

NAME..... ADM NO.....
SCHOOL..... CANDIDATES SIGN.....
DATE

231/1
BIOLOGY
FORM 3
END OF TERM THREE
TIME: 2 HOURS

END OF TERM (III) EXAMINATION -2019
Kenya Certificate of Secondary Education (K.C.S.E)

231/1
BIOLOGY
FORM 3
END OF TERM THREE
TIME: 2 HOURS

For examiners use only

QUESTIONS	MAXIMUM SCORE	SCORE
1-21	80	

1. State the branch of biology that deals with the study of:-

(a) The relationship between organisms and their environment (1mk)

.....

.....

(b) Chemical changes in living organisms (1mk)

.....

.....

2. State two importance of studying Biology as a subject (2mks)

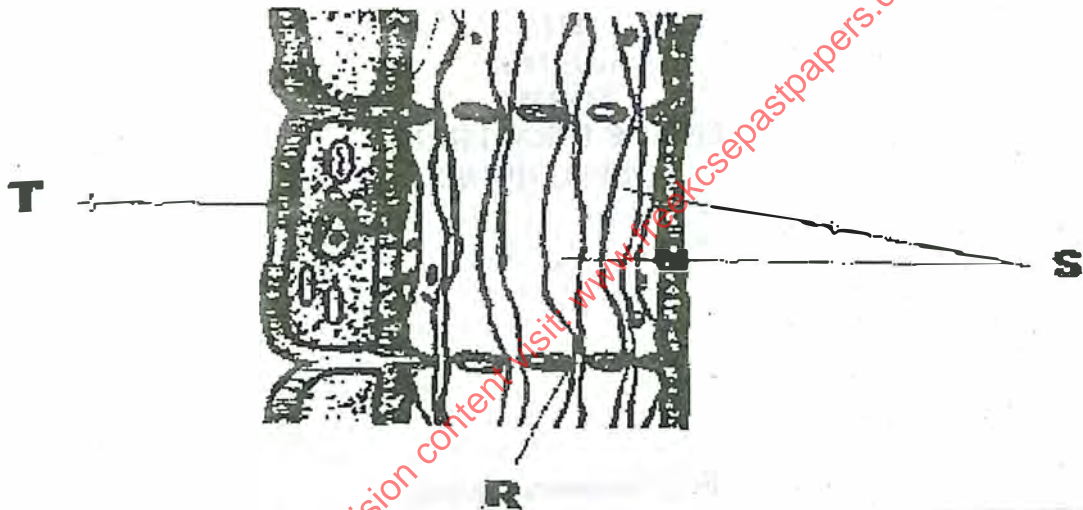
.....

.....

.....

.....

3. Below is the structure of a phloem tissue.



(a) (i) Name the structure labelled T (1mk)

.....

.....

(ii) Structure R (1mk)

.....

.....

(b) State the function of structure S (1mk)

.....

.....

(c) Name one organelle abundant in structure S (1mk)

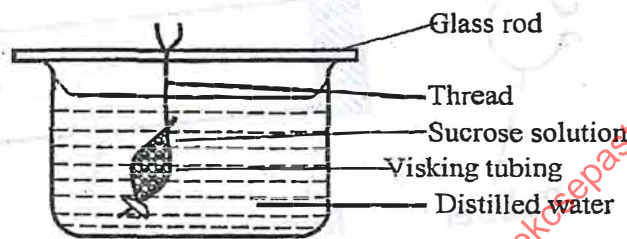
.....

.....

4. (a) When observing a specimen through a light microscope, a student noted that the field of view was dark. Name 2 parts of the microscope the student should adjust to make the field of view clear (2mks)

- (b) A specimen was magnified 1000 times by a light microscope whose eye piece lens magnification is X10. Calculate the magnification of objective lens (2mks)

5. An experiment was set up as shown in the diagram below.



The set up was left for 30minutes

- (a) Name the physiological process demonstrated above (1mk)

- (b) State the expected results (1mk)

