

**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.*