



MOGALAKWENA DISTRICT

SENIOR PHASE GET

GRADE 08

NATURAL SCIENCES TERM 1
COMMON TEST
2024

MARKS: 60

TIME: 60 Minutes

INSTRUCTIONS AND INFORMATION

1. Write neatly and legibly
2. Number the answers correctly according to the numbering system used in this question paper.
3. This question paper consists of **SEVEN** questions. Answer ALL the questions.

This question paper consists of 8 pages including the cover page

QUESTION 1

Various options are provided as possible answers to the following questions. Each question has only one correct answer. Choose the correct answer and write correct letter (A-D) among the options provided.

- 1.1.1. Which of the following terms describes an animal that eats another animal in a food chain?
- A. Primary consumer
 - B. Secondary consumer
 - C. Decomposer
 - D. Herbivore
- (1)
- 1.1.2. During the test for starch, a green leaf is placed in boiling alcohol to...
- A. break the cell walls.
 - B. to extract the chlorophyll.
 - C. to remove starch.
 - D. stop metabolic processes.
- (1)
- 1.1.3. Which one of the following is arranged from largest to smallest?
- A. Population, community, ecosystem, biosphere.
 - B. Ecosystem, biosphere, community, population.
 - C. Biosphere, ecosystem, community, population.
 - D. Biosphere, ecosystem, population, community.
- (1)

Questions 1.1.4 and 1.1.5 are based on the diagram of the food chain below. Study it and answer the questions.

Grass → locust → frog → snake

- 1.1.4. What do the arrows in the food chain above indicate?
- A. Trophic levels.
 - B. Who consumes/eats whom.
 - C. Flow of energy.
 - D. A common food chain.
- (1)
- 1.1.5. In the food chain shown above, which organism is the autotroph?
- A. Snake
 - B. Locust
 - C. Frog
 - D. Grass
- (1)
- 1.1.6. Which one of the following causes malaria in humans?
- A. Protista.
 - B. Fungi.
 - C. Bacteria.
 - D. Viruses.
- (1)
- 1.1.7. The products of photosynthesis are ...
- A. glucose and oxygen.
 - B. carbon dioxide and water.
 - C. glucose and carbon dioxide.
 - D. carbon dioxide and oxygen.
- (1)

1.1.8. Ecology is ...

- A. a combination of all ecosystems.
- B. the study of the interactions of organisms with each other and their physical and chemical environment.
- C. a community of animals, plants and people.
- D. a group of people that stays in one place that has a specific common characteristic.

(1)

1.1.9. The following is NOT an example of micro-organisms

- A. Virus
- B. Mushroom
- C. Bacteria
- D. Protista

(1)

1.1.10. The following is an example of a biotic component of an ecosystem.

- A. A clean cement dam that contains only water.
- B. The wind.
- C. Heat.
- D. A grassland.

(1)

[10]

QUESTION 2

Give ONE word/term for each of the following statements. Write down only the word/term next to the question number.

2.1. The process whereby energy is released from food through a range of chemical reactions. (1)

2.2. The term used for the various stages in the food chain. (1)

2.3 Living objects that are too small to view with the naked eye and can only be observed through a microscope. (1)

2.4. When all the individuals of a species die out. (1)

2.5. The introduction of a substance which can contribute to an imbalance in an ecosystem. (1)

[5]

QUESTION 3

Choose the description in COLUMN B that best matches the item in COLUMN A. Only write down the letter (A - I) next to the correct question number (3.1.1 – 3.1.5) in your ANSWER BOOK, e.g. 3.1. J.

COLUMN A	COLUMN B
3.1. Penicillin	A. A type of food sugar, produced by plants during photosynthesis.
3.2. HIV OR HI-virus OR Human Immunodeficiency Virus	B. Body covering that makes an animal hard to see.
3.3. Glucose	C. A live animal that is hunted.
3.4. Camouflage	D. Medicine that is produced by using micro-organisms.
3.5. Prey	E. A virus that causes AIDS.
	F. Group of individuals of the same species
	G. Illegal removal of animals and plants from the wild

[5]

