

BIOLOGY PRACTICAL 231/3 2014 MOCKS

CONFIDENTIAL

1. All photographs must be coloured
2. Each candidate to be provided with ;

- 3 test tubes

- test tube rack and holder

- a filter paper

- a funnel

- 50 ml beaker

Access to

- source of heat

- Benedicts solution

- iodine solution

- Stirring rod

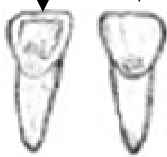
- 2 droppers

3. Solution Z prepared by dissolving 50grams of starch and 50grams of glucose in 100mls of warm distilled water.

Each candidate to be provided with 20 mls

SPECIMENS FROM THE SAME ANIMAL

A



B



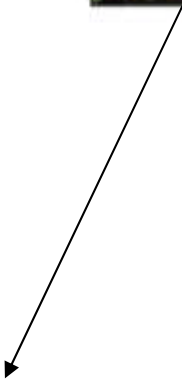
PHOTOGRAPHS X



PHOTOGRAPHS Y



PLANT EXPERIMENT



GATUNDU SUB COUNTY FORM FOUR 2014 EVALUATION EXAM

231/3

BIOLOGY (PRACTICAL)

paper 3

JULY/AUGUST 2014

1. Use the photographs on animal specimens from the same animal to answer the questions that follow.

A) With reasons identify A and B (5mrks)

(i) A

Reason

(ii) B

Reasons

a).....

b).....

B) In photograph B label four parts of the specimen (4mrks)

C) Give the functions of A and B (2mkr)

A.....

B.....

D) Giving reasons, state the diet of the animals whose skulls are shown in the photographs .

X.....1mrk

Reasons.....

.....2mrks

Y.....1 mrk

Reasons.....

3. A) You are provided with solution labeled Z. Stir and filter the solution. Allow them to settle for 15 minutes. Test for the presence of starch in the filtrate and the residue. Carry out food test on the filtrate using the other reagent provided. 10 MRKS

| TEST | PROCEDURE | OBSERVATIONS | CONCLUSION |
|--------|-----------|--------------|------------|
| STARCH | | | |
| STARCH | | | |
| | | | |

B) Account for the results obtained in the test for starch. 2mrks

C) Where in the mammalian excretory system does the above process take place? 1mrk

BIOLOGY GATUNDU SUB COUNTY MOCKS 231/3 (PRACTICAL) 2014 MARKING SCHEME

1 A. (I) A.....Incisor

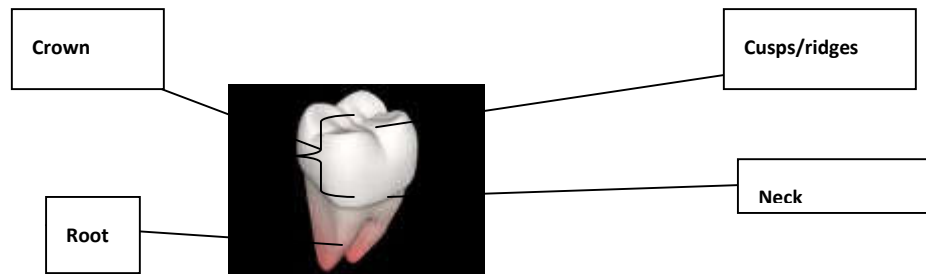
Rej wrong spellings

Reason.....chisel shaped/wide edge/wedge shaped.

(ii) B...Molar

Reasons..Presence of cusps/ridges

Presence of more than one root



1B

(Labeling must be done on either of the two molar teeth)

1C. A.....Cutting food

B.....Grinding and chewing food.

1D. X.....Flesh/ meat

Reasons.....Presence of long/curved/sharp/pointed canines for grasping prey.

Presence of carnasial teeth (for cutting/crushing) bones.....spelling of carnasial must be correct.

yvegetation /grass/shrubs/herbs/plants/leaves.

Reasons.....Presence of diastema

Absence of teeth/canines and incisors at the front part of the upper jaw.

Presence of cusps/ridges for grinding food max 2 mrks



Pad/horny pad

1E.

(labeling must be done on the photo)

1F.y

2 a) Translocation

b) phloem tissue

c) Active transport/mass flow through diffusion

d) Have sieve plates that support the phloem tissue

Have sieve pores that act as a pathway to allow movement of materials

Sieve tubes are cylindrical and joined end to end interconnected by cytoplasmic filaments

Sieve elements lack other cell components like nucleus

Has companion cells that have numerous mitochondria to supply energy needed for active transport

Presence of plasmodesmata between sieve elements and companion cells to facilitate movement of materials between them.

3.A)

| TEST | PROCEDURE | OBSERVATION | CONCLUSION |
|------------------|--|---|--------------------------|
| STARCH(filtrate) | To food add iodine solution; | no colour change; rej no change/colour of iodine remains/persists | starch absent; |
| STARCH(residue) | To food add iodine; | Blue/black/blue-black; rej blue/black,black-blue | starch present; |
| Reducing sugars; | To food add benedicts solution and heat; | Green-yellow-orange-brown rej greenish, brownish etc | Reducing sugars present; |

Tests for starch ,award only for procedure ,observations and conclusion. For reducing sugars, award in all areas total 10 mrks

3B) Positive results on the residue and negative results on the filtrate; 1mrk

Starch has big/large molecules that cannot pass through the pores in the filter paper ;1 mrk

3C) Kidney nephron s; 1mrk