

Name: ..... Adm No: .....

School: ..... Class .....

Date: .....

BIOLOGY

TIME: 2 HOURS

# SUNRISE EXAMINATION

# Biology

## FORM 1

### INSTRUCTIONS TO THE CANDIDATES:-

- Write your **name** and **Admission number** in the spaces provided.
- Answer *all* the questions in the spaces provided.
- Mathematical tables and electronic calculators may be used
- All working **MUST** be clearly shown where necessary.

### For Examiner's Use Only:

| Question | Maximum score | Candidate's score |
|----------|---------------|-------------------|
| 1-16     | 100 MARKS     |                   |
|          |               |                   |

1. What is biology? (1mk)

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(1mk)

2. List five skills that are gained by studying Biology. (5mks)

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(5mks)

3. Biology is derived from two Greek words bios and logos. What is the meaning of Bios (1mk)

|       |       |
|-------|-------|
| Bios  | (1mk) |
| <hr/> |       |

(1mk)

Logos (1mk)

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(1mk)

4. List three main branches of biology and for each give its definition (6mks)

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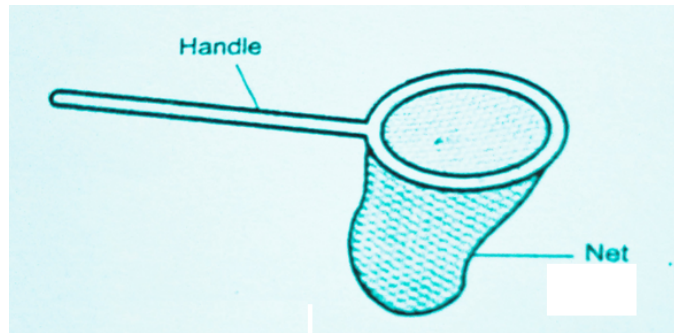
(6mks)

[illegible]

(12mks)

6. Identify the following apparatus and for each state the function

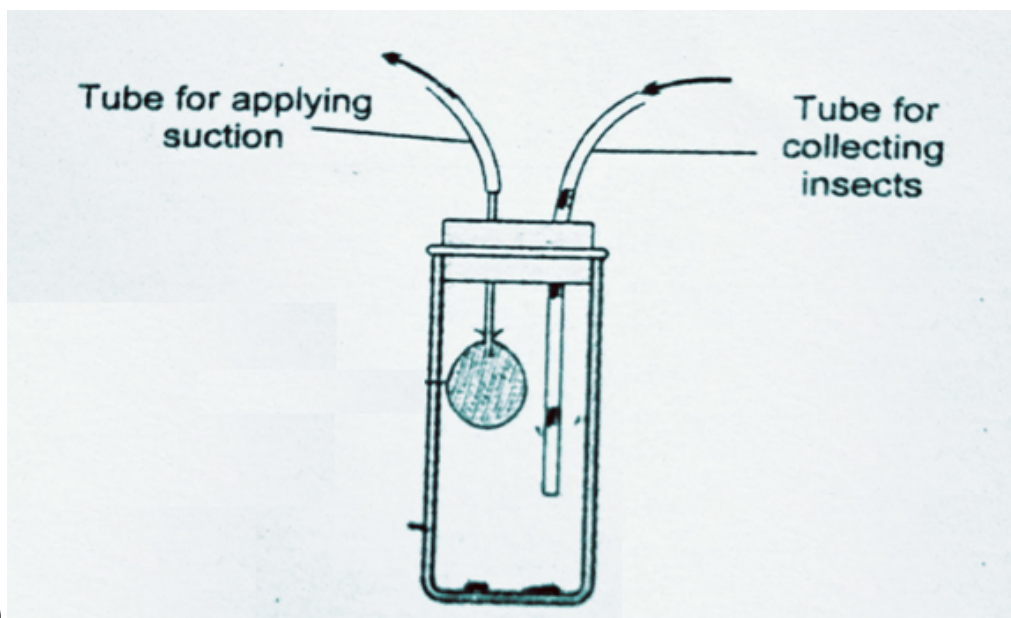
(6mks)



(a)

Name

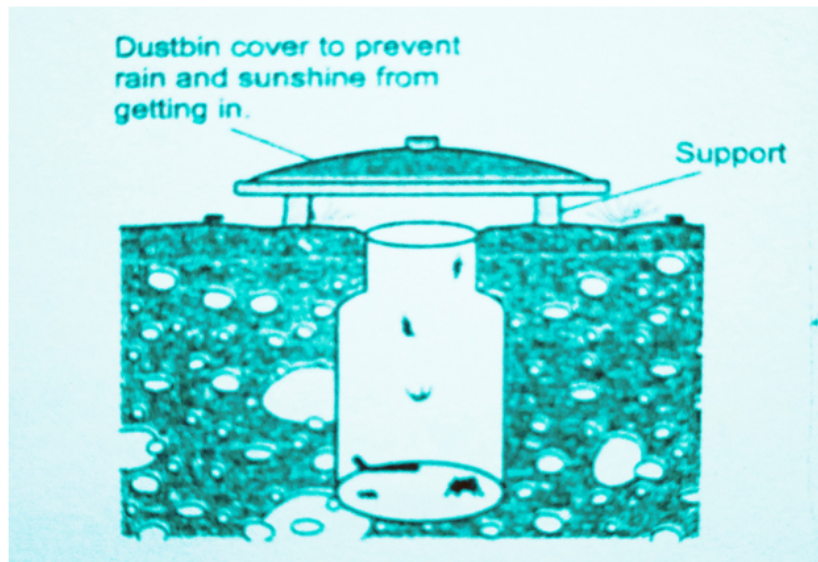
Function



(b)