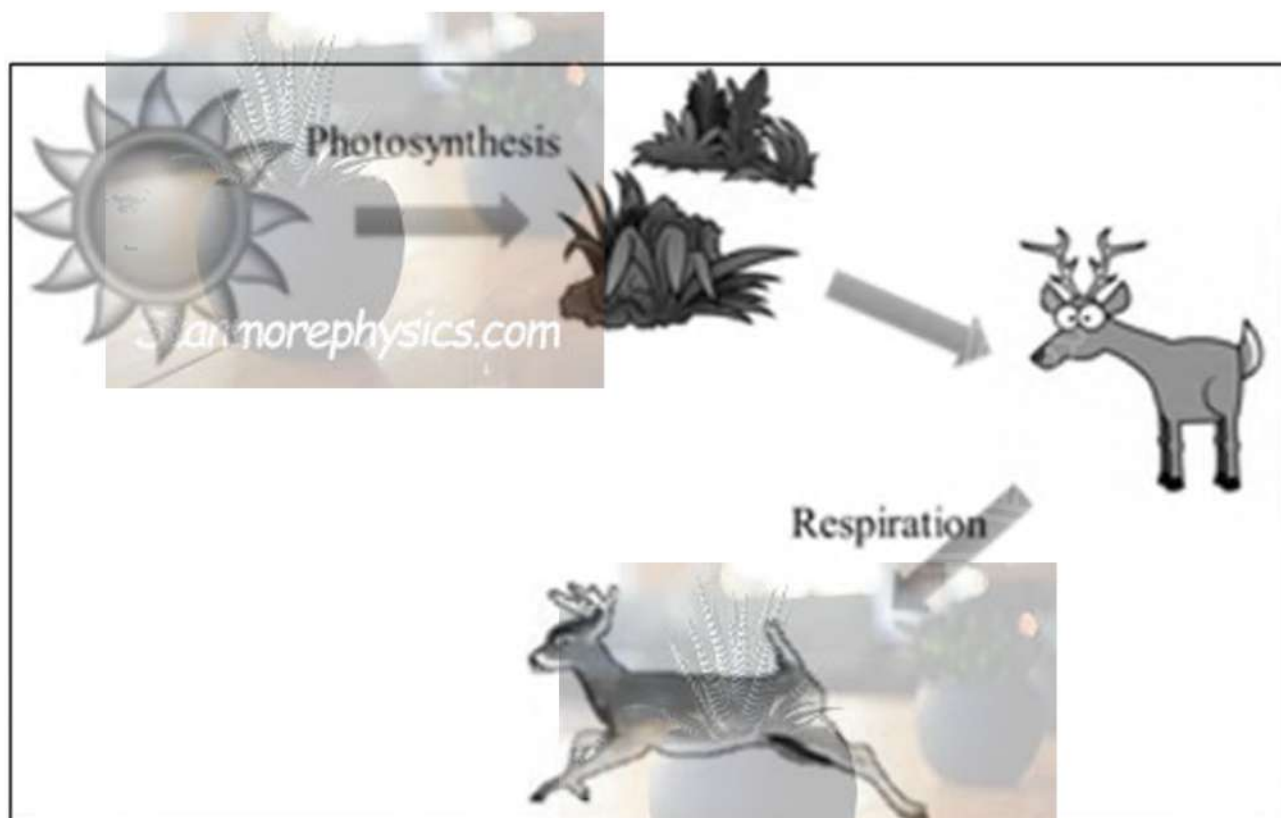
SECTION A

TOTAL: 20

SECTION B

QUESTION 4 (Photosynthesis and Respiration)

The following diagram illustrates two life sustaining processes. Answer the questions that follow:



