MATIGO EXAMINATIONS BOARD
UGANDA CERTIFICATE OF LOWER SECONDARY EDUCATION
END OF YEAR ASSESSMENT 2022
SENIOR ONE
BIOLOGY: THEORY
Time allowed: 2 hour 15 minutes

Please write clearly in block capitals

Learner's Number:

Name:

Signature:

Materials

For this paper you must have:

- ✓ a ruler
- ✓ a scientific calculator

Instructions:

- ✓ Use black ink or black, blue ball-point pen.
- ✓ Fill in the boxes at the top of this page.
- ✓ Answer all questions in the space provided in section A.
- ✓ Use separate answer sheets for section B
- ✓ In all calculations, show clearly how you work out your answer.

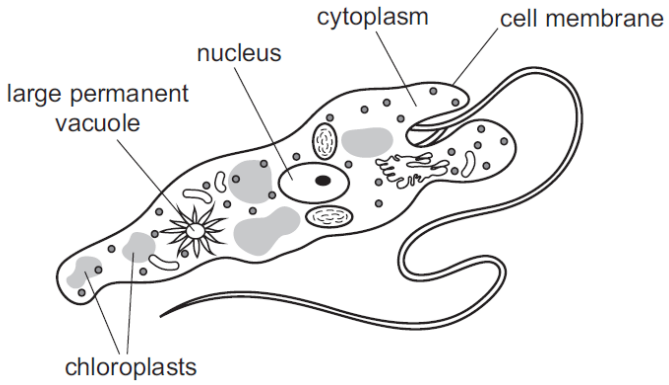
Information

- ✓ The marks for questions are shown in brackets.
- ✓ You are reminded of the need for good English and clear presentation in your answers

