**FORM 3**

**BIOLOGY**

**PAPER 231/3 PRACTICAL**

**TIME 1**$^{3}/\_{4}$**HOURS**

***INSTRUCTIONS TO CANDIDATES***

***Answer ALL the questions in the spaces provided.***

**NAME…….……………………….………………ADM…………CLASS……….**

1. You are provided with

 Spécimen X

 Solution Y

 Solution Z

* 1. Examine the outer and inner leaves then record your observations (4mks)
	2. Using a scalpel, cut and measure 6strips of 3cm length of the specimen X. Place 3 strips into a solution labeled Y, another 3 strips into a solution labeled Z. The experimental set up is allowed to stand for 20 minutes.

i) What observations would be made after 20 minutes when the strips are touched (2mks)

Strips in solution Y

Strips in solution Z

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

1. You are provided with actual specimens of plant parts Q and K
	1. (i) Using external features only identify the part of the plants (2mks)

(ii) Give three reasons for your answer in (a) (i) above (3mks)

* 1. With reasons state the class to which the plants from which the specimens were obtained belong (4mks)
	2. State two observable features that adapt specimen Q for gaseous exchange (2mks)
	3. Using the dichotomous key provided, indentify the identity of the specimens Q and K in each case show the sequence; the steps in the key that you followed to arrive at the identity. (4mks)
1. (a) Leaf parallel veined……………………………………………..go to 2

(b) Leaf net veined …………………………………………………go to 4

1. (a) Leaf purple in colour…………………………..………Tradescantia spp

(b) Leaf green in colour …………………………… ……………….go to 3

1. (a) Leaf with thorns on margin………………… ……………Kalanchoe spp

(b) Leaf smooth on the margin……………… ……………………Zea mays

1. (a) Leaf sample………………………… …………………………….go to 5

(b) Leaf compound……………………………………………………go to 8

1. (a) Leaf margin entire …………………………………………………go to 6

(b) Leaf margin serrated……………………………………………..Habiscus

1. (a) Leaf texture rough………………………………………………….go to 7

(b) Leaf texture smooth……………………….…………………..Brassica spp

1. (a) Leaf blade Lanceolate…………………….…………………..Solanum spp

(b) Leaf blade broad……………………………………………Lantana camara

1. The photography below shows four specimens labeled P, Q, R and S, which were obtained from the same animal. Examine them
2. With reasons identify P and Q (4mks)

P-

Reason-

Q-

Reason-

1. Based on their structure, suggest the functions of specimens P and Q (2mks)

P-

Q-

1. In specimen P, name the four parts labeled A to D (4mks)

A B C D

1. Using observable features, state the differences between R and S (3mks)
2. Explain how specimen S is adapted for its functions (2mks)