4.1. Describe the process of photosynthesis. (2)

4.2 Write down the word equation for respiration. (2)

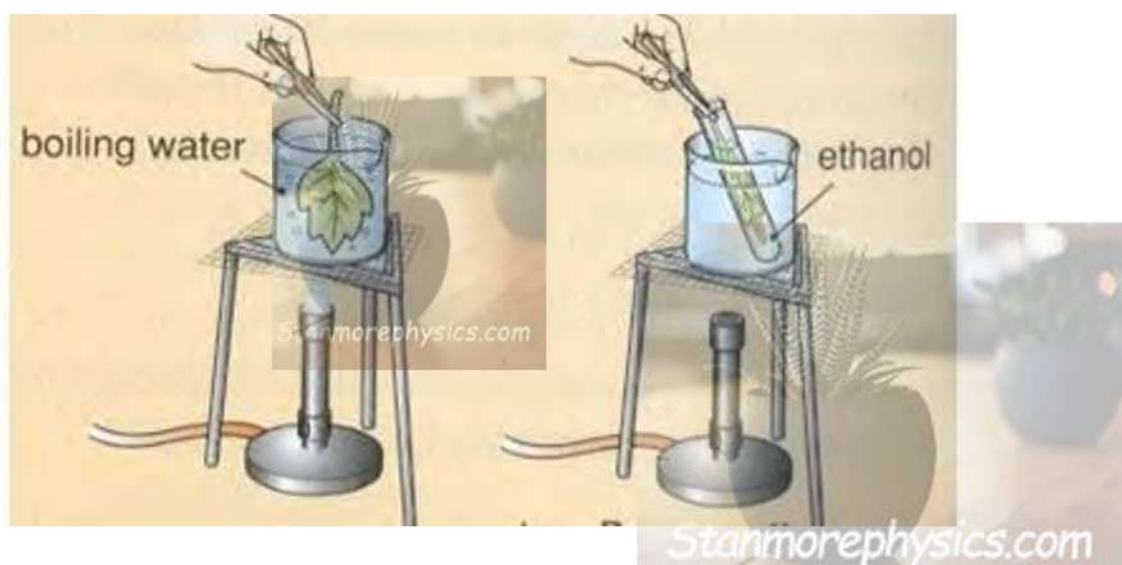
4.3 Which process will take place in the following organisms? ONLY write PHOTOSYNTHESIS or RESPIRATION or BOTH.

4.3.1 Animals (1)

4.3.2 Plants (1)

4.4 Explain the relationship between glucose and starch. (1)

4.5 Look at the photographs below of an investigation to find out if leaves produce starch.



4.5.1 Suggest a reason why the leaf was placed in boiling water. (1)

4.5.2 Suggest a reason why the leaf was placed in ethanol. (1)

4.5.3 Describe one safety precaution that you would have taken while carrying out this test. (1)

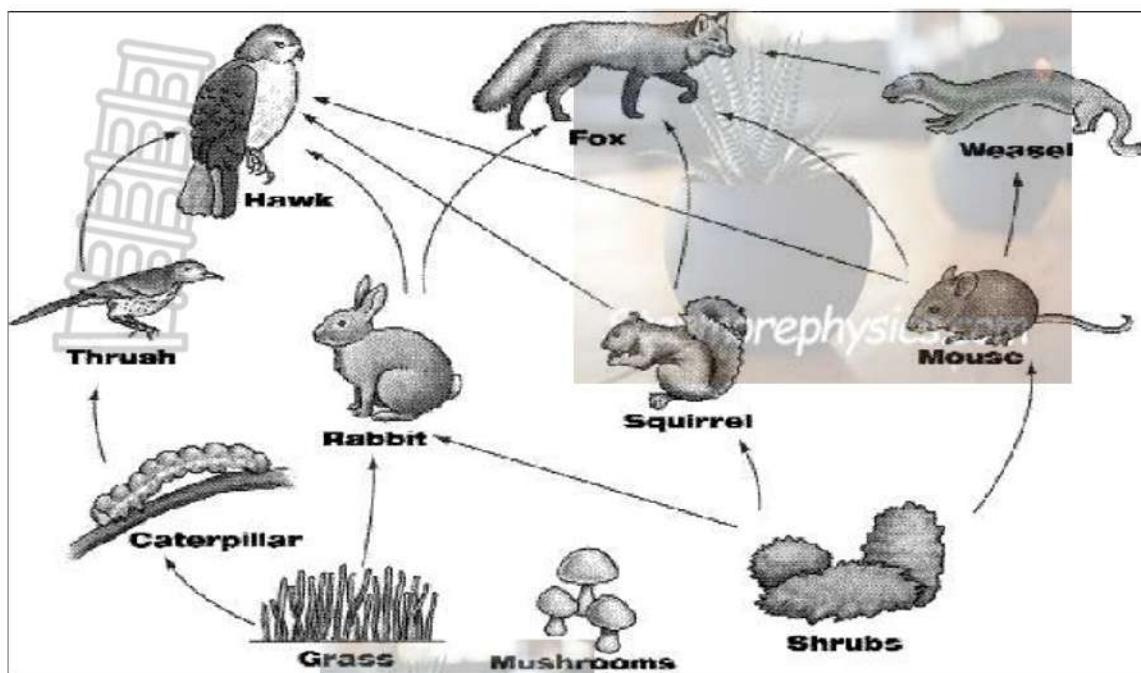
4.5.4 If the leaf had been producing starch, predict the results that you would have expected. (2)

[12]

QUESTION 5 (Interactions and Interdependence within the Environment)

5.1. Explain the difference between producers and consumers in a food web. (2)

5.2 Study the diagram of a food web and answer the questions that follow.



Give an example of each of the following from the food web:

5.2.1 A producer (1)

5.2.2 A tertiary consumer (1)

5.2.3 An insectivore (1)

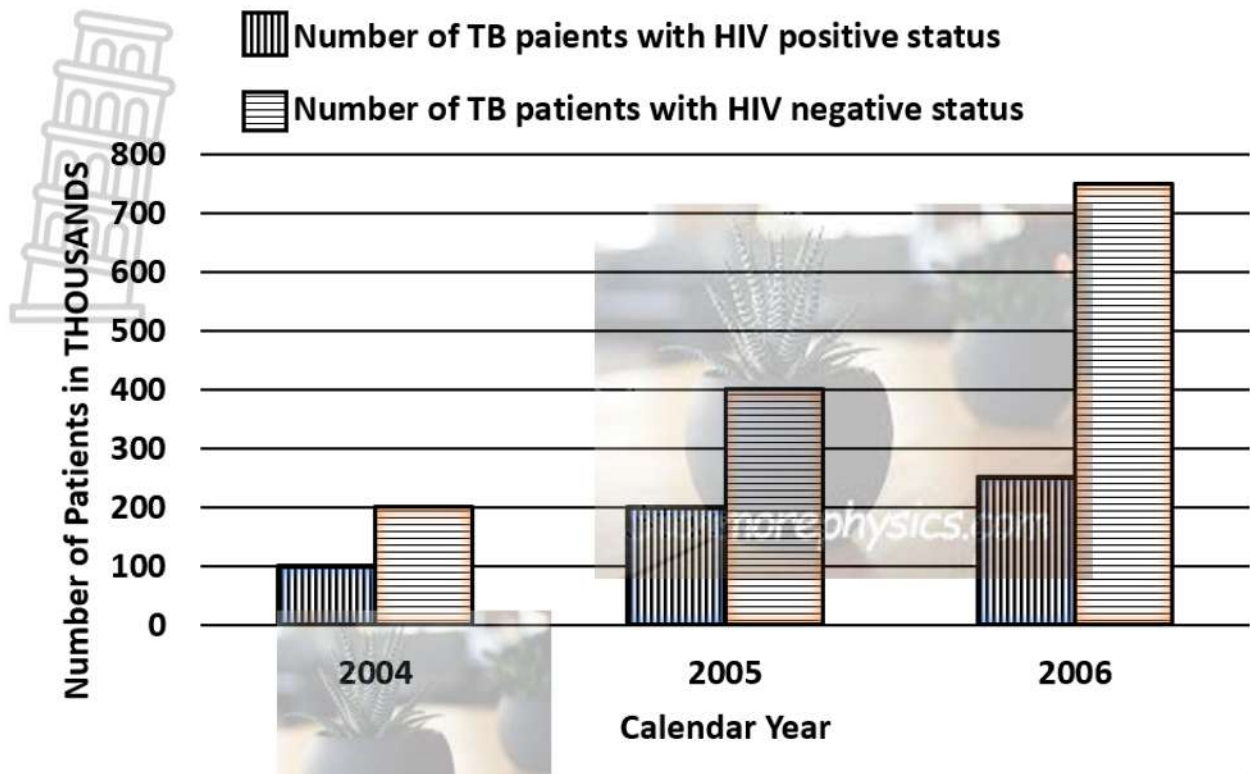
5.2.4 A predator (1)

5.3 Explain the impact on the food web if the hawk is removed from the food web. (3)

[9]

QUESTION 6 (Micro-Organisms)

The following graph shows the number of Tuberculosis (TB) patients with known HIV status in South Africa, for the period 2004 to 2006. The diseases mentioned are caused by micro-organisms. Study the graph and answer the questions that follow.



- 6.1 What was the TOTAL number of patients with Tuberculosis (TB) in the year 2006? (1)
- 6.2 How many TB patients were diagnosed HIV-positive in 2006? (1)
- 6.3 Is the prevalence of TB patients that are diagnosed positively with HIV increasing or decreasing? Explain your answer by comparing the data in the graph for the years 2004, 2005 and 2006. (2)
- 6.4 AIDS and TB are caused by harmful micro-organisms. Identify the type of micro-organism that causes:
- 6.4.1 AIDS (1)
- 6.4.2 TB (1)
- 6.5 Some micro-organisms are classified as useful to human beings. Name TWO ways in which they are used to our advantage. (2)
- 6.6 Name TWO ways in which the spread of AIDS can be prevented or minimised. (2)

[10]

QUESTION 7

An investigation was conducted to find out the effect of the amount of sugar and different temperatures on the growth of yeast.