Name

Function



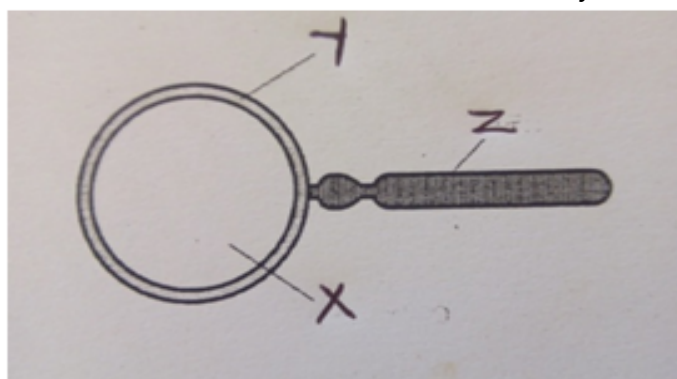
(c)

Name

Function

7. Outline the four precautions to be observed during collection and observations of organisms during practical study. (4mks)

8. The diagram below shows an instrument used in the laboratory



(a) Name the instrument

(1mk)

(b) Label the parts

(3mks)

X

Y

Z

(c) What is the function of the instrument?

(d) The student observed the housefly whose actual length was 8cm. she used the apparatus named above 6(a) above and the total magnification was X4. Calculate the length of the drawing. Show your working. (3mks)

9. (a) What is classification?

(1mk)

(b) What is the need for classification?

(4mks)

10. Fill the table below by identifying the correct kingdom and appropriate representative in each case (5mks)

| Kingdom   | Representative |
|-----------|----------------|
| a)        | Hydra          |
| b)        | Protozoa       |
| c)        | Yeast          |
| d) Monera |                |
| e)        | Garden pea     |

11.

a) Distinguish between magnification and resolution (2mks)

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.....

b) Fill the table below (3mks)

| Eye-piece lens | Objective lens | Total magnification |
|----------------|----------------|---------------------|
| X30            | (i) .....      | X600                |
| X14            | X5             | (ii) .....          |
| (iii) .....    | X40            | X2000               |

c) Using a microscope, a student counted 55 cells across a field of view whose diameter was 6000µm. Calculate the average length of cells. Show your working. (2mks)

12. What is the importance of the following practices in biological preparation of the specimen?

i) Cutting very thin sections (1mk)

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ii) Staining the cells using common dyes (1mk)

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iii) Adding a drop of water on the cell (1mk)

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13. Distinguish between unicellular and multicellular organisms. (2mks)

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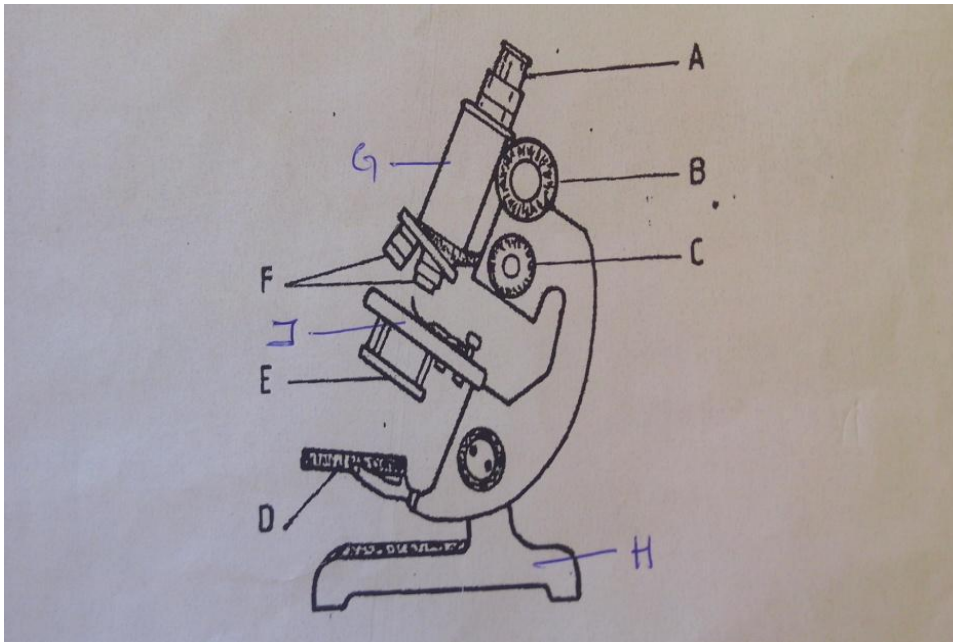
14. Identify three types of cells found in plants. (3mks)

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15. The figure shows a microscope



a) Name the parts of the microscope shown below.

(4mks)

A

C

J

D

b) State the functions of the parts

(5mks)

B

E

F

G

H

16. State three importance of studying biology

(3mks)

17. For the table below, identify the cell organelle and state the appropriate function (10mks)

| CELL ORGANELLE                 | FUNCTION                                                    |
|--------------------------------|-------------------------------------------------------------|
| a) Cell wall                   | .....                                                       |
| b) .....                       | Add carbohydrates to protein and transport them in the cell |
| c) Nucleus                     | .....                                                       |
| d) Nucleolus                   | .....                                                       |
| e) .....                       | Protein synthesis                                           |
| f) Chloroplast                 | .....                                                       |
| g) .....                       | Contain lytic enzymes                                       |
| h) Rough endoplasmic reticulum | .....                                                       |
| i) .....                       | Transport lipids                                            |
| j) .....                       | Site for respiration                                        |

18. (a) What is the name given to the double naming of living organisms?

(1mk)

(b) The scientific name of a cat is *Felis catas*. Which taxonomic group does the name *Felis* and *catas* refer to?

(2mks)

*Felis*

*Catas*

(c) Outline four principles used in double naming system of living organisms

(4mks)

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