

Name..... Index No.....
School..... Sign.....
Date.....

231/3
BIOLOGY
(PRACTICAL)
PAPER3
JULY / AUGUST – 2012
TIME: 1 ¾ HOURS

KISII SOUTH DISTRICT JOINT EVALUATION -2012
Kenya Certificate of Secondary Education (K.C.S.E)

231/3
BIOLOGY
(PRACTICAL)
PAPER3
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INSTRUCTIONS TO CANDIDATES

1. Write your name and index no. in the spaces provided.
2. Sign and write the school and date in the spaces provided.
3. Answer **ALL** the question in the spaces provided.
4. You are required to spend 15 minutes of the 1 ¾ hours allowed for the paper reading the whole Paper carefully before commencing your work.
5. Additional pages must not be inserted.

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1	15	
2	12	
3	13	
TOTAL SCORE	40	

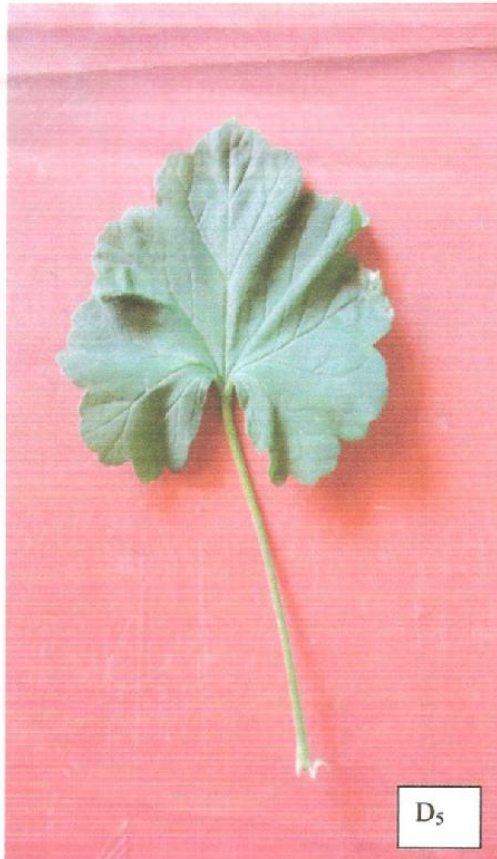
This paper consists of 8 Printed pages. Candidates should check the question paper to ensure that all the Papers are printed as indicated and no questions are missing.

1. You are provided with seven specimens of plants They are labeled D1, D2, D3, D4, D5, D6 and D7

The dichotomous key.

- | | | |
|------|--|----------------|
| 1a). | Leaves needle-like | Go to 2 |
| b) | Leaves broad | Go to 3 |
| 2a) | Leaves arranged in clusters on stem | Pinaceae. |
| b) | Leaves not arranged in clusters on stem | Araucariaceae. |
| 3a) | Leaves compound | Go to 4 |
| b) | Leaves simple | Go to 7 |
| 4a) | Leaves pinnate | Go to 5 |
| b) | Leaves bipinnate | Go to 6 |
| 5a) | Leaflets attached to many small stalks that join to the main one | mimosaceae |
| b) | Leaflets attached to one stalk | Rosaceae |
| 6a) | Leaflets attached to many small stalks that join the main one | Bignonaceae. |
| b) | Leaflets attached to one stalk | Compositaeae. |
| 7a). | Leaves green | Go to 8 |
| b). | Leaves purple | Go to 9 |
| 8a). | Leaves parallel veined | Graminaceae. |
| b). | Leaves net veined | Geranaceae |
| 9a). | Leaves parallel vained | commeclinace |
| b). | Leaves net vained | euphorbiaceac |

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Use the dichotomous key to identify the taxonomic group of each of the seven specimens in the photographs provided.

Specimen	steps followed	identity
D1		
D2		
D3		
D4		
D5		
D6		
D7		

b) (i) Suggest the possible habitat that specimen D4 is adopted to

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

(ii) Name one observable feature that adopts D4 to the habitat you have mentioned in (b) (i) above (1mk)

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.....
.....

(iii) Give a reason for your answer in (b) (i) above (1mk)

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(iv) State the importance of the structure labeled in specimen D4 (1mk)

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(c) (i) The stem of specimen D2 was squeezed strongly. State the expected observations (2mks)

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(ii) Suggest how specimen D2 is adapted to its habitat (2mks)

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.....
.....

2. (a) you are provided with specimen x. Using a cork borer remove eight strips of 2cm length from specimen x. Place two into solution labeled / and another two strips into solution labeled W. The experimental set up was left to stand for 20 minutes

NB Preserve the other two for use later in question 2(c) (i)

(i) State the observation after 20 minutes when the strips are touched (2mk)

Strips in solutions y	
Strips in solutions z	

(ii) Account for the observations in (c) (i) above (4mks)

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(b) State the role of the set up w (1mk)

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(c) Using a mortar and a pestle crush one of the remaining strip, place the extract in a test tube and add solution C. State your observation (1mk)

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(iii) Repeat the procedure in (e) (i) with distilled water instead of hydrogen peroxide. Account for the result obtained (2mks)

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(f) Explain why:

(i) It was necessary to crush specimens in the experiment (1mk)

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.....

(ii) Hydrogen peroxide should not accumulate in living tissue (1mk)

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3. you are provided with a photograph of a flower of a higher plant

(a) With reasons state the class of plant from which flower in the diagram was obtained

Class (1mk)

.....
.....

Reasons (2mks)

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

(b) Name the parts labeled A,B,C,D,E, and F

A

B

C

D

E

F

(6mks)

(c) State how the specimen shown in the photograph is adapted to its mode of pollination

(2mks)

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(d) Label the structure in the photograph which protects the flower before it blooms. (1mk)

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.....

(e) Which letter in the photograph represents structure where the male gametes are produced (1mk)

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