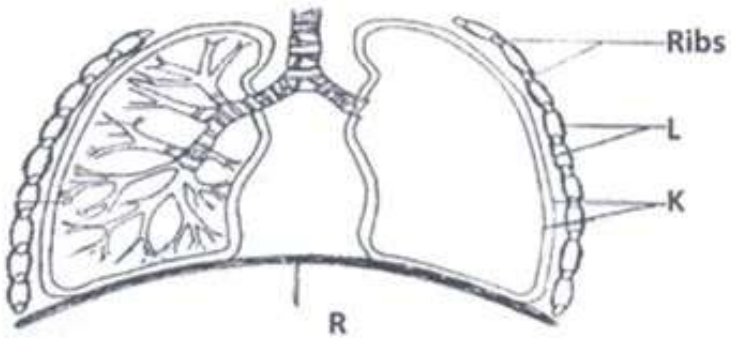
FORM FOUR CLUSTER KCSE MODEL5

BIOLOGY PAPER 2 QUESTIONS

SECTION A (40 Marks)

Answer all questions

1. The diagram below represents a part of thoracic region of human being;



a) Name the structures labelled K and L.

K.....

L.....

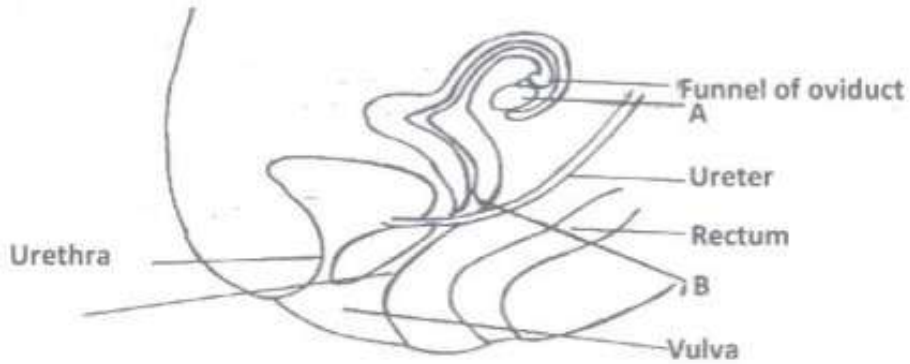
b) How does structure R bring about inhalation?

.....
.....

c) Give the scientific name of the organism that causes whooping cough
.....
.....

d) Name a vertebra that articulates with the ribs to the back of the chest region?
.....
.....

2. The diagram below shows the vertical section of a female reproductive system.



a) Name the parts labelled A and B

A.....

B.....

b) Name the gonadotrophic hormone that affects the part labelled A.

.....

c) i) State a hormone (s) produced by each of the following structures in a female

Ovary.....

Placenta.....

ii) State one effect of each of the above hormones on uterine wall.

.....
.....

d) Name a sub-division in the kingdom plantae the exhibit double fertilization
.....

3. a) Define the following terms as used in animal nutrition

i) Dentition

.....

ii) Homodont and heterodont dentrition

.....
.....

b) State two functions of ileum
.....
.....

c) Explain the importance of the following in the process of photosynthesis;

i) Chlorophyll
.....

ii) Light
.....

d) State one use of Potassium in (K+) ion the body

.....

4. A man who suffers from Haemophilia which is a sex linked trait, marries a woman who is normal for the condition. However, one of their daughters Jane turns to be haemophiliac. Taking 'H' for normal trait and 'h' for haenophilia

a) State the genotypes of the parents

.....
.....

b)

i) Work out genotypes of the offspring show your work.

.....
.....

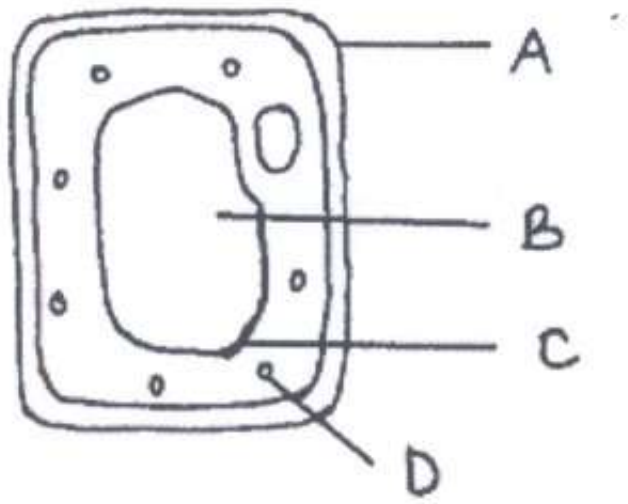
ii) State the genotype of Jane

.....
.....

c) What is polyploidy

.....
.....

5. Examine the diagram below and use it to answer the questions that follow



a) Name the parts labeled

B.....
C.....
D.....

b) What is the substance which makes up part labelled A?

.....
.....

c) Name the process by which mineral salts move into structure B.

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.....

d) Explain what happens when a red blood cell is put in distilled water.

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.....

