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**NATURAL SCIENCES
CONTROL TEST
GRADE 8
MARCH 2024**

**EXAMINER: S. du Plessis
MODERATOR: L. le Roux**

**TOTAL: 60
TIME: 1½ hours**

INSTRUCTIONS

1. This test consists of six questions.
2. Answer all the questions.
3. Number each question exactly as the test.
4. Carefully read through the test before you answer.

QUESTION 1

Multiple-choice questions

Each question has four possible answers. Choose the correct answer and write the corresponding letter next to the question number, e.g., 1.9 D.

- 1.1 Mistletoe is an example of a:
 A. parasite. B. saprophyte.
 C. hermaphrodite. D. producer. (1)
- 1.2 Glucose is stored in plants as:
 A. starch and oxygen. B. oxygen and cellulose.
 C. starch and cellulose. D. cellulose and water. (1)
- 1.3 Which statement is FALSE for respiration?
 A. Energy is released from food through a series of chemical reactions.
 B. It is the opposite reaction of photosynthesis.
 C. Always needs oxygen in order to take place.
 D. It can be aerobic or anaerobic (1)
- 1.4 This describes all living things in an area where plants and animals can live.
 A. Habitat B. Community
 C. Population D. Mutualism (1)
- 1.5 What does commensalism in an ecosystem mean?
 A. Both parties benefit.
 B. One party is favoured without the other party being harmed or favoured.
 C. One party benefits while the other party is disadvantaged.
 D. The parties cannot produce their own food. (1)
- 1.6 Which ONE of the following is not a type of carnivore?
 A. Predators B. Scavengers
 C. Insectivores D. Detritivores (1)
- 1.7 Identify a characteristic of bacteria.
 A. Has the shape of a sphere, rod, or spiral
 B. Causes diseases such as chickenpox, measles and conjunctivitis
 C. Single-celled organisms such as yeast
 D. Place nutrients back into the soil, atmosphere and water (1)
- 1.8 Which person discovered penicillin?
 A. Alexander Fleming B. Jonas Salk
 C. Louis Pasteur D. Marie Curie (1)

[8]

QUESTION 2

Provide the correct scientific word or term for the following statements. Write your answer next to the question number (2.1-2.5)

- 2.1 Animals that eat only grass. (1)
- 2.2 Plants that produce their own food. (1)
- 2.3 The position that an organism occupies in a food chain. (1)
- 2.4 Plants adapted to survive in arid regions. (1)
- 2.5 The phenomenon where an animal's appearance makes it look like another animal or object. (1)
- [5]**

QUESTION 3

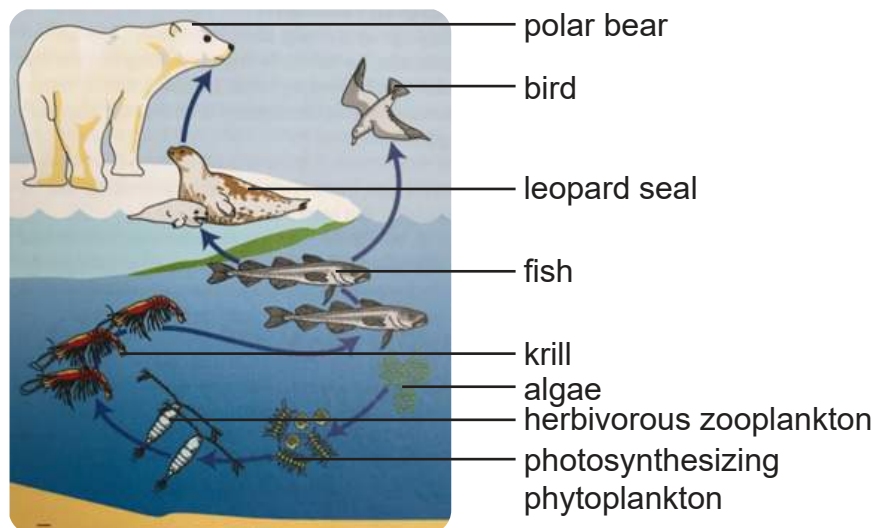
In the autumn months, the leaves of some trees discolour and fall off soon after.