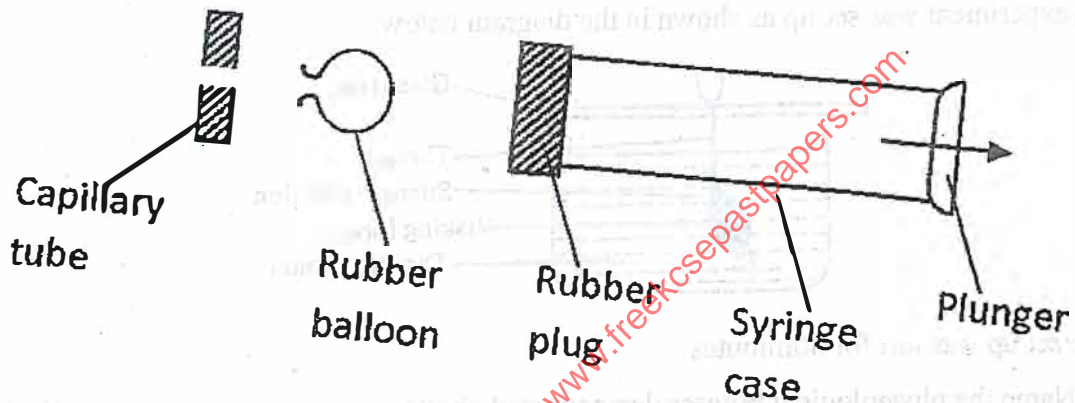
- (c) Explain your answer in (a) above (3mks)

6. To estimate the population of tilapia, 60 fish were captured marked and released in the second capture, out of 72 fish, 10 had been marked. Calculate the estimated population of tilapia (show your working) (2mks)

(b) What is the name given to this method of population estimation (1mk)

(c) State two assumptions made when using the method named in (b) above (2mks)

7. The apparatus below illustrates breathing in mammal.



(a) What structure in a mammal is represented by the following (3mks)

(i) The rubber balloon

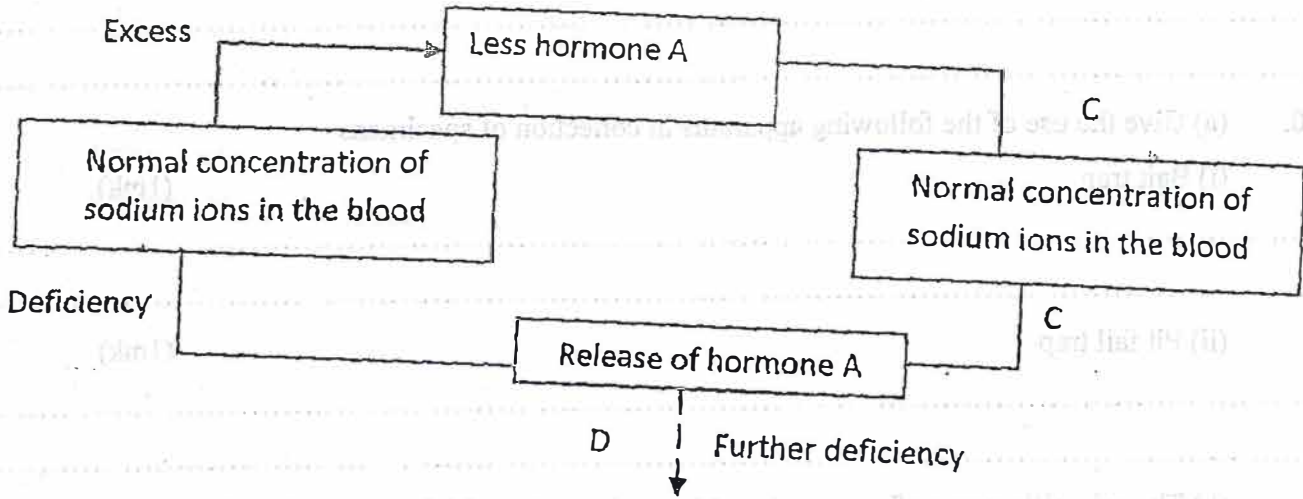
(ii) The syringe case

(iii) The plunger

(b) Describe what happens if the rubber plug is pulled in the direction shown by the arrow

(1mk)

8. Study the homeostatic scheme below



(a) Identify the hormone labelled A (1mk)

.....

