

231/3

BIOLOGY

PAPER 3 (PRACTICAL)

Time: 1³/₄ hours

**KCSE 2023 PREDICTION MASTER
CYCLE 2**

NAME.....INDEX NO.....

SCHOOL..... DATE.....

SIGN.....

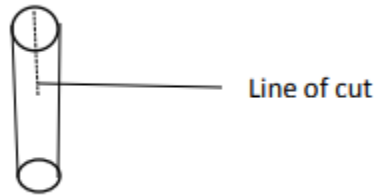
INSTRUCTIONS TO CANDIDATES

- Write your name and index number in the spaces provided at the top of this page
- Answer ALL questions
- You are required to spend the first 15 minutes of the 1 ³/₄ hours allowed for this paper reading the whole paper carefully before commencing your work.
- Answers must be written in the spaces provided in the question paper
- Additional pages must not be inserted.

FOR EXAMINERS USE ONLY

Question	Maximum score	Candidate's score
1	14	
2	13	
3	13	
Total score	40	

1. You are provided with a specimen labelled K, Using the scapel cut 8 cm of the petiole from the side close to the lamina. cut 2 pieces each measuring 4cm. using a scapel cut a slit halfway through the middle of each piece as shown in the diagram below.



Place one piece in solution labelled A and the other in solution labelled B. Allow the set up to stand for 30 minutes.

a) After 30 minutes remove the pieces and press each gently between the fingers.

(i). Record your observations (2mks)

solution A

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Solution B

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(ii) Account for the observations .made in the petiole dipped in solution A. (3mks)

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b) Explain the role of the physiological process identified above in plant nutrition (2mks)

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c) State the **sub-division** to which the plant from which specimen **K** was obtained belongs. (2mks)

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d) State **TWO** observable features that adapt specimen K for **gaseous exchange** (2mks)

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e) cut a transverse section of the petiole , using a hand lens observe the arrangement of the vascular bundles and make a diagram of the same. (3mks)

2. You are provided with two bones labelled .Examine them and answer the questions below

a) Giving reasons, identify bones **W and Q** (4mks)

(i) Identity of **bone W**

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Reasons

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Identity of **bone Q**

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Reasons

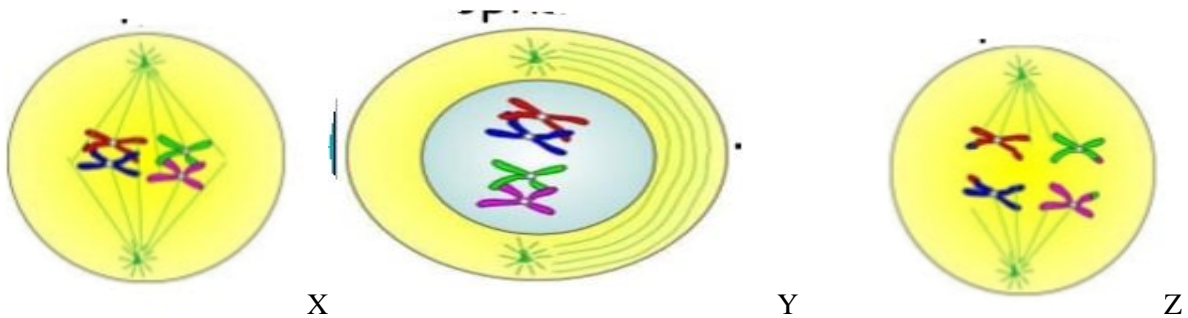
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b) State **TWO** adaptations of specimen **Q** (2mks)

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(c) Bone Q and Bone W articulate , draw a diagram showing how the two bones articulate. (5mks)

(d) State the significance of the **articulation** of the TWO bones. (2mks)

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3.The photograph below show stages in cell division.



a)Name the stages represented by the cells labelled X, Y and Z (3mks)

X.....

Y.....

Z.....

b) State the significance of the above cell division to an organism. (3mks)

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c) Name **TWO** regions in higher plants where the above process occur (2mks)

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d) Explain the events that take place in the phase after phase Y. (3mks)

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e) State the importance of the above in a member of a species (2mk)

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