

BUSIA COUNTY JOINT EXAMINATION
KENYA CERTIFICATE OF SECONDARY EDUCATION (K.C.S.E)
231/3
BIOLOGY
Paper 3
(Practical)
July/August 2015

1. You are provided with substances labeled H. Filter the substance and collect the filtrate. Filtration is expected to be completed after 25 minutes. Using the reagents provided, carry out food tests on both the residue and filtrate of substrate H and record your results in the tables below.

RESIDUE

Food substance	Procedure	Observation	Conclusion

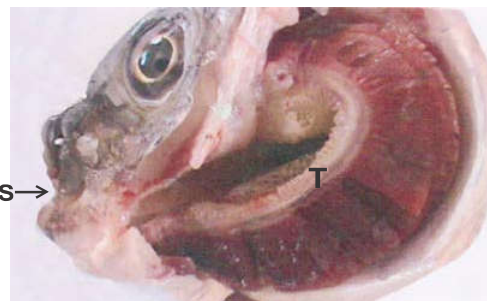
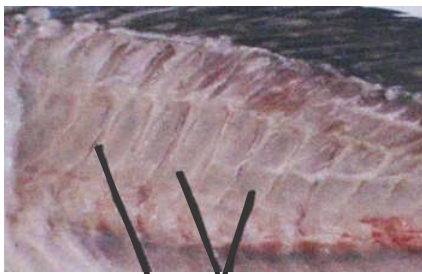
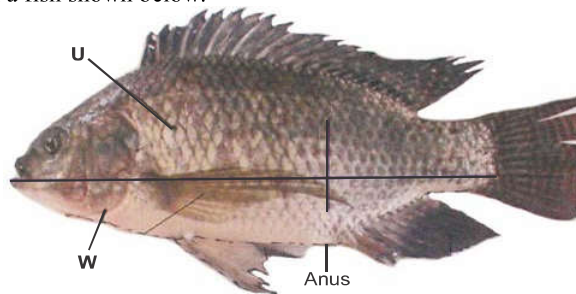
(8 marks)

FILTRATE

Food substance	Procedure	Observation	Conclusion

2. You are provided with a specimen labeled K.
- Make a transverse section through specimen K and draw a labeled diagram. (4 marks)
 - State the magnification used (1 mark)
 - Name the part of plant the specimen K provided is (1 mark)
 - Give one reason for your answer in (c) above. (1 mark)
 - i) Using one of the reagents provided determine the type of vitamin present in specimen H above.
 Name of vitamin (1 mark)
 - ii) Name the deficiency diseases for the vitamin in (e) (i) above. (1 mark)
 - f) i) Give the identity of specimen H. (1 mark)
 - ii) Using observable reasons state the reasons for your answer in (f) (i) above. (2 marks)

3. Examine the photograph of a fish shown below.



- Name the fins responsible for the following during swimming.
 - Balance, break and change direction. (2 marks)
 - Prevent fish from rolling and yawing (2 marks)
- Explain the process of gill ventilation between part labelled S to part labelled T. (4 marks)
- State one adaptation each for the structures labelled K and L. (2 marks)
- Name the parts labelled U and W. (2 marks)

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KENYA CERTIFICATE OF SECONDARY EDUCATION (K.C.S.E)
MARKING SCHEME
BIOLOGY (231/3)
(Practical) Paper 3
JULY/AUGUST 2015

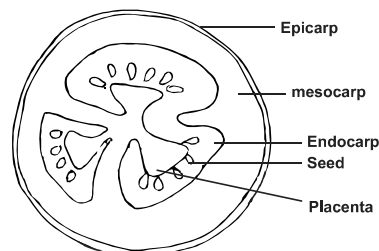
1. RESIDUE

Food substance	Procedure	Observation	Conclusion
Proteins;	Add sodium hydroxide and then add copper sulphate solution;	Purple/Violet;	Proteins present;
Reducing sugars;	Add Benedict's solution then heat;	Green, yellow, orange/yellow/orange; Rej: Wrong sequence	Reducing sugar present;

FILTRATE

Food substance	Procedure	Observation	Conclusion
Proteins;	Add sodium hydroxide and then add copper sulphate solution;	Blue/no colour change; Rej no change	Proteins absent;
Reducing sugars;	Add Benedict's solution then heat;	Green, yellow, orange/yellow/orange; Rej: Wrong sequence	Reducing sugar present;

2. a)

D marks

- D1 - continuous line, no shading
D2 - thin epicarp seed within endocarp

L. Marks

- Label lines must touch structure
- Correct sp

b) X1 to X2; **Rej** x1,

x

X1 cm x

- c) Fruit;
d) Two scars;
e) i) Ascorbic acid; / Vitamin C
ii) Scurvy;
f) i) Berry;
ii) Thin epicarp; many seeds;

3. a) Pectoral (fin) ;
Pelvic (fin);
ii) Dorsal (fin) ;
Ventral /anal (fin);
b) Muscles of mouth floor contract; mouth opens volume inside decreases and pressure in the mouth decreases; water rushes into mouth.
Muscles of mouth floor relax and mouth closes;
Volume in mouth decreases and its pressure increases; water moves to part labelled T.
c) K - Long transverse process to provide large surface areas for muscle attachment;
L - Antagonistic muscles which contract and relax alternatively;
d) U - Scale;
W - Operculum/gill cover;