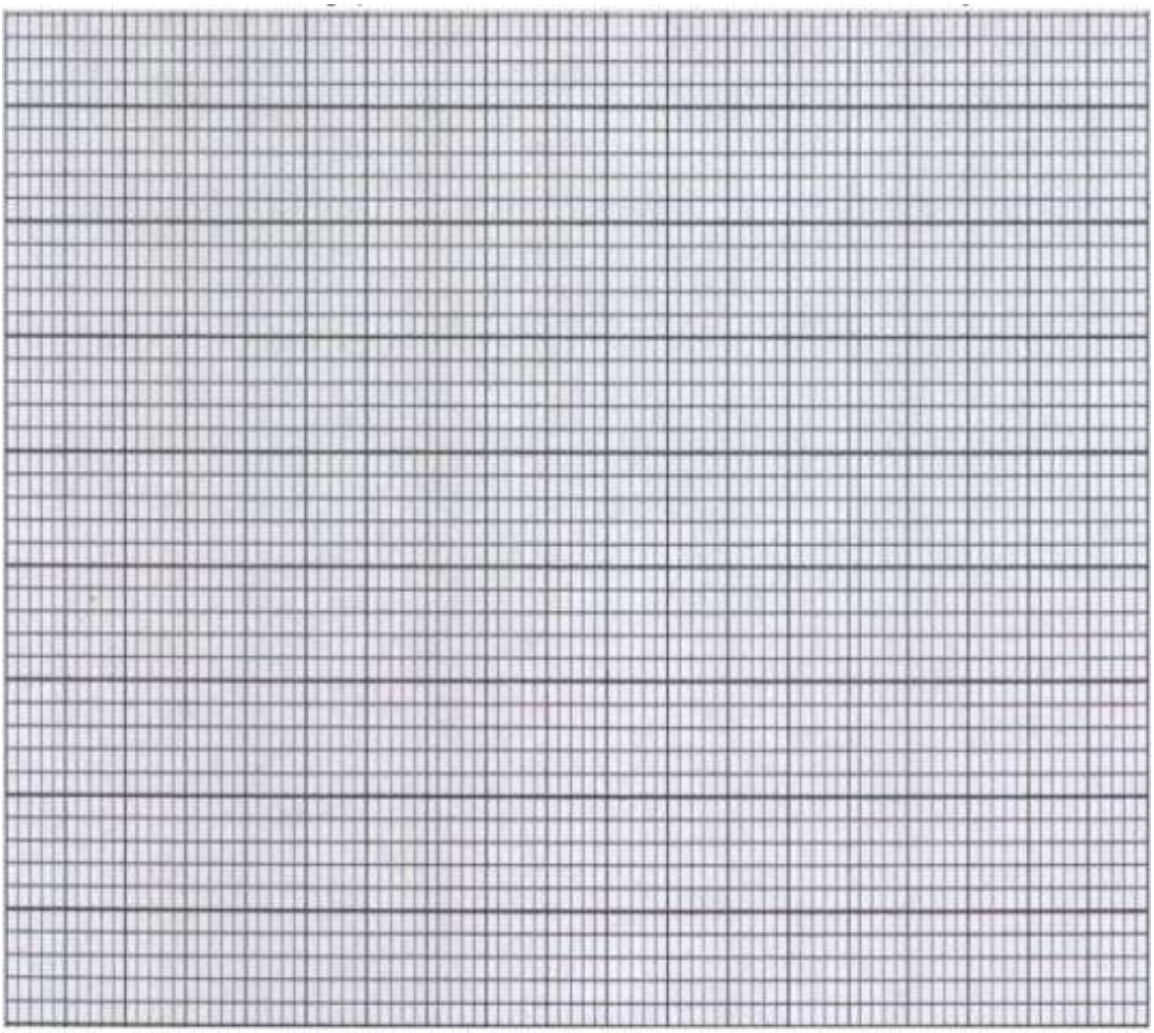
SECTION B (40 Marks)

Question 6 (compulsory) and either question 7 or 8

6. A scientist carried out an investigation to find out the population growth of mice under laboratory conditions. Twenty young mice were placed in a cage. The results obtained from the investigations were as shown in the table below.

Time in months	0	2	4	6	7	10	12	16	18
Number of mice	20	20	65	115	310	455	450	145	160

a) On the grid provided, draw a graph of the number of mice against time.



b) Account for the changes in mice population between:

i) 0 to 20 months

.....
.....

ii) 2 to 6 months

.....
.....

iii) 6 to 10 months

.....
.....

iv) 10 to 12 months

.....
.....

c) i) Between which two months was the population change greatest?
.....

ii) Calculate the rate of population change over the period in c (i) above.
.....
.....

d) What change in population would be expected if the investigation was continued to the 19th month? .....
.....

e) To obtain the observed results, state two variable that were kept constant during the investigation. .....
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7. a) Describe the dentition of carnivorous mammals and their adaptation to their mode of feeding.

b) Explain the different forms of chromosomal mutations.

8. a) Name the three main meristems in woody plants and state their locations.

Meristem	Locations

b) Describe the adaptations of xerophytes to their habitats.

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