- 7.1 Name the group of organisms that yeast belongs to. (2)
- 7.2 Name the independent variable in the investigation. (2)

- 7.3 Name the dependent variable and explain how it was measured. (2)
- 7.4 Suggest reasons why there are “holes” in bread? (1)
- 7.5 Describe two ways in which fungi are useful to people. (2)

[9]

SECTION B

TOTAL: 40

GRAND TOTAL: 60





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COMMON TEST MEMORANDUM
2024**

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This question paper consists of 5 pages including the cover page

SECTION A

QUESTION 1

1.1. B✓

1.2. B✓

1.3. C✓

1.4. C✓

1.5. D✓

1.6. A✓

1.7. A✓

1.8. B✓

1.9. B✓

1.10. D✓



[10]

QUESTION 2

2.1. Respiration✓

2.2. Trophic levels✓

2.3. Micro-organisms✓

2.4. Extinction✓

2.5. Pollution✓



[5]

QUESTION 3

3.1. D✓

3.2. E✓

3.3. A✓

3.4. B✓

3.5. C✓

[5]

SECTION A: 20

SECTION B
QUESTION 4

4.1. Plants (green / contain chlorophyll) use carbon dioxide (from the air), water (from the soil) and energy from the Sun✓ (in a series of chemical reactions) to produce glucose (food).✓ (2)

4.2 Glucose + Oxygen✓ → energy + Carbon-dioxide + Water✓ (2)

4.3.1 Respiration✓ (1)

4.3.2 Both✓ (1)

4.4 Plants change glucose into starch. ✓OR

Starch is a more complex form of glucose. ✓OR

Many glucose molecules form a starch molecule. ✓ (1)

4.5.

4.5.1. To soften the leaf. (1)

4.5.2 To remove the chlorophyll (1)

4.5.3 Do not directly boil the ethanol over the flame (1)

4.5.4 The parts that have starch will stain purple (blue-black) with iodine (2)

[12]

QUESTION 5

5.1. Producers make their own food.✓

Consumers obtain food from plants, either directly (herbivores) or indirectly (carnivores).✓

(2)

5.2.1 Grass OR Shrubs✓ (1)

5.2.2 Hawk OR Fox✓ (1)

5.2.3 Thrush✓ (1)

5.2.4 Hawk OR Fox OR Weasel✓ (1)

5.3 The prey population will explode.✓ When prey become scarcer, the predator population declines until the prey is again more abundant.✓ Therefore, the two balance each other.✓ OR

If the hawk is removed, the number of birds, rabbits, squirrels and mice will increase.✓ This will result in the numbers of caterpillars to reduce as well as the amount of grass and shrubs.✓ If there is no food for the primary consumers they will starve and can die out (become extinct). ✓

(3)

[9]

QUESTION 6

6.1 $750\,000 + 250\,000 = 1\,000\,000$ ✓

(1)

6.2 250 000✓

(1)

6.3 An overall increase of TB patients✓ that were diagnosed with HIV can be observed, but the increase is slowing down.✓

2004 → 2005 increase was 100 000 patients, while in the period

2005 → 2006 the increase was 50 000 patients.

(2)

6.4.1 AIDS - Virus ✓

(1)

6.4.2 TB - Bacteria ✓

(1)

6.5 Decomposers are useful micro-organisms that play an important role in the ecosystem as they break down dead plant and animal matter.✓

People use micro-organisms in the fermentation process when producing dairy products (yoghurt, cheese), brewing beer, making wine or baking bread.✓

Some micro-organisms are used for making medicine, like penicillin. ✓

(Any two advantages) (2)

6.6 Use condoms during sexual intercourse. ✓

Do not share needles. ✓

If you are HIV-infected and pregnant, talk to your health care provider about taking ARV's. ✓ Protect cuts, open sores, and your eyes and mouth from contact with blood. ✓

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(Any two preventions) (2)

[10]

QUESTION 7

An investigation was conducted to find out the effect of the amount of sugar and different temperatures on the growth of yeast.

7.1 Fungi ✓✓ (2)

7.2 The amount of sugar ✓✓ (2)

7.3 The growth of yeast, ✓ it was measured by seeing how much yeast grew ✓ (2)

7.4 Carbon dioxide given off by yeast ✓ (1)

7.5 Help to make breads ✓ and medicines eg. Penicillin ✓ (2)

[9]

SECTION B

TOTAL: 40

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