

THE END OF TERM II COMPREHENSIVE ASSESSMENT, SCHOOL YEAR 2025-2026

SUBJECT: BIOLOGY AND HEALTH SCIENCE I

CLASS: SENIOR ONE

DURATION: 8h30-11h30

DATE: Thursday ,19/03/2026

Student full names.....

Class:.....

INSTRUCTIONS:

1. Write your names correctly
2. This paper consists of **three** sections **A, B** and **C**
 - ❖ **Section A:** Attempt **ALL** questions. **(55 marks)**
 - ❖ **Section B:** Attempt any **THREE** questions **(30 marks)**
 - ❖ **Section C:** This section is **Compulsory (15 marks)**
3. Use only a **blue** or **black** pen

SECTION A: Attempt all questions from this section. (55 marks)

For all multiple-choice questions, circle a letter corresponding to the correct answer.

- 1)** A group of students went on a field trip to Nyungwe Forest to observe living things. Some students collected samples of leaves and flowers for closer study under the microscope. Others observed monkeys, birds, and insects moving and feeding in their natural habitats. When they returned, the teacher asked them to classify their work based on the branches of biology.
- i)** The study of plants such as leaves and flowers collected by students belongs to which branch of biology? **(1mark)**
- a)** Zoology
 - b)** Ecology
 - c)** Botany
 - d)** Genetics
- ii)** The students who observed monkeys, birds, and insects were mainly studying: **(1mark)**
- a)** Anatomy
 - b)** Zoology
 - c)** Botany
 - d)** Physiology
- iii)** Which statement best defines biology according to this case? **(1mark)**
- a)** The study of non-living things
 - b)** The study of only human life
 - c)** The study of life and living organisms
 - d)** The study of rocks and minerals
- 2)** Which of the following is the correct order in hierarchical classification from the largest to the smallest group? **(2marks)**
- a)** Species → Genus → Family → Order → Class → Phylum → Kingdom
 - b)** Kingdom → Phylum → Class → Order → Family → Genus → Species
 - c)** Kingdom → Class → Phylum → Family → Order → Genus → Species
 - d)** Phylum → Kingdom → Class → Order → Family → Genus → Species
- 3)** The group of classification where organisms resemble one another and are capable of interbreeding together to produce viable offspring is known as: **(2marks)**
- a)** Species
 - b)** Kingdom
 - c)** Genus
 - d)** Phylum

- 4)** Which of the following best describes the main difference between a monocotyledonous leaf and a dicotyledonous leaf? **(2marks)**
- a) A monocot leaf has a pointed apex, while a dicot leaf has a rounded apex.
 - b) A monocot leaf has network (reticulate) venation, while a dicot leaf has articulate venation.
 - c) A monocot leaf has parallel venation, while a dicot leaf has network (reticulate) venation.
 - d) A monocot leaf has network (reticulate) venation, while a dicot leaf has parallel venation.
- 5)** Write **True** or **False** for each of the following statements about the importance of plants: **(5marks)**
- a) Plants produce oxygen, which is essential for the survival of most living organisms.
 - b) If plants did not exist, there would still be plenty of food sources for animals and humans.
 - c) Without plants, the level of carbon dioxide in the atmosphere would decrease significantly.
 - d) Plants play an important role in maintaining the water cycle in the environment.
 - e) Many animal species depend on plants for habitat, so the absence of plants would disrupt ecosystems.
- 6)** Match each item in Column A with the correct answer in Column B related to Plant Structure and Functions **(4marks)**

Column A	Column B
1) Monocotyledon	a) Transfer of pollen grains from the anther to the stigma
2) Pollination	b) Plant with one cotyledon and parallel leaf venation
3) Feature that makes potato a stem	c) Dicotyledonous plant
4) Tap root with two cotyledons and flower with eight petals	d) Presence of buds (eyes) and nodes

- 7)** How do magnifying instruments enhance our understanding of biology? **(2 marks)**
- a) By making objects appear smaller
 - b) By helping us observe and study minute details that are vital to understanding how organisms function and interact.
 - c) By making living organisms easier to catch.
 - d) By improving the shape of organisms.

8) The total magnification of a microscope is calculated by multiplying the magnification of the ocular lens by the magnification of the objective lens.

If the ocular lens magnifies **10×** and the objective lens magnifies **40×**, what is the total magnification? **(2 marks)**

- a) 4×
- b) 4000×
- c) 400×
- d) 40×

9) Match the organelles in Column A with the correct function in Column B. **(5marks)**

Column A	Column B
1) Mitochondria	a) Produces energy
2) Cell Wall	b) Controls what goes in and out of the cell
3) Cell membrane	c) The rigid structure on the outside of plant cells that keeps the shape of the cell
4) Chloroplast	d) Living, jelly-like fluid in which reactions take place inside the cell
5) Cytoplasm	e) Photosynthesis takes place here

10) Suppose you are a mother/father and you need to feed your family properly.

Which diet would be best for them? **(2marks)**

- a) A meal with only rice and cooking oil
- b) A meal with meat only
- c) A balanced diet containing carbohydrates, proteins, fats, vitamins, minerals, fibre and water
- d) A meal made of sweets and soda

11) If maize porridge turns blue-black with iodine, purple with Biuret, and forms a cloudy layer with ethanol, what nutrients are present? **(2marks)**

- a) Only carbohydrate
- b) Carbohydrate and protein
- c) Carbohydrate, protein, and fat
- d) Only protein

12) Why do animals with an exoskeleton have to moult? **(2marks)**

- a) Because their exoskeleton is soft and stretches as they grow.
- b) Because their exoskeleton is rigid and cannot grow, so they need to shed it to allow body growth.
- c) Because moulting helps them breathe better.
- d) Because moulting helps them move faster

- 13)** Match each specialized cell in Column A with its primary function in Column B. **(5 marks)**

Column A: Structure	Column B: Function
i) Xylem	a) Transport of organic food (mainly sugars) from leaves to other parts
ii) Phloem	b) Absorb water and minerals from the soil
iii) Root hair	c) Transport of water and minerals from the roots to other parts of the plant.
iv) Red blood cell	d) Transport oxygen around the body
v) Ciliated cell	e) Trap dust particles and prevent them from entering the trachea.

- 14)** The process of gaseous exchange is vital for human life. Which of the following best describes how it works and why it is essential for survival? **(2marks)**
- Oxygen from the air diffuses into the blood at the alveoli, while carbon dioxide diffuses out of the blood into the alveoli; this provides O₂ for respiration and removes toxic CO₂.
 - Oxygen is carried directly by the heart to all cells without exchange in the lungs; CO₂ is stored in the lungs.
 - Carbon dioxide enters the blood at the alveoli and oxygen leaves the blood; this helps store energy in the lungs.
 - Oxygen and carbon dioxide circulate in the digestive system to aid in food absorption

- 15)** Match the effect of an unbalanced diet with the possible health consequence: **(5 marks)**

Unbalanced diet	Possible health consequence
1. Excessive sugar intake	A. Weight gain and obesity.
2. Excessive salt intake	B. Increased risk of hypertension.
3. Lack of fiber	C. Constipation and digestive issues.
4. Insufficient calcium intake	D. Weak bones and increased risk of fractures.
5. Too much fat	E. Increased cholesterol and heart disease risk.

- 16)** Complete the sentences below using these words: **towards, phototropism, roots, stimulus, negatively.** **(5marks)**
- The growth of a stemor away from a light.....is Called
 - Plant stems are gravitropic.
 - Plant.....are positively gravitropic.

