

**BIOLOGY PAPER
FORM 1
MAY SERIES
2017**

MARKING SCHEME

1. Name the branch of Biology that deals with the study of:

(3 marks)

- (a) Animals *zoology*
- (b) Bacteria *bacteriology*
- (c) Insects *entomology*

2. List **four** careers that the study of Biology can help you enter.

(4 marks)

- *Medicine,*
- *Nutrition,*
- *Public Health,*
- *Dentistry,*
- *Agriculture*
- *Environmental Studies.*
- *Teaching*

3. The diagram below illustrates a certain characteristic of living things. Use it to answer the questions that follow.



(a) Identify the characteristic.

(1 mark)

Excretion

(b) Apart from the process above, state **five** characteristics of life.

(5 marks)

- *Nutrition*
- *Respiration*
- *Gaseous Exchange*
- *Growth and Development*
- *Reproduction*
- *Irritability*
- *Movement*

4. The diagram below Shows a material for collecting organism for study.



(a) i) Identify the material.

(1 mark)

Pooter

ii) Give how the material above is used in organism collection.

(1 mark)

Insect sucked

(b) Apart from the material shown, list four other materials used in collection of organism.

(4 marks)

- **Knives for cutting**
- **Polythene bags**
- **Insect collecting jars.**
- **Insect killing jars.**
- **Hand gloves.**
- **Sweep nets**
- **Traps**

5. a) Define the term species

(1mark)

the smallest unit of classification whose members naturally interbreed to produce viable/fertile offsprings.

b) Give a reason why a human being and a baboon cannot breed yet they belong to the same genus

(1mark)

They belong to different species.

6. State three precautions taken during collection and observation of the specimens.

(3marks)

- ***Collect only the number of specimen you need.***
- ***Do not harm specimens during capture/collection exercise.***
- ***Do not destroy the natural habitat of the specimens.***
- ***Dangerous/injurious specimens should be handled with care.***

7. a) what is Binomial Nomenclature ?

(1mark)

The rule of the double naming system.

b) Give two reasons why scientific names are given in Latin.

(2marks)

- ***Latin name is common world over.***

- *Latin name is easily changed/dynamic.*
- *Latin name is easily understood by most people.*

8. a) Xavier a form one Student observed a leg of an insect under a hand lens and made a drawing of the leg whose length was 4cm with a magnification of x2. What was the actual length of the leg?

(4marks)

Magnification = $\frac{\text{length of the drawing}}{\text{Length of the object}}$

$$2 = \frac{4\text{cm}}{Y}$$

$$2Y = 4$$

$$Y = 2\text{cm}$$

$$Y = 2\text{cm}$$

$$Y = 2\text{cm}$$

Length of the object is 2cm

b) Draw and label the three main parts of a hand lens (4marks)

to label handle; frame; convex lens

9. State any three external features of plants and animals giving example in each case.

i) Plants (3marks)

- *Rhizoids in moss plant*
- *Fronds in ferns*
- *Roots, stems, leaves, seeds, fruits and cones in higher plants.*

ii) Animals

(3marks)

- *tentacles in hydra*
- *feathers in birds*
- *shells in snails*
- *wings in birds*

10. State any three principles of binomial nomenclature

(3marks)

- *The first name refers to the genus name and begins with a capital while the second name is species written in small letters.*
- *The scientific names are written in italics in printed work and underlined when handwritten.*

11. State the seven major taxonomic units of classification starting from the largest to the smallest unit

(7marks)

- *Kingdom*
- *Phylum/division*
- *Class*

- *Order*
- *Family*
- *Genus*
- *Species*

12. Give any **three** importance of classification of living organisms.

(3marks)

- *To understand the evolutionary relationship between different organisms.*
- *To organize information about living organisms in order.*
- *To assign organisms universally accepted names.*
- *Help identify living organisms and place them into their correct groups.*

13. State one major contribution of Carolus Linnaeus to the science of today.

(1mark)

He introduced Binomial nomenclature.

14. Differentiate between locomotion and movement as used in living organisms

(2marks)

Locomotion is the progressive change in position by the whole organism while movement is a change in position by either a part or the whole living thing.

15. State five major kingdoms of living organisms giving an example in each

(10marks)

Kingdom	Example
<i>Kingdom Monera</i>	<i>Bacteria</i>
<i>Kingdom Protocista</i>	<i>Algae, protozoa</i>
<i>Kingdom Fungi</i>	<i>Moulds, yeasts, and mushrooms</i>
<i>Kingdom Plantae</i>	<i>Moss plants, ferns, maize plants, etc</i>
<i>Kingdom Animalia</i>	<i>Hydra. Tapeworms, bees, human beings, etc</i>

16. State **four** differences between plants and animals.

(8marks)

Plants	Animals
<i>1. Make their own through photosynthesis.</i>	<i>1. Feed on plants or other animals.</i>
<i>2. Slow response to stimuli.</i>	<i>2. Quick response to stimuli.</i>
<i>3. Movement in plants only occurs in certain parts of the plants.</i>	<i>3. Move from one place to another.</i>
<i>4. Plant growth is unlimited and only occurs in meristematic tissues.</i>	<i>4. Growth occurs in all parts of the body but stops at maturity.</i>
<i>5. Plants do not have a specialized excretory system because their wastes are less toxic.</i>	<i>5. Have highly developed excretory system.</i>

17. Give three reasons why a motor vehicle is not considered as a living thing yet it moves.

(3marks)

- *It does not reproduce.*
- *Does not respond to stimulus.*
- *Does not or develop*

18. What is magnification?

(2marks)

Process of enlarging small objects using a hand lens or a microscope.