CLICK HERE

KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 10

LIFE SCIENCES

COMMON TEST

SEPTEMBER 2022

MARKS: 60

TIME: 1 Hour

This question paper consists of 9 pages.

Copyright reserved

INSTRUCTIONS AND INFORMATION

Read the following instructions carefully before answering the questions.

1. Answer ALL the questions.
2. Write ALL the answers in the ANSWER BOOK.
3. Start the answers to each question at the top of a NEW page.
4. Number the answers correctly according to the numbering system used in this question paper.
5. Present your answers according to the instructions of each question.
6. Do ALL drawings in pencil and label them in blue or black ink.
7. Draw diagrams, tables, or flow charts only when asked to do so.
8. The diagrams in this question paper are NOT necessarily drawn to scale.
9. Do NOT use graph paper.
10. You may use a non-programmable calculator, protractor, and a compass.
11. Write neatly and legibly.

Copyright reserved

SECTION A

QUESDTION 1

1.1 Various options are provided as possible answers to the following questions. Choose the correct answer and write only the letter (A to D) next to the question number (1.1.1 to 1.1.5) in your ANSWER BOOK, for example 1.1.5 D.

1.1.1 The formation of glaciers during an ice age leads to…

A an increase in sea levels.
B an increase in oxygen levels.
C drop in sea levels.
D drop in oxygen levels.

1.1.2 **QUESTIONS 1.1.2 AND 1.1.3 ARE BASED ON THE DATA BELOW**

An investigation was conducted by grade 10 learners to determine the number of endemic species in the savannah biome. They repeated the investigation several times

The investigation was repeated several times to…

A decrease the reliability of the investigation.
B ensure the validity of the investigation.
C minimise errors.
D increase the reliability of the investigation.

1.1.3 Some of the following steps were part of the investigation:

(i) Grade 10 learners asked permission for doing their investigation
(ii) Grade 10 learners counted endemic animals in savannah biome
(iii) Grade 10 learners decided on the venue for the investigation
(iv) Grade 10 learners decided on the tool to record their findings

Which one of the following combinations of steps should be taken before the investigation is conducted?

A (i), (ii), (iii) and (iv)
B (i),(ii) only
C (i),(iii),(iv) only
D (ii),(ii), (iv) only

1.1.4 The part of the biosphere you would generally find rocks is the...

A hydrosphere.
B lithosphere.
C biosphere.
D troposphere.

1.1.5 The removal of trees in an area is called...

A aforestation.
B reforestation.
C poaching.
D deforestation.

2x5 **(10)**

1.2 Give the correct biological term for each of the following descriptions. Write only the term next to the question number (1.2.1 to 1.2.4) in your ANSWER BOOK

1.2.1 Organism that feed on decaying/dead material

1.2.2 Non-living component of an ecosystem

1.2.3 Variety of living organisms on earth

1.2.4 Organism that has no true nucleus and membrane bound organelles

(1x4) **(4)**

Copyright reserved

1.3 Indicate whether each of the statements in COLUMN I applies to **A ONLY**, **B ONLY**, **BOTH A AND B or NONE** of the items in COLUMN II. Write **A only**, **B only**, **both A and B,** or **none** next to the question number (1.3.1 to 1.3.3) in the ANSWER BOOK.

	COLUMN I	**COLUMN II**
1.3.1	Changes that had major effects on life	A: Climate change B: Continental drift
1.3.2	Organisms that have true nucleus	A: Fungi B: Monera
1.3.3	Scientists who study fossils	A: Ecologist B: Paleontologist

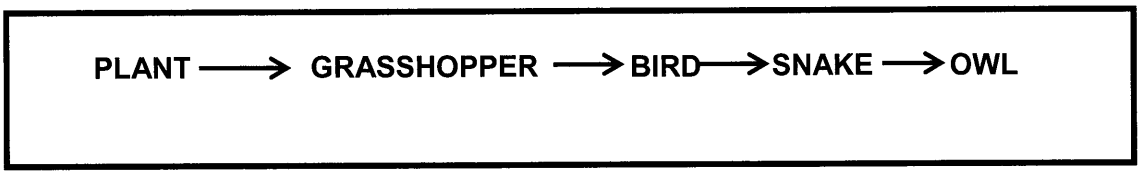
2x3 **(6)**

TOTAL QUESTION 1: [20]
TOTAL SECTION A: [20]