(b) Name the site of action of hormone A (1mk)

.....

(c) Identify the feedback labelled D (1mk)

.....

9. The figure below shows 2 types of animals A and B



(a) Identify the phylum to which these animals belong (1mk)

.....

(b) Name the classes to which the organisms belong (2mks)

A _____
 B _____

(c) Give two characteristics which are used to put these organisms into the classes (2mks)

.....

10. (a) Give the use of the following apparatus in collection of specimens

(i) Bait trap

(1mk)

(ii) Pit fall trap

(1mk)

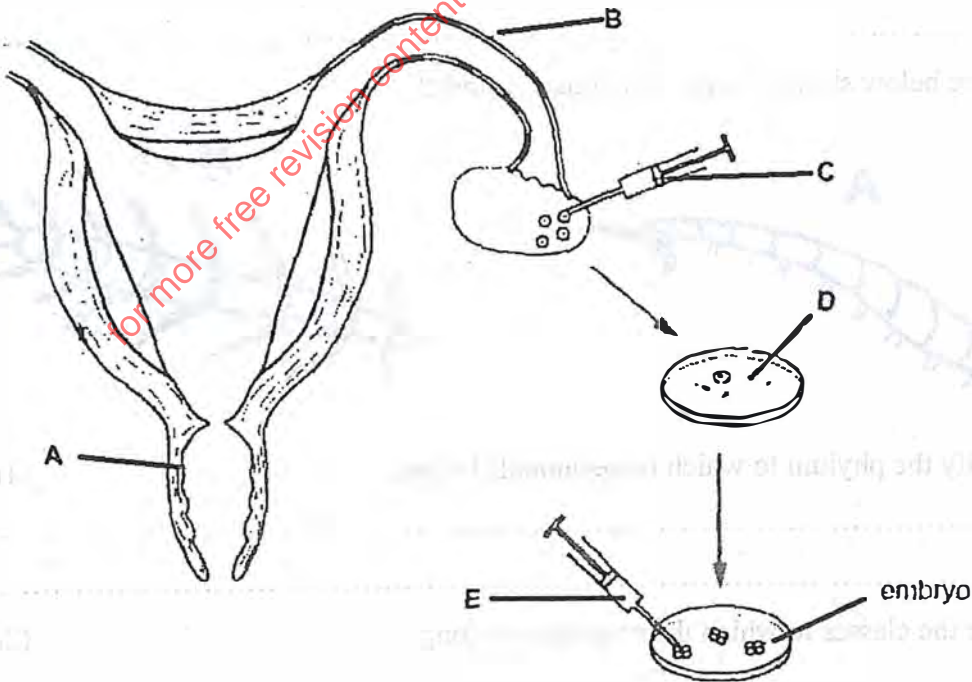
(b) The scientific name of an organism *Musca domestica* which taxonomic unit does Musca represent

(1mk)

(c) Give two reasons why classification is necessary in living organisms

(2mks)

11. Study the diagram below and use it to answer the questions that follows



(i) Name the process illustrated above

(1mk)

14. (a) State the location of each of the following plant meristematic tissues

(i) Vascular cambium

(1mk)

(ii) Intercalary meristem

(1mk)

(b) Distinguish between primary growth and secondary growth in a flowering plant (2mks)

15. The apparatus below was used to investigate anaerobic respiration



(a) How would you remove dissolved oxygen from the glucose before the experiment starts

(1mk)

(b) What was the importance of cooling the glucose solution before adding the yeast suspension

(1mk)

(c) What was the use of oil in the experiment

(1mk)

(d) What observation would be made in test tube B at the end of the experiment

(1mk)

(ii) When is the above process conducted (1mk)

.....

.....

(b) How are the following parts adapted to their functions

D (2mks)

B (1mk)

12. (a) How are the lenticels adapted for gaseous exchange (2mks)

.....

.....

.....

