NAME ……ADM NO …….

SCHOOL……STREAM……....

PEDIGREE JOINT EXAMS

Kenya Certificate of Secondary Education

231/3

BIOLOGY Paper 3

(PRACICAL)

February 2024 – $1^{3}/_{4}$Hours

TRIAL ONE

INSTUCTIONS TO CANDIDATES:

- *Write your **name, school** and **admission number** in the spaces provided.*
- *Sign and write **date** of examination in the spaces provided above*
- *Answer **all** the questions in this paper.*
- *You are required to spend the first 15 minutes of the 1¾ hours allowed for this paper reading the whole paper carefully.*
- *This paper consists of 8 printed pages*
- *Candidate should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*

For Examiner's Use Only:

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1	17	
2	11	
3	12	
TOTAL	**40**	

1. You are provided with **Specimen K** .Carefully cut a transverse section through specimen **K** using a scalpel provided.

(a)(i) By observing one of the two halves of specimen K, Give **two** reasons to prove that specimen **K** has **axile** placentation. (2 marks)

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(ii) Squeeze some juice from **specimen K** into 100ml beaker provided and label it as **juice K.** Using a portion of **juice K**, carry out the food test using the reagents provided and complete the table below. (**NB**: Preserve **the remaining portion of juice K for use in question 2)** (8 marks)

Food substance	Procedure	Observation	Conclusion

(iii) Name the **deficiency** disease that results from lack of the food substance present in juice **K.**

(1 mark)

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(iv) Highlight **two** symptoms of the disease named in **(a) (iii)** above. (2 marks)

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(b) Put **2cm^3** of liquid labeled **C** into a test tube. Draw some of the juice from specimen **K** into a dropper. Add 4 drops of the juice into the test tube with solution **C** and shake.

(i) State your observation. (1 mark)

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(ii) State the part of the human body where the process demonstrated above occurs and the enzyme that carries out the process.

Part of body…… (1 mark)

Enzyme…….(1 mark)

(iii) Which gland produces the enzyme stated in (a) (ii) above? (1 mark)

…….

2 (a) Take a small amount of substance **B** provided and add to it **2cm^3** of sodium hydrogen carbonate solution.

(i) State your observations (1 mark)

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(ii) Which process in the body is illustrated above? (1 mark)

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(iii) State the part of the body where the above process takes place (1 mark)

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(iv) State **two** functions of substance **B** in the body (2 marks)

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(v) Name **two** diseases of the circulatory system caused by excess cholesterol in food. (2 marks)

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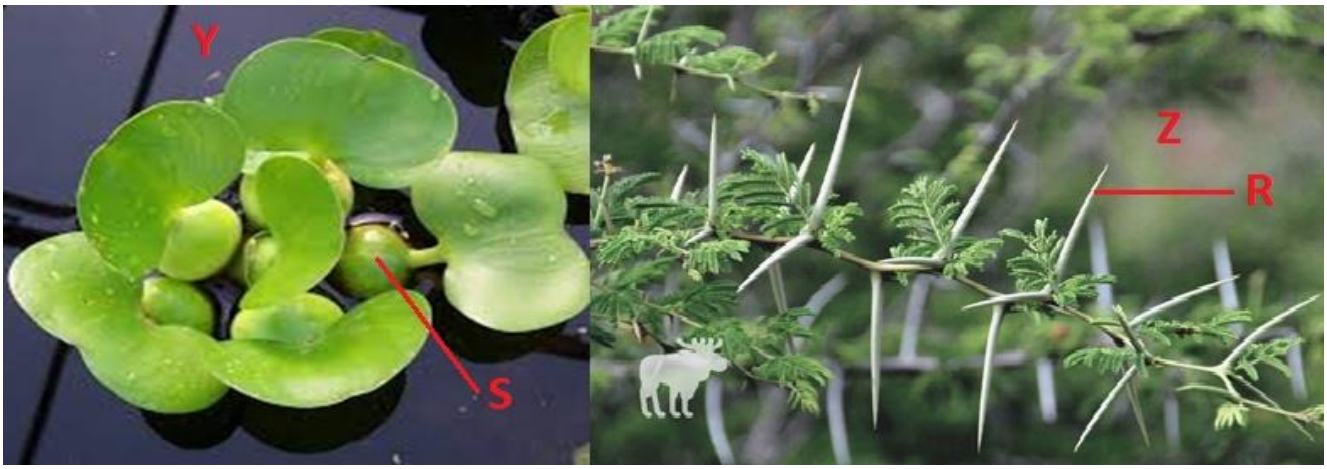
(b). Study the photographs below depicting plants growing in different habitats. Use them to answer the questions that follow.



(i) Identify the habitats in which they are found (2 marks)

Y ……

Z……

(ii) State the significance of the following structures found in the specimens shown above.

(2 marks)

R ……

S ……

3. Below are photographs of invertebrates which belong to the same class. Examine them.

R1

R2

R3

R4

R5

R6

(a) Complete the dichotomous key below to identify the invertebrates above to their order.

(4 marks)

1a.Animal with wings.....go to 3

b.Animal without wings....._____

2a.Animal with hairy body.....siphonoptera

b.Animal with small body....._____

3a.Animal with one pair of wings.....Diptera

b.Animals with two pairs of wings....._____

4a.Fore wings hard.....coleoptera

b.Fore wings membranous.....go to 5

5a.Long slender abdomen....._____

b.Short broad abdomen.....Hymenoptera

(b) Using the dichotomous key above, identify to which orders the various organisms belong. In each case write down the steps that you would follow to arrive at your answer. (6 marks)

specimen	order	Steps
R1		
R2		
R3		
R4		
R5		
R6		

c) State two differences between the type of circulatory system exhibited by the organisms shown in the photograph above and that of human beings (2marks)

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