SECTION B

QUESTION 2

2.1 Diagram below represents part of a food chain



2.1.1 In the food chain above identify the:

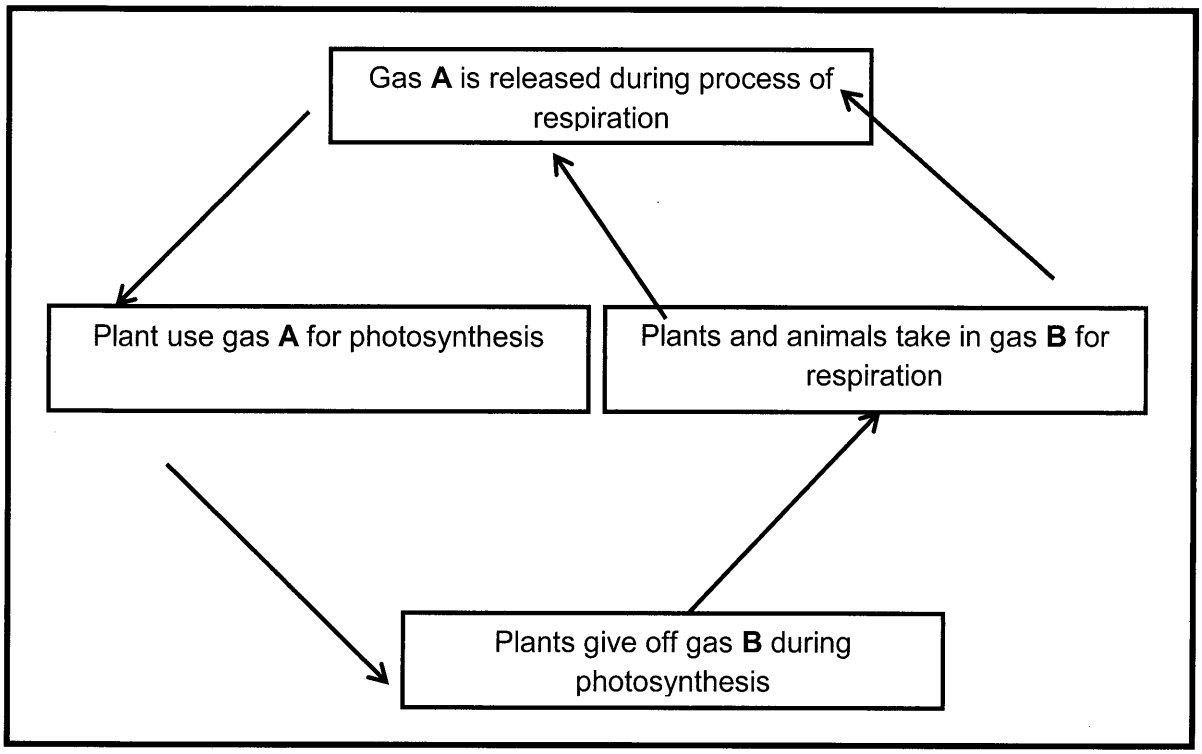
(a) Herbivore (1)

(b) Producer (1)

2.1.2 In the food chain above, snake is a consumer. Explain why do we call it a consumer? (2)

2.1.3 Explain what will happen to the population of plants and grasshoppers if all the birds die. (3)
(7)

2.2 The flow chart diagram represents one of the nutrient cycles.



2.2.1 Identify the above nutrient cycle (1)

2.2.2 Name the gas: (2)

(a) **A**

(b) **B**

2.2.3 Gas **A** has been reported to be drastically increasing in the atmosphere due to human activities.

(a) Explain the impact that the increase of gas **A** in the atmosphere have on the environment. (3)

