**NAME...................................................................................... ADM/NUMBER............................**

**SCHOOL………………………………....................................... Date..........................................**

**BIOLOGY (231/3)**

**Paper 3 (PRACTICAL)**

**NOVEMBER/DECEMBER 2021**

**TIME: 13/4 hour**

**ELDORET DIOCESE EXAM 2021**

**Kenya Certificate of Secondary Examinations**

**Instructions to candidates**

(a) Write your name and Admission number in the spaces provided.

(b) Answer **all** the questions in the spaces provided.

(c) You are required to spend the first 15 minutes of the 13/4 hours allowed for this paper reading the whole paper carefully before commencing your work.

(d) This paper consists of 6 printed pages.

(e) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

**For Examiner’s Use Only**

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| **QUESTION** | **MAXIMUM SCORE** | **CANDIDATE SCORE** |
|  | **14** |  |
|  | **13** |  |
|  | **13** |  |
| **40** |  |

1. You are provided with small pieces of two tissues, labeled P and Q, obtained from an animal.

(a).Cut each specimen into two equal halves. From each specimen, crush one half and leave the other half as a solid piece. Place the solid half of specimen P into a test tube labeled K. Place the solid half of specimen Q into a test tube labeled L.

Put about 2cm3 hydrogen peroxide into each of the test tubes.

(i) State the observations made in the two test tubes. [2marks]

Test tube K ………………………………………………………………………………………

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Test tube L ………………………………………………………………………………………..

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(ii)Place the crushed specimen P into test tube labeled M and also place the crushed specimen Q into test tube labeled N. Add 2cm3 hydrogen peroxide into test tube M and N. Record the observation for each test tubes M and N in comparison to K and L [2marks]

Test tube M ……………………………………………………………………………………

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Test tube N …………………………………………………………………………………….

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(iii) Write down an equation for the reaction that was responsible for your observations in the experiments above. [1mark]

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(iv) Name the process represented by the equation in (iii) above. [1mark]

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(b) Explain how crushing affected the results of the experiments. [2marks]

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(c) Apart from the process named in (a) (iv) above, name three other functions of specimen Q [3marks]

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(d) Explain the importance of the process named in (a) (iv) above in living organisms [3marks]

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1. You are provided with specimen labelled **Z** which has been grounded into flour.

 Make a solution of the flour provided by adding water and stirring properly. Sieve or decant to obtain a solution from the mixture.

(a) (i) Using the reagents provided test for the presence of starch, proteins and lipids in the solution from specimen Z. Record the procedures, observation, and conclusions in the table below. [9marks]

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| --- | --- | --- | --- |
| **FOODSUBSTANCE** | **PROCEDURE** | **OBSERVATION** | **CONCLUSION** |
| **Starch** |  |  |  |
| **Proteins** |  |  |  |
| **Lipids** |  |  |  |

(ii) From the conclusions made in (a) (i) above, suggest the regions of the alimentary canal where the digestion of specimen Z would take place. [3marks] …………………………………………………………………………………………………………………………………………………………………………………………………………….. ……………………………………………………………………………………………….

(b) State **one** use of any two food substances found in specimen Z. [2 marks]

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1. You are provided with leaves of specimens **A, B, C, D, and E.**

**(a)** Use the following features in the order in which they are listed, to prepare a dichotomous key: [8 marks]

Type of leaf

Shape of the lamina

Succulent or non-succulent

Leaf margin

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(b) (i) Name the likely habitat of specimen **C**. [1mark]

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(ii) Give a reason for your answer in (b) (i) above. [1mark]

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(c) State the significance of the shiny upper surface of specimen **A**. [2marks]

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