(b) Other than the lenticels name other two structures used for gaseous exchange in plants

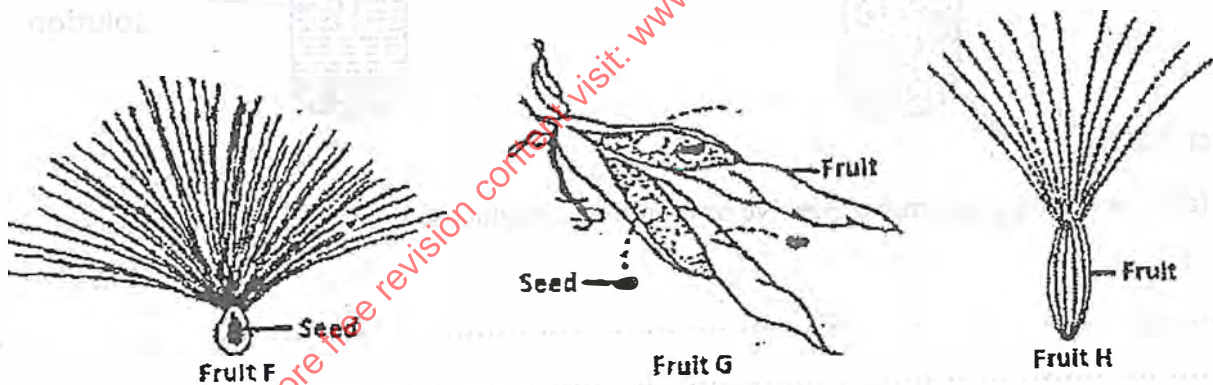
(2mks)

.....

.....

.....

13. The diagram below illustrates three types of fruits



Giving a reason in each case state:

(a) (i) The mode of dispersal for fruits F and G (2mks)

F -

G -

(ii) The type of fruit G (1mk)

.....

.....

(b) State one observable adaptation of fruit H to its mode of dispersal (1mk)

.....

.....

(e) Suggest a control for this experiment

(1mk)

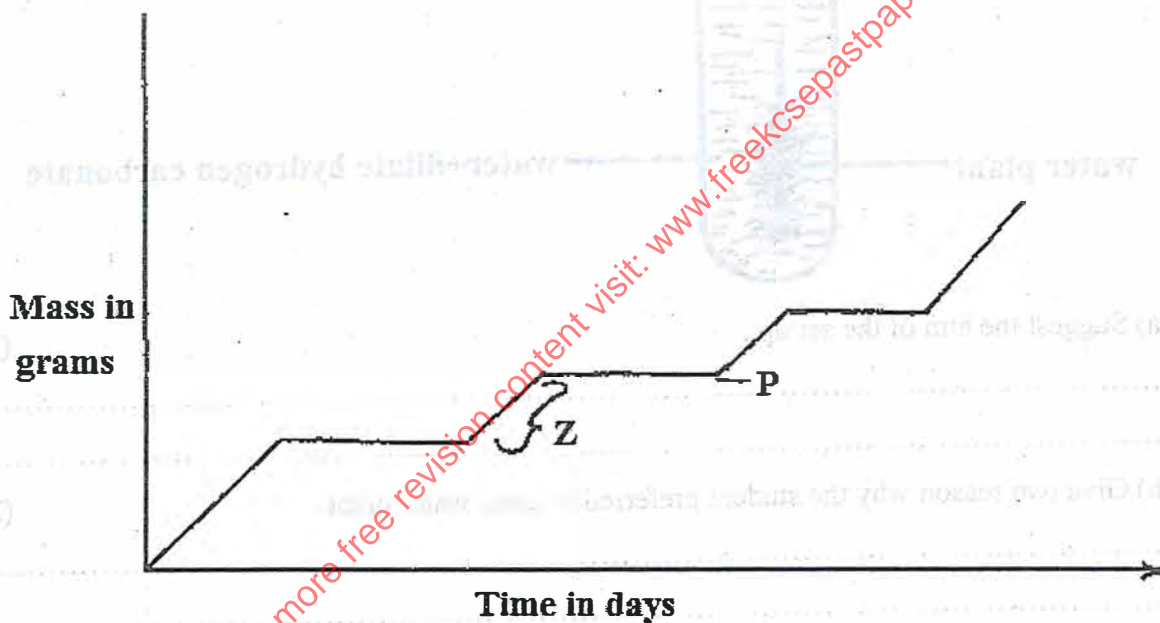
16. (a) What are the two functions of bile salts during the process of digestion

(2mk)

(b) State two adaptation of herbivores which enable them to digest cellulose

(2mks)

17. The graph below represents the growth of animals in a certain phylum.



a) Name the type of growth pattern shown on the graph.

