(d) One investigation of doing the investigation five times (1)

2.2 Explain how the use of the same crop improved the validity of this investigation. (2)

2.3 Explain the purpose of including hectare A in this investigation (2)

2.4 List TWO negative effects of planting the same type of crop over many years. (2)

2.5 Explain how the excessive use of fertilisers can affect biodiversity if it is washed into the river. (4)

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QUESTION 3: BIODIVERSITY- SKILLS

Read the passage below and answer the questions that follow.

Statistics on rhino poaching in South Africa show that rhino poaching is on the increase. In 2005, 13 rhinos were poached. This figure has steadily risen every year, and 448 rhinos were poached in 2011.

The rhino horns are smuggled to some countries in the East, where they are sold illegally and at very high prices.

These rhino horns are used to make aphrodisiacs (sexual stimulants), as well as ornaments. They are also used to make medicines which are thought to cure cancer and other ailments.

Adapted from the iol news, April 2012]

3.1 What is *poaching*? (1)

3.2 Give ONE reason stated in the text above for the increase in rhino poaching in South Africa. (1)

3.3 State TWO ways in which human destroy wildlife habitat (2)

3.4 Explain how the increase in the killing of wildlife will influence the environment. (2)

3.5 Explain how alien invasive vegetation would reduce biodiversity of wildlife (2)
{8}

QUESTION 4: SOLID WASTE - SKILLS

If all household products were recycled a large amount of landfill space could be saved a year. The table below shows different types of waste and their decomposition time

TYPES OF WASTE	DECOMPOSITION TIME (MONTHS)
Nylon socks	40
Tin cans	30
Paper	15
Glass	10
Orange peel	5

4.1 Draw a pie graph to represent the data in the table above. Show ALL working. (6)

4.2 Explain TWO advantages of recycling. (2)

4.3 State ONE way in which the leachate fluids can be prevented from polluting the underground water. (1)

4.4 Explain how the recycling of papers can reduce global warming indirectly. (3)

4.5 Describe how landfill sites contribute towards global warming. (2)

4.6 Trees are normally planted on rehabilitated landfill sites to offset carbon emission. Give TWO reasons why it would be better to plant indigenous trees rather that exotic trees. (2)

{16}

TOTAL MARKS PART 1: [56]