- 3.1 In which part of trees does photosynthesis mainly take place? (1)
- 3.2 Write down the chemical reaction for photosynthesis in words. (4)
- 3.3.1 Does photosynthesis occur in the day or at night? (1)
- 3.3.2 Will the trees be able to photosynthesize in winter? (1)
- 3.3.2 Fully explain your answer in Question 3.3.2. (3)
- [10]**

QUESTION 4

Study the following diagram:



- 4.1 Give the definition of a food chain. (2)

- 4.2 Identify a food chain from the given sketch. Your food chain should include at least four species. (4)
- 4.3 What does it mean that the zooplankton is herbivorous? (1)
- 4.4 Identify any two predators in the sketch. (2)
- 4.5 Name the two producers in this food chain. (2)
- 4.6 Name two primary consumers in this food chain. (2)
- 4.7 Name two tertiary consumers in this food chain. (2)
- 4.8 Name any two abiotic factors that can be observed in this sketch. (2)
- [17]**

QUESTION 5

Animals must adapt to ensure their survival. Study the following photos:

A.



B.



C.



D.



- 5.1 Explain the difference between camouflage and mimicry. (4)
- 5.2 Which of the photographs A to D, suggest the following? (2)
- 5.2.1 Camouflage (2)
- 5.2.2 Mimicry (2)
- 5.3 Name three methods by which you can contribute to the conservation of ecosystems. (3)
- [11]**

QUESTION 6

Study the following photos. After that, answer the questions that follow.

Yeast



Toadstools



- 6.1 Is yeast a micro or macro-organism? Explain your answer. (2)
- 6.2 Are toadstools a micro or macro-organism? (1)
- 6.3 What type of micro-organisms are depicted in the photo? (1)
- 6.4 Give one benefit that yeast has for people. (1)
- 6.5 Protozoa is another type of microorganism. (1)
- 6.5.1 Explain what protozoa are. (1)
- 6.5.2 Name two diseases caused by protozoa. (2)
- 6.5.3 Name one beneficial use of protozoa. (1)
- [9]**

TOTAL: 60



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MEMORANDUM**

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QUESTION 1

- 1.1 A ✓
- 1.2 C ✓
- 1.3 C ✓
- 1.4 B ✓
- 1.5 B ✓
- 1.6 D ✓
- 1.7 A ✓
- 1.8 A ✓

[8]**QUESTION 2**

- 2.1 Herbivore ✓
- 2.2 Autotrophs ✓
- 2.3 Trophic level ✓
- 2.4 Xerophytes ✓
- 2.5 Mimicry ✓

(1)

(1)

(1)

(1)

(1)

[5]**QUESTION 3**

- 3.1 Leaves ✓
- 3.2 Carbon dioxide ✓ + water ✓ → glucose ✓ + oxygen ✓
- 3.3.1 Day ✓
- 3.3.2 No ✓
- 3.3.3 Photosynthesis requires chlorophyll ✓ found in the green leaves. ✓ When the leaves fall off there is no chlorophyll present. ✓

(1)

(4)

(1)

(1)

(3)

[10]**QUESTION 4**

- 4.1 This is the ratio in which energy (in food) flows between living organisms. ✓✓
- 4.2 Algae ✓ → phytoplankton → zooplankton ✓ → krill ✓ → fish ✓ → bird ✓
- OR
- algae → phytoplankton → zooplankton → krill → fish → leopard seal → polar bear
- 4.3 Eats only plants. ✓
- 4.4 Polar bear; ✓ bird; ✓ leopard seal; fish; krill
- 4.5 Algae ✓ and phytoplankton ✓
- 4.6 Krill ✓ and zooplankton ✓
- 4.7 Polar bear; ✓ bird; ✓ leopard seal
- 4.8 Water; ✓ sand; ✓ ice

(2)

(4)

(1)

(any two) (2)

(2)

(2)

(any two) (2)

(any two) (2)

[17]**QUESTION 5**

- 5.1 Camouflage: An animal's ability to merge with its environment. The animal's external appearance makes him look like his surroundings. ✓✓
- Mimicry: The phenomenon where an animal's appearance makes it look like another animal or object. ✓✓

(4)

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- 5.2.1 A ✓ and D ✓ (2)
- 5.2.2 B ✓ and C ✓ (2)
- 5.3 Appropriate waste disposal ✓
 Use electricity sparingly ✓
 Use water sparingly ✓
 Make smarter use of transport
 Work smarter in your garden. (any three suitable methods) (3)
- [11]**

QUESTION 6

- 6.1 Microorganism; ✓ it can only be observed with a microscope. ✓ (2)
- 6.2 Microorganism ✓ (1)
- 6.3 Fungi ✓ (1)
- 6.4 Used to make bread ✓ (1)
- 6.5.1 Protozoa are single-celled organisms larger than bacteria ✓ (1)
- 6.5.2 Malaria ✓ and sleeping sickness ✓ (2)
- 6.5.3 Can be beneficially used in the cleaning of sewage pipes. ✓ (1)
- [9]**

TOTAL: 60