

FORM FOUR CLUSTER KCSE MODEL13

BIOLOGY PAPER 3 QUESTIONS

1. You are provided with specimens W1,W2,W3 and W4. Examine them.

a) Draw and label specimens W1 and W2 in the spaces provided.

W1

Magnification

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W2

Magnification

.....

b) Giving reasons, state the agent or method of dispersal of the specimens.

Specimen	Agent or method of dispersal	Reason (s)
W ₁		
W ₂		
W ₃		
W ₄		

c) State the types of placentation and gynoecium of specimen W4.

Placentation

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Gynoecium

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2. You are provided with specimen labelled K. With the help of a hand lens examine the specimen.

a)

i. State the phylum to which the specimen belongs.

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ii. Using observable features only, name the class to which the specimen belongs.

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iii. Give two reasons for your answer.

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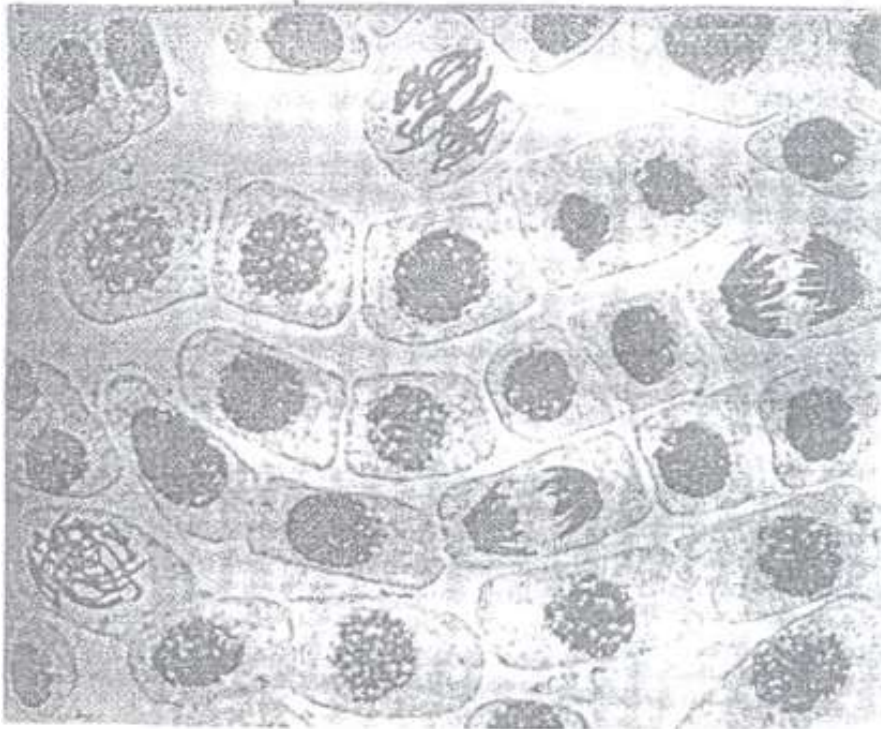
b) Using observable features only, state how the specimen is adapted to living in its habitat.

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c) Cut three of specimen K into tiny pieces. Place the pieces into boiling tube. Add 5ml of water. Boil for 5 minutes. Decant the extract into a clean test tube. Using the reagents provided, identify the food substances in the extract. Record the food substances being tested for, procedures, observations and conclusions in the table below.

Food substance	Procedure	Observations	Conclusion

3. The following photomicrography shows the events during cell division of mitosis taken from a root tip squash obtained from an onion. Study it carefully and use it to answer the questions that follow.



a) On the photomicrograph label a cell at the following stages in the mitosis.

i. Prophase

ii. Metaphase

iii. Anaphase

b) A part from the root tip, name one other location on a growing terrestrial plant where mitosis occurs.

c) Explain the importance of metaphase in mitosis.

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d) Name the type of cell division that takes place in the following organs.

i) Malpighian layer of the mammalian skin.

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ii) Ovary

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