For Examiner's Use	
Question	Mark
1 - 8	
9	
10	
11	
12	
13	
TOTAL	

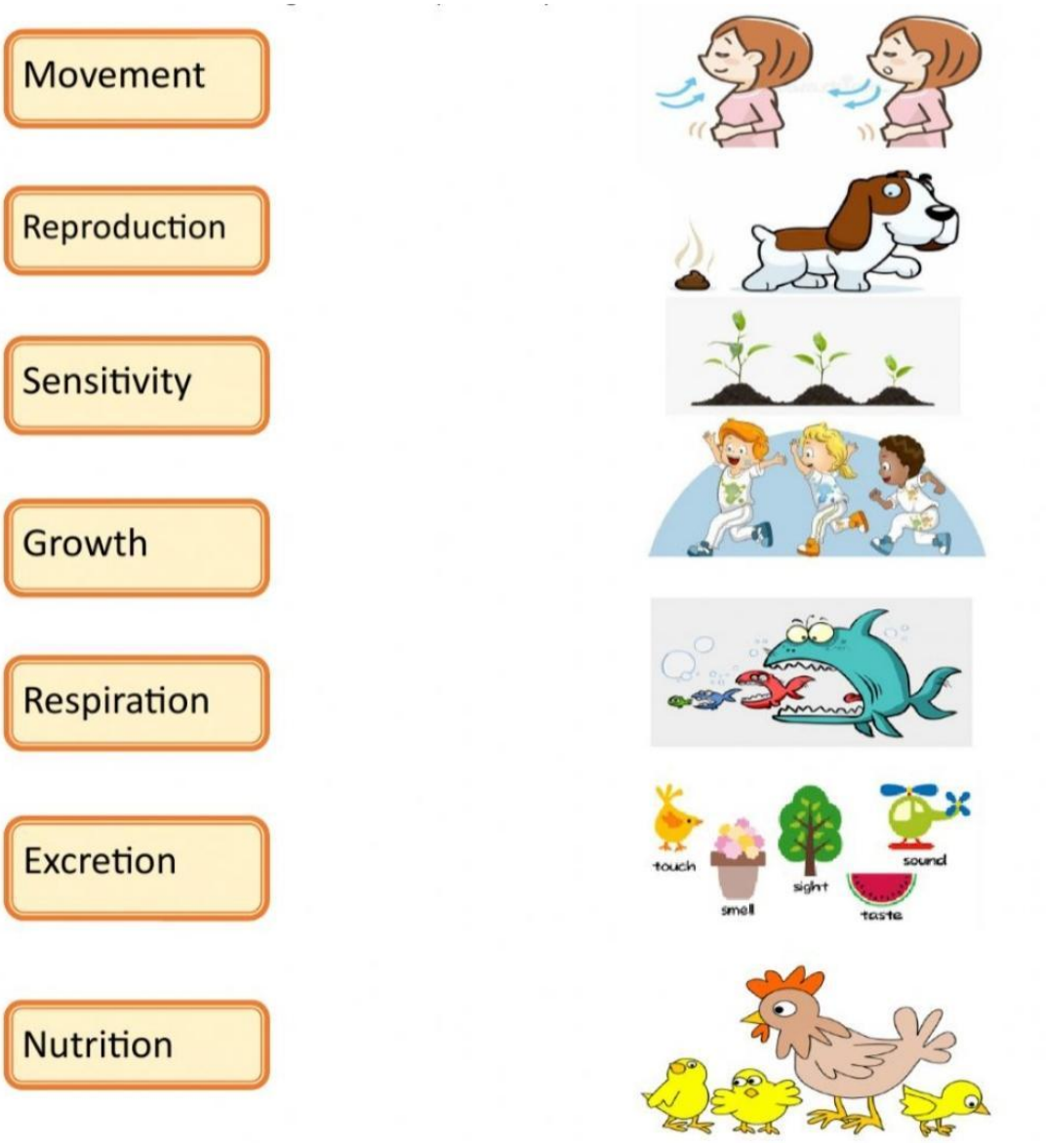
SECTION A

1. (a) The diagram shows a single-celled organism called *Euglena Which labelled structures would also be found in an animal cell?* (01 mark)



A cell membrane, chloroplast, nucleus **B** chloroplast, cytoplasm, nucleus
C cell membrane, cytoplasm, nucleus **D** cell membrane, cytoplasm, large permanent vacuole

(b) Draw lines to match the life processes shown in the figure below. (07 marks)



c) Give one importance of each of the following life processes (02 marks)

(i) Sensitivity

……..

……..

(ii) Movement

……..

……..

2. Write a single word to mean the following groups of words (04 marks)
   a) Traps sunlight energy for photosynthesis……
   b) Controls activities in the cell……..
   c) Part of the microscope with the same function as the pupil in the eye……
   d) Group of tissues……
3. a) Outline any three rules of nomenclature (03 marks)

   ……
   ……
   ……
   ……
   ……
   ……
   ……

   b) The scientific name of a certain plant is mangifera indica.

   (i) Identify any two mistakes made in writing the name (02 marks)

   ……
   ……
   ……

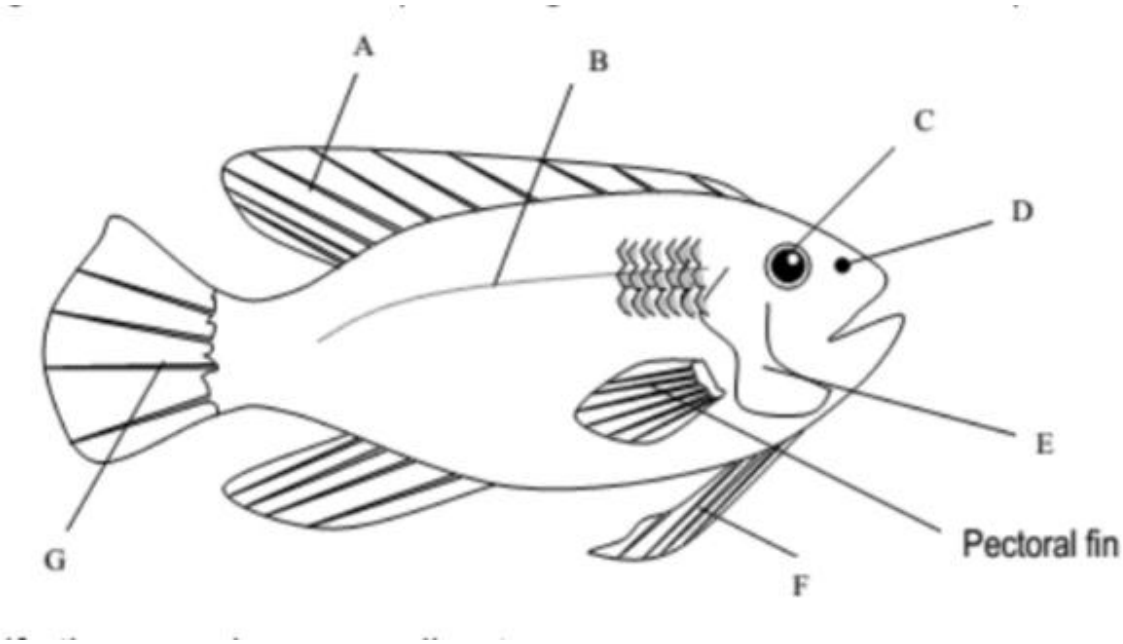
   (ii) Identify the (02 marks)

   Genus name……
   Specific name……

   (iii) Name the plant with the scientific name given in (b) above (01 mark)

   ……
   ……
   ……

4. Study the diagram and answer questions that follow.



a) Classify the organism according to (03 marks)

(i) Kingdom……

(ii) Phylum……..

