

**NAME………………………………………………………. INDEX NO…………………/…………**

**ADMISSION NUMBER……………………. CLASS………………………**

**CANDIDATES SIGNATURE………………**

**231/3**

**BIOLOGY**

**(PRACTICAL)**

Paper 3

SEPT 2021

**13/4 Hours**

**EAGLE EXAM - 2021**

***Kenya Certificate of Secondary Education (K.C.S.E)***

**INSTRUCTIONS TO CANDIDATES**

* Write your name and Index Number in the spaces provided above.
* Sign and write date of examination in the spaces provided above.
* Answer **ALL** questions in the spaces provided in the question paper.
* You are **not** allowed to start working with the apparatus for the first 15 minutes of the 13/4 Hours allowed for this paper. This time is to enable you to read the question paper and make sure you have all the chemicals and apparatus that you may need.
* All workings **must** be clearly shown where necessary.
* Mathematical tables and silent electronic calculators may be used.

**For Examiners use only.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Section** | **Question** | **Maximum Score** | **Candidates Score** |
|  | **1** | **14** |  |
|  | **2** | **12** |  |
|  | **3** | **14** |  |
|  | **Total score** | **40** |  |

*This paper consists of 6 Printed pages.*

*Candidates should check the question paper to ensure that all the*

*Papers are printed as indicated and no questions are missing*

1. You are provided with liquids L1, L2, L3, L4
2. (i) Put 3 drops of L2 on a white tile.

Add one drop of iodine solution.

Observation …………………………………………………………………….. [1mk]

Conclusion ……………………………………………………………………… [1mk]

(ii) Put 2cm3 of L2 into the test tube and add equal volume of Benedict’s solution and heat.

Observation …………………………………………………………………… [1mk]

Conclusion …………………………………………………………………… [1mk]

1. Label two test tubes A and B. Into each of the test tubes put 2cm3 of the remaining L2 liquid.

To test tube A, add 10 drops of liquid L1 and 10 drops of liquid L3.

To test tube B, add 10 drops of liquid L1 and 4 drops of liquid L4

Put the two test tubes, A and B in a waterbath maintained at between 38-39oC for 30 minutes.

Repeat iodine and Benedict’s tests in each of the test tubes and record your results in the table below. [4mks]

|  |  |  |
| --- | --- | --- |
| **Test tube** | **Observations** | |
| Iodine test | Benedict’s test |
| A |  |  |
| B |  |  |

1. Account for the results in:
2. Test tube A

Iodine test …………………………………………………………………………………………………………………………………………………………….. [1mk]

Benedict’s test …………………………………………………………………………………

………………………………………………………………………… [1mk]

1. Test tube B

Iodine test …………………………………………………………………

…………………………………………………………………………… [1mk]

Benedict’s test ……………………………………………………………….

………………………………………………………………………… [1mk]

1. Suggest the identity of liquid L1 [1mk]

………………………………………………………………………………………………

1. Why was the water bath maintained at 38oC [1mk]

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

1. You are provided with specimens labelled A, B, C and D.
2. Precisely, classify the specimens [2mks]

B \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

D \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. (i) Cut specimen A longitudinally and make a well labelled diagram. [4mks]

(ii) Calculate magnification of the drawing in b (i) above. Show your working [2mks]

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1. (i) Name the agent of dispersal of the cut specimen [1mk]

…………………………………………………………………………………………………

(ii) Give two reasons for your answer [2mks]

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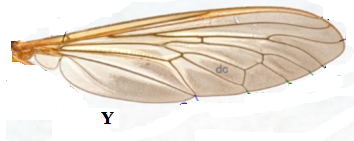
1. (i) Open specimen C longitudinally, observe and name the type of placentation shown. [1mk]

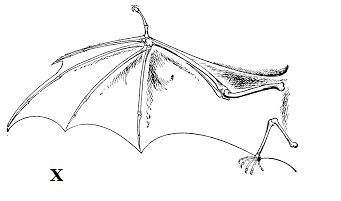
……………………………………………………………………………………………………………………………………………………………………………………………………

(ii) With reason, identify the agent of dispersal and give a reason for your answer. [2mks]

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1. Study the photographs below and answer the questions that follow.



1. Name the type of structures shown by: [2mks]
2. X & Y ……………………………………………………..
3. W & Z ……………………………………………………..
4. State the structural difference between structures X and Y [1mk]

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

1. Name the type of evolution shown by structures Q and R [1mk]

…………………………………………………………………………………………………………………………………………………………………………………………………………..

1. State the adaptations of structures W and Z

W …………………………………………………..

Z ……………………………………………………

1. Name the types of skeletons shown by structures X and Y [2mks]

X ……………………………………………………

Y ……………………………………………………

1. By comparing structures Q and R, predict the type of food being fed on by the animals and give a reason in each case. [4mks]

Q ………………………………………………………………………………………………………………………………………………………………………………………………………….

R ………………………………………………………………………………………………………………………………………………………………………………………………………..

1. A part from structures X and Y, name two other examples of similar structures in animals. [2mks]

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