(1mk)

b) Identify the process represented by P

(1mk)

c) Name the hormone responsible for the process (P) in (b) above .

(1mk)

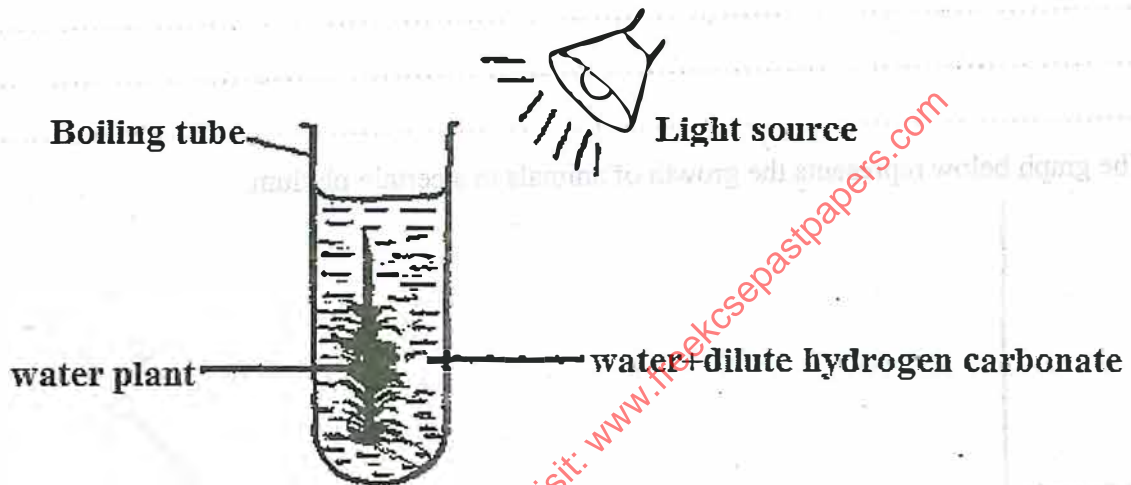
d) What does Z represent

(1mk)

18. Name two kidney disorders

(2mks)

19. To investigate an aspect of a physiological process in green plants. The set up below was used by a form one student. The student recorded the number of bubbles produced for 10 minutes.



a) Suggest the aim of the set up .

(1mk)

b) Give two reasons why the student preferred to use a water plant.

(2mks)

c) What was the use of sodium hydrogen carbonate in the experiment?

(1mk)

20. Name the plant excretory product which is

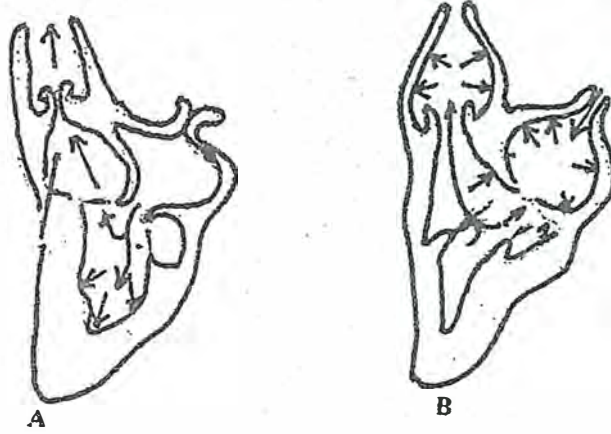
(a) Stored in bark of cinchona trees tubes used for treatment of Malaria.

(1mk)

b) Obtained from raw fruits and is used as a meat tenderizer.

(1mk)

21. The diagram below represents a process of the heart that constitutes a heartbeat.



a)i) Identify each of the process labelled A and B.

(2mks)

.....
.....
.....

ii) Give a reason for each of the answers in (i) above

(2mks)

.....
.....
.....

for more free revision content visit: www.freekcepastpapers.com



for more free revision content visit: www.freekcepastpapers.com