(iii) Class……

b) Name the parts labelled A-G (07 marks)

……

……

……

……

……

……

c) (i) Name the habitat in which the organism lives (01 mark)

……

(ii) Using external observable features only, give three ways in which the organism is adapted to live successfully in its habitat. (03 marks)

……

……

……

……

……

……

5. (a) What are vertebrates? (01 mark)

……

……

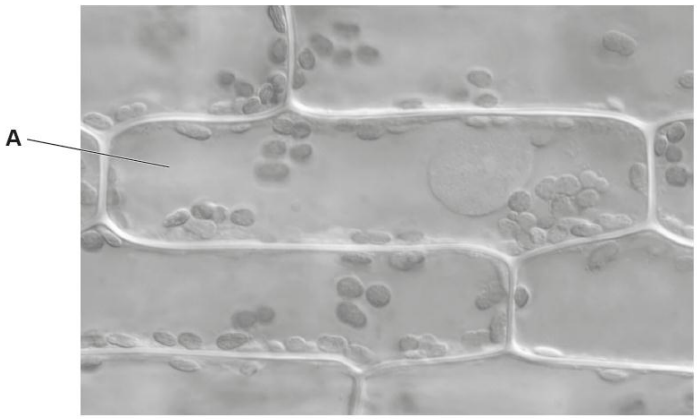
……

(b) Outline the five classes of vertebrates and give an example in each case.

(05 marks)

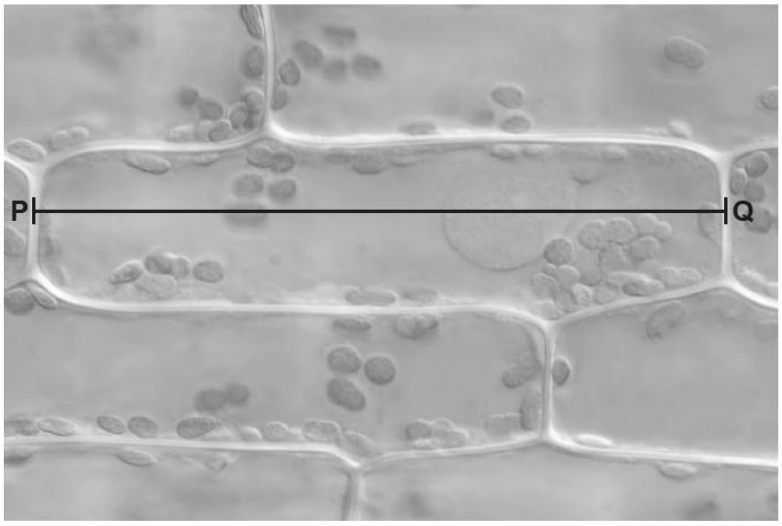
Class	Example

6. Fig. Below is a photomicrograph showing several cells from an Elodea sp. aquatic plant.



(i) Draw a large diagram of the cell labelled A in Fig. (04 marks)

7.



magnification ×1200

Measure the length of the line PQ on Fig above.
Length of PQ ..... mm
Calculate the actual length of the cell using the formula and your measurement.

$$\text{magnification} = \frac{\text{length of line } \mathbf{PQ}}{\text{actual length of cell}}$$

Include the unit. (04 marks)

8. (a) Fig. Below is a labelled diagram of the parts of a flower.

