Name:…… Adm No. ……Class……

School: ……... …….. Date: .....

231/3
BIOLOGY
Practical
Paper 3
September, 2021
Time: 1 ¾ Hrs

SUNRISE EXAMINATION
Kenya Certificate of Secondary Education (K.C.S.E)
231/3
Biology
Paper 3
September, 2021

INSTRUCTIONS TO CANDIDATES

1. **Answer all the questions.**
2. **Spend the first 15 minutes of the 1 ¾ hours allowed for this paper reading the whole paper carefully before commencing your work.**
3. **Answers MUST be written in the spaces provided in the QUESTION PAPER ONLY.**

FOR EXAMINERS USE ONLY

QUESTION	Max Score	Candidate Score
1	14	
2	12	
3	14	
TOTAL SCORE	40	

1. You are provided with olive oil, liquids labeled L_1 and L_2, and an Irish potato. Label test tubes A and B. Place $2cm^3$ of water into each test tube. Add 8 drops of olive oil into each test tube. To test tube A, add 8 drops of liquid L. Shake both test tubes. Allow to stand for 2 minutes.

(a) (i) Record your observations ***(2 marks)***

Test Tube A

……

……

Test Tube B

……

……

(ii) Name the process that has taken place in test tube A ***(1 mark)***

……

(iii) State the significance of the process named in (a) above ***(1 mark)***

……

(v) Name the digestive juice in humans that has the same effect on oil as liquid L_1 ***(1 mark)***

……

(v) Name the region of the alimentary canal into which the juice is secreted ***(1 mark)***

……

(b)

(i) Label two test tubes C and D place $2cm^3$ of liquid L2 into each test tube. Add a drop of iodine solution into each test tube. Record your observations. ***(1 mark)***

……

……

(ii) Suggest the identity of L_2 ***(1 mark)***

……

(iii) Cut a cube whose sides are $1cm^3$ from the Irish potato. Crush the cube to obtain a paste. Place the paste into a test tube labeled C. add 2cm3 of amylase solution. Leave the set up for at least 30 minutes.

Record your observations ***(2 marks)***

C

……

D

……

(iv) Account for the result in (b)(iii) above ***(2 marks)***

……

……

(c) Cut another cube whose sides are 1cm from the Irish potato. Crush the cube. Place the crushed paste into a test tube. Carry out food test with reagents provided. Record your procedure and results.

Procedure: ***(1 mark)***

……

……

Results: ***(1 mark)***

……

……

2. You are provided with specimen **K**. Use it to answer the questions that follow

a) Cut the specimen **K** longitudinally. Draw one of the sections (4marks)

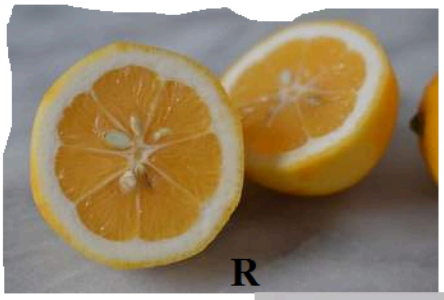
b) With a reason state the agent of pollination (1mark)

……

……

……..

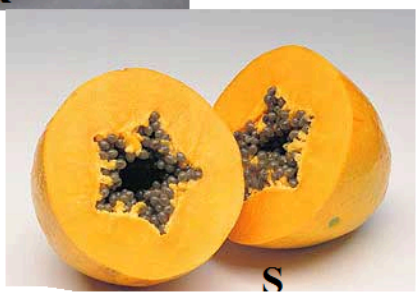
c) The photographs labelled **Q, R,**and **S** are sections of some plant parts.



R



Q



S

(i) Name the type of placentation in the specimens shown in photographs **Q, R** and **S** (3 marks)

Q…….

R…….

S…….

(ii) Giving a reason in each case, name the mode of dispersal of the specimen in photograph **Q** and **S** (4mark)

Q Mode……...……..

Reason

……

……

……...……..

S

Mode……...……..

Reason

……

……

……

3. Study photographs shown below then answer the questions.

Q





R

S



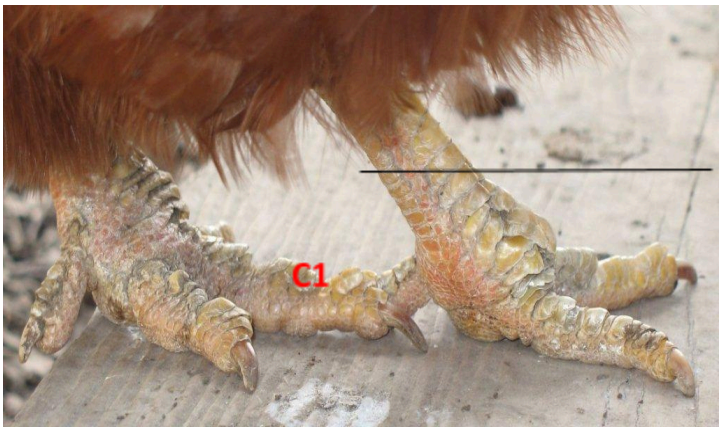
A





B

C



(a) State the type of evolution represented by structures **Q1**, **R1** and **S1**. (1mk)

……

b) Explain the type of evolution identified in (a) above. (1mk)

……

(c) Give the evolution term used to describe structures;

(i) **Q1, R1** and **S1.** (1mk)

(ii)**A1**, **B1** and **C1.** (1mk)

d). what type of evolution is illustrated by the limbs (**A1**, **B1** and **C1**)? (1mk)
……

e). (i) Name classes for organisms labeled Q**, R** and **S.**

Q……...…… (1mk)

R……...…… (1mk)

S……...… (1mk)

(ii) Give two reasons for placing **S** in the class above (2mks)

……

……

……

……

f) (i) Suggest the diet of animals **B** and **R**.

B……..…… (1mk)

R……..……..... (1mk)

(ii) How is beak of animal **B** adapted to its function? (2mks)

……..

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