

FORM 1 BIOLOGY 2017

1. Define the term Biology (1mk)  
**The study of life; knowledge of life; study of living things; (and non-livng things)**
2. State two major branches of Biology (2mks)

**Zoology**

**Botany**

3. Complete the table below (18 mks)

Branch	Definition	Specialist
Cytology	<b>Study of cells</b>	<b>Cytologists</b>
<b>Palaeontology</b>	Study of fossils	<b>Palaeontologist</b>
<b>Entomology</b>	<b>Study of insects</b>	Entomologists
Anatomy	<b>Study of structure of organisms</b>	<b>Anatomist</b>
Genetics	<b>Study of inheritance and variation</b>	<b>Genetist</b>
Ecology	<b>Study of relationship between organisms and their environment</b>	<b>Ecologist</b>
<b>Biochemistry</b>	<b>Chemical study of organisms</b>	Biochemist
<b>Physiology</b>	Study of body functions	<b>Physiologist</b>
<b>Ornithology</b>	Study of birds	<b>Ornithologist</b>

4. How does movement in plants differ from those of animals (2mks)  
**In animals there change in position (locomotion) and displacement of body parts; In plants there is only displacement of parts**
5. State and briefly explain five characteristics of living organisms (10 mks)
  - i. **Growth and development- Irreversible increase in size and mass while development is Irreversible change in complexity**
  - ii. **Gaseous exchange- exchange of respiratory gases O<sub>2</sub>& CO<sub>2</sub> across respiratory surface;**
  - iii. **Reproduction- Giving rise to new individual;**
  - iv. **Respiration- Breaking down organic food compounds to provide energy;**
  - v. **Excretion- Removal of waste products**

6. State five careers that require the knowledge of biology in Kenya today (5mks)
- **Biomedicine**
  - **Horticulture**

- **Pharmaceutical**
- **Animal husbandry**
- **Medicine chemistry**

7. State three reasons why we should study Biology in Kenya schools (3mks)

- ✓ **Used in solving environmental problems;**
- ✓ **Used in entry into career;**
- ✓ **Gaining scientific skills;**
- ✓ **Enables learners to know how the body works**

8. Complete the table below (10 mks)

Diagram	Name	Function
	<b>Pooter</b>	Sucking small animals from rock surface or back
	<b>Bait trap</b>	Attracting and trapping small animals
	Sweep net	<b>Catching flying insects</b>
	<b>Fish net</b>	Wrapping small fish and other small water animals
	Pair of forceps	<b>For picking up small crawling animals</b>

9. Name two instruments in the laboratory used for magnification (2mks)

**Hand lens;**

**Microscope;**

10. What is magnification (2mks)

**Enlarging of specimens;/microscopic organisms for viewing**

11. What is the formula for working out magnification? (1mk)

**$\frac{\text{Length of drawing}}{\text{Length of object}}$**

**Length of object**

12. State three differences between plants and animals (8mks)

Plants	Animals
- Have chlorophyll	- Lack chlorophyll
- Have cellulose cell walls	- Lack cell walls
- Respond slowly to stimuli	- Respond quickly to stimuli
- Do not locomote (move about)	- Most move about
- Lack specialized excretory organs	- Have specialized excretory organs
- Autotrophs	- Heterotrophs

13. Highlight any six importances of classification to biologists (4mks)

- ✓ **Identify/categorize living organisms into correct groups;**
- ✓ **To bring about similar organisms with similar characteristics;**
- ✓ **To understand evolutionary relationships;**
- ✓ **To help arrange information to avoid confusions**

14. Draw the following features in plants

(a) Simple leaf

(b) Alternate leaf arrangement

(c) Opposite leaf arrangement

(d) A leaf with parallel venation

(e) A tap root system

15. State five features used in animals classification

(5mks)

- ✓ **Feathers in birds**
- ✓ **Shells in snails**
- ✓ **Fur and hair in mammals**
- ✓ **Scales & fins in fish**
- ✓ **Body pigmentation**
- ✓ **Locomotary structures**
- ✓ **Mammary glands in mammals**
- ✓ **Jointed appendages in arthropods**