NAME……INDEX NO……

CANDIDATES' SIGN……..DATE…….

SCHOOL…….

231/3
BIOLOGY
PAPER 3
PRACTICALS
MAY/ JUNE 2014
TIME: 1 ¾ HOURS

EKSIKA JOINT EVALUATION TEST.

Kenya Certificate of Secondary Education (K.C.S.E)

231/3
BIOLOGY
PAPER 3
PRACTICALS
MAY/ JUNE 2014
TIME: 1 ¾ HOURS

INSTRUCTIONS TO CANDIDATES.

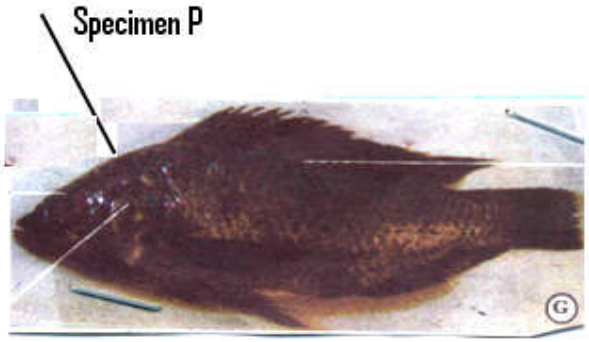
a) Write your name and index number in the spaces provided above.
b) Sign and write the date of examination in the spaces provided above.
c) Answer **ALL** questions in the spaces provided above.
d) All workings **MUST** be clearly shown where necessary.

FOR EXAMINERS' USE ONLY.

Question	Maximum Score	Candidates' Score
1	11	
2	15	
3	14	
TOTAL	40	

This paper consists of 4 printed pages.
Candidates should check the question paper to ascertain that all pages are printed as indicated and no questions are missing.

1 You are provided with photograph of specimen P.



a) i) Name the class to which the specimen P belongs. (1mk)

……..

ii) Give two reasons for your answer in a(i) above. (2mks)

……

……

……

b) Name observable features that adapt the specimen to.

i) Forward movement (1mk)

……..

ii) Balancing (1mk)

……..

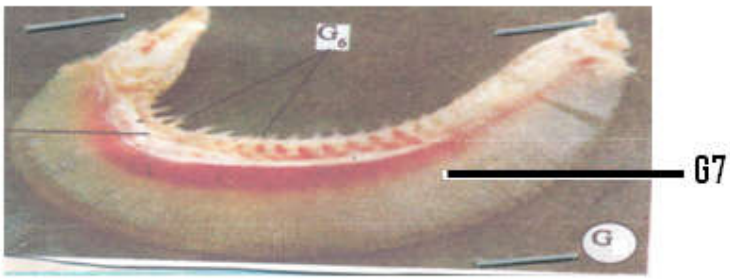
iii) Staying upright (1mk)

……..

iv) Fast movement (1mk)

……..

c) The part below was cut and removed from specimen P.



i) Identify the specimen extract (1mk)

……

ii) Name parts labeled G_6 and G_7 (2mks)

