**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 L1 and L2, and an Irish potato. Label test tubes A and B. Place 2cm3 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.
2. (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)***

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(v) Name the digestive juice in humans that has the same effect on oil as

 liquid L1 ***(1 mark)***

………………………………………………………………………………………………………………

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

………………………………………………………………………………………………………………

1. Label two test tubes C and D place 2cm3 of liquid L2 into each test tube. Add a drop of iodine solution into each test tube. Record your observations. ***(1 mark)***

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1. Suggest the identity of L2 ***(1 mark)***

…………………………………………………………………………………………………………

1. Cut a cube whose sides are 1cm3 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

………………………………………………………………………………………………………

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

………………………………………………………………………………………………………………………………………………………………………………………………………………

1. 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)***

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

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1. You are provided with specimen **K**. Use it to answer the questions that follow
2. Cut the specimen **K** longitudinally. Draw one of the sections (4marks)
3. With a reason state the agent of pollination (1mark)

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



 (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

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. Study photographs shown below then answer the questions.



**R1**

**R**

**Q1**

**Q**

**S1**

**S**

**A**

**B**

**C**

**M**

**A1**

**B1**

**C1**







 (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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