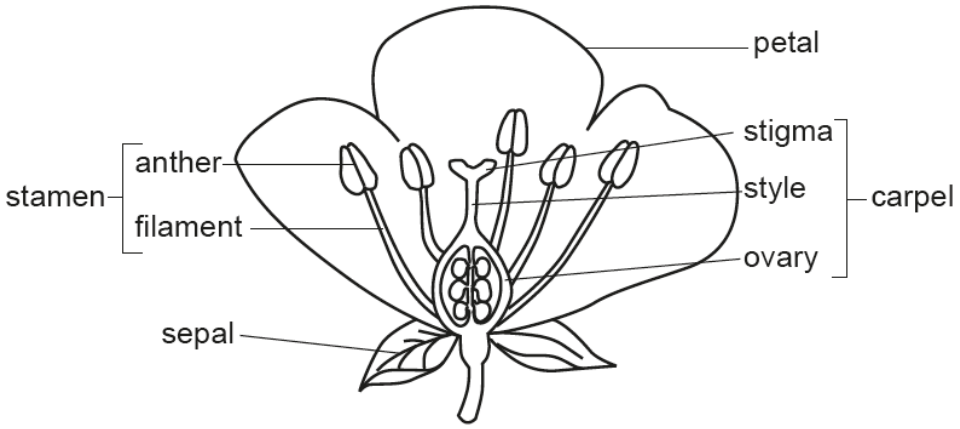
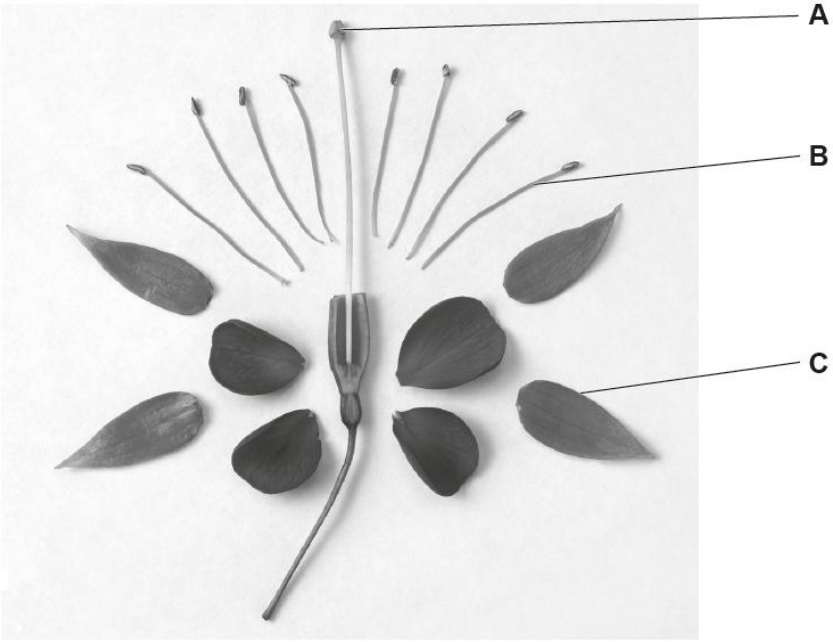


Fig below is a photograph showing the parts of a flower that have been separated



Complete Table below using the information in Figures above and by stating the:

- Names of flower parts A, B and C
- Number of each of the flower parts A, B and C visible in second figure

(06 marks)

letter on Fig.	name of flower part	number visible
A		
B		
C		

SECTION B

Attempt only two question

9. a) State the two types of cells
   b) Make a well labelled drawing of a plant cell
   c) Give any **five** differences between plant and animal cells
   d) Outline any three specialized cells and state the function of each.

(20 marks)

10. a) outline the characteristics of organisms in class insecta
    b) Give five economic importance of organisms in class insecta.
    c) List five examples of organisms in class insecta
    d) Apart from class insecta, list any two other classes of phylum Arthropoda.

(20 marks)

11. (a) Write the following in full
(i) COVID-19
(ii) AIDS
(b) Name the virus that causes
(i) COVID-19
(ii) AIDS
(c) State three symptoms of AIDS
(d) Give five ways through which AIDS is transmitted from one person to another
(e) Give three preventive measures for AIDS. (20 marks)

12. a) list the three divisions in kingdom Plantae.

b) The table below shows characteristics of plants P, Q, R, S and T. Use it to answer questions that follow.

Specimen	Leaf margin	Lamina	Petiole	Venation
P	Entire	Smooth	Stalk	Network
Q	Serrated	Hairy	Stalk	Network
R	Entire	Smooth	Sheath	Parallel
S	Entire	Smooth	Sheath	Parallel
T	Wavy	Hairy	Stalk	network

(i) How many couplets that will be present in the dichotomous key of the above specimens(show working)
(ii) Construct a dichotomous key for the above specimens.

c) Name the branch of Biology that deals with
(i) Structure and functioning of cells
(ii) Plants
(iii) Inheritance of characteristics from parents
(iv) Insects
(v) Classifying organisms (20 marks)

END.