……

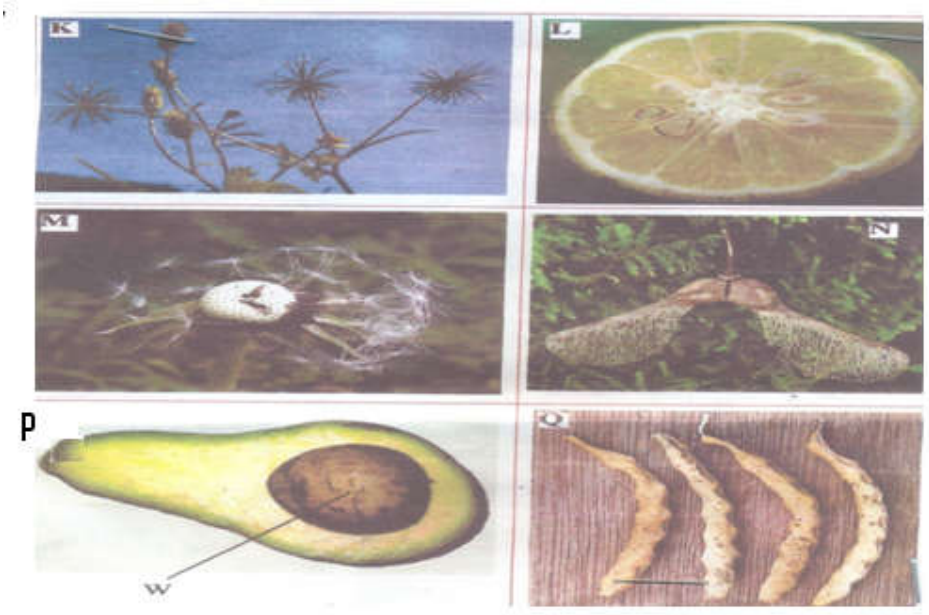
……

iii) State the function of the specimen extract (1mk)

……..

.....

2 Below are photographs of specimens obtained from plants. Examine the photographs.



a) In the table below name the mode of dispersal and the features that adapt each specimen to that mode of dispersal. (12mks)

Specimen	Mode of Dispersal	Adaptive Feature
K		
L		

M		
N		
P		
Q		

b) State the type of placentation in specimen L. (1mk)

……

c) Name the structure labeled W on specimen P.
(1mk)

……

d) State the type of fruit represented by specimen L (1mk)

……

3 You are provided with specimen Y which is part of a plant.

a) With reason identify the part of the plant represented by specimen Y. (2mks)

……

……

b) Draw a plain diagram of the transverse section of one of the cut surfaces.
(1mk)

c) With reason state the class of the plant from which specimen Y was obtained.
(2mks)

……

……

d) Peel the specimen using a knife. Put the small pieces of the peeled parts in a mortar. Use the pestle to crush the pieces. Squeeze out juice from the crushed pieces into a small beaker. Use the reagent provided to determine the food substance present in specimen Y.Record the food substance tested.Procedure,observations and conclusions in the table below. (9mks)

Note: . Solution P is Iodine Solution,

. Solution Q is Benedict Solution

. Solution R is 1% $CuSO_4$,

. Solution S is 5% NaOH,

Food Tested	Procedure	Observation	Conclusion

END

EKSIKA JET JOINT EVALUATION TEST

BIOLOGY
PAPER 3
231/3
MAY/JUNE 2014

MARKING SCHEME

1. a) i) Pisces 1mk
   ii) Presence of fins
   Presence of overlapping scales
   Presence of operculum
   Presence of a lateral line (Accept only observable reasons)
   Any two 2mks
   b) i) Tall/ caudal fin 1mk
   ii) Pectral fins/ pelvic fins any 1
   iii) Dorsal fin/ Arial fin/ Ventral fin any 1
   iv) Streamlined body/ backward facind scaled
   Slimy/ mucoid surface/ presence of mucus 1mk
   c) i) Fish gill (Reject gil/ gills)
   ii) G6- Gill rakers
   G7- Gill filaments
   iii) - Gaseous exchange
   - Excretion of Co_2 (Any 1)1mk

2. a)

Specimen	Mode of Dispersal	Adaptive feature
K(Black jack)	Animals	Hooks/ hook- like structures
L(Orange)	Animals	Fleshy/ juicy succulent/ fleshy pericarp
M(milky weed)	Wind	Parachute hairs/ pappus and hair- like projections
N(sycamose)	Wind	Winged/ winged- pericarp/ wing- like projections
P(Avocado)	Animals	Freshy/succulent
Q(Dry bean pod)	Self/ explosive	Lines of weakness/safuses

   b) Axile (rej free central placentation) 1mk
   c) Seed/ endocarp 1mk
   d) Berry 1mk
3. a) Stem
   Has internodes 1mk
   Presence of auxiliary bud 1mk
   b)

c) Class; monocotyledonae
Parallel leaf venation

d)

Food tested	Procedure	Observation	Conclusion
Starch	To 2 cm^3 juice extract add 2 drops of iodine solution.	Juice colour changes blue black	Starch present.
Reducing sugar	To 2 cm3 of the juice, Add 2 cm3 of Benedicts solution heat to boiling.	Colour changes to green/ yellow/ orange red or brown.	Reducing sugars present.
Protein	To 2 cm3 of the juice add 2 drops of NaOH. Shake Add CuSO4 dropwise	Juice retains colour(purple/ violet)	Proteins absent.