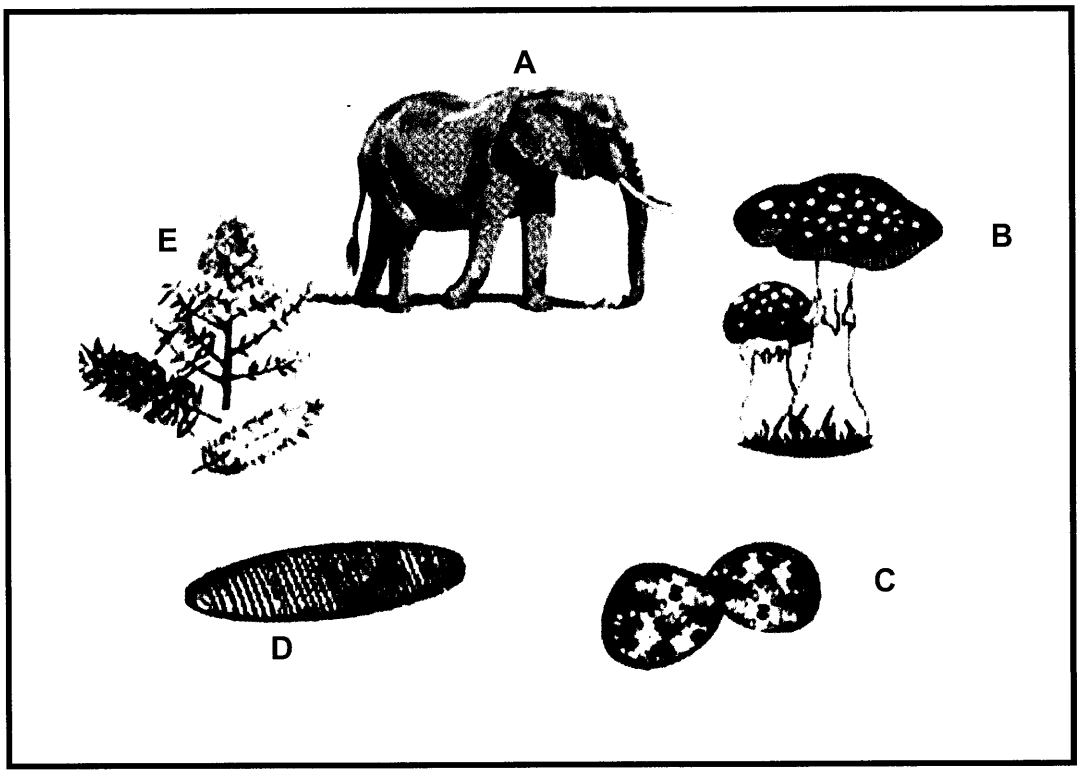
(b) Suggest TWO ways to reduce an increase of gas **A** in the atmosphere. (2)
(8)

2.3 Describe the role of carbon dioxide in carbon cycle **(5)**
(13)

TOTAL QUESTION [20]

QUESTION 3

3.1 The diagram below shows different organisms in no particular order belonging to different kingdoms of classification (***Animalia, plantae, protista ,monera*** *and* ***fungi***)



3.1.1 Give only the LETTER and the NAME of the kingdom that:

(a) Reproduce sexually and asexually by means of spores (2)

(b) Contain chlorophyll and make their own food by photosynthesis (2)

3.1.2 State ONE difference between **C** and **D** in terms of their method of reproduction (2)

3.1.3 Diagram A is an African elephant. Its scientific name is *Loxodonta africana*

(a) State the genus name of the African elephant (1)

(b) Name the kingdom in which African elephant belong (1)

(c) Explain the importance of using scientific names rather than using common names (2)
(10)

3.2 Grade 10 learners investigated to determine water holding capacity of different soil types

The results of the investigation are shown in the table below

Soil type	Amount of water retained (ml)
Soil **X**	60
Soil **Y**	190
Soil **Z**	100

3.2.1 Name the soil type that is best for planting crops (1)

3.2.2 Give TWO reasons for your answer in QUESTION 3.2.1 (2)

3.2.3 The total amount of water that was poured in soil **X** was 200 ml.
Calculate the percentage of water that was drained out in soil **X** (3)
(6)

3.3 Explain TWO negative effects of industrialisation and urbanisation on the habitats of living organisms in the environment. **(4)**
[10]

TOTAL QUESTION 3 [20]
TOTAL SECTION B [40]
GRAND TOTAL [60]

Copyright reserved