**NAME.......................................................................ADM NO...............................**

**DATE............................. SIGN.....................................**

231/3

Biology paper 3

(Practical)

1 ¾ HRS

September 2022.

**MOKASA MOCK**

***Kenya Certificate of Secondary Education 2022***

231/3

Biology paper 3

(Practical)

TIME: 1 ¾ HRS

September 2022.

**INSTRUCTIONS TO CANDIDATES**

* Write your name and index number in the spaces provided at the top of this page.
* Answer all the questions in the spaces provided.

**For examiner’s use only**

|  |  |  |
| --- | --- | --- |
| **QUESTION** | **MAXIMUM SCORE** | **CANDIDATE’S SCORE** |
| **1.** | **14** |  |
| **2.** | **12** |  |
| **3.** | **14** |  |
| **TOTAL** | **40** |  |

1. Study the specimen **R** provided.

(a) Identify the type of fruit. (1 mark)

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(b) i) What is the method of dispersal for the specimen R. (1 mark)

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ii) Give reason(s) for your answer in (i) above (2 marks)

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(c) Peel the sliced specimen **R** to show the inner juicy part. Extract a small portion of the juicy part, place in a mortar and mash it using a pestle.

Filter the extract from the specimen R into a boiling tube.

Divide the extract from specimen **R** into two portions and use them as follows;

**Portion one**

Use the reagents provided to test for the food substances present in portion **1**. Use the table below as a guide. (6 marks)

|  |  |  |  |
| --- | --- | --- | --- |
| **Food substance** | **Procedure** | **Observation** | **Conclusion** |
|  |  |  |  |
|  |  |  |  |

**Portion two**

(d) (i) To 1cm3 of DCPIP in a test tube, add 0.1% solution of Ascorbic acid drop by drop until the colour of DCPIP disappears. Shake the test tube after addition of each drop. Record the number of drops used. (1 mark)

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ii) To another 1cm3 of DCPIP in a test tube add the **portion two of extract** drop by drop, shaking the test tube after addition of each drop until the colour of DCPIP disappears. Record the number of drops used (1 mark)

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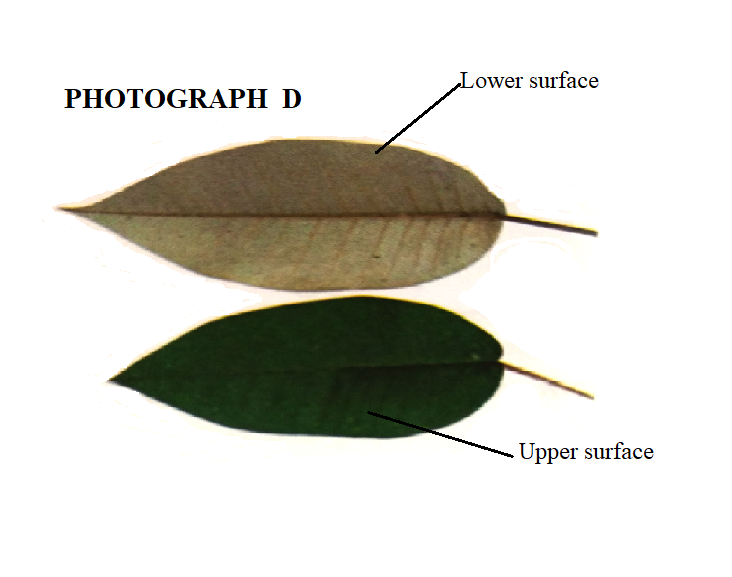
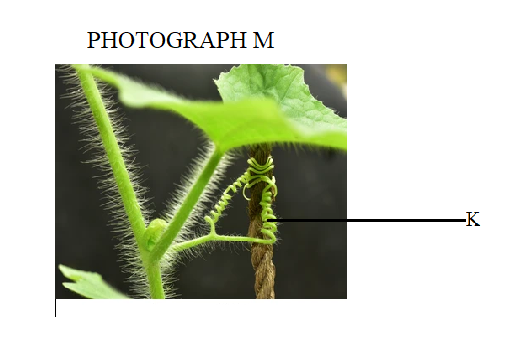
iii) From the results obtained in (d) (i) and (ii) above, calculate the percentage of Ascorbic acid in the juice obtained from specimen **R**. Show your working (2 marks)

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2. You are provided with photographs A, M and D representing certain plants and specimens P and Q .Use them to answer the questions that follow.

Photograph A





(a). i Name the sub division to which the plant in photograph A and specimen Q belong. (1 mark)

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

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(b). State the differences between the leaves of specimen P and Q (3 marks)

|  |  |
| --- | --- |
| Specimen P | Specimen Q |
|  |  |
|  |  |
|  |  |

c) Name the unique features observed on stems of specimen Q and stem of photograph M and state their function. (2mks)

Specimen Q

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Photograph M

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

d) Account for the differences observed on the upper and lower surfaces of leaves on photograph D (2mks)

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e) The stem of specimen Q and that of photograph M are green in colour. What does the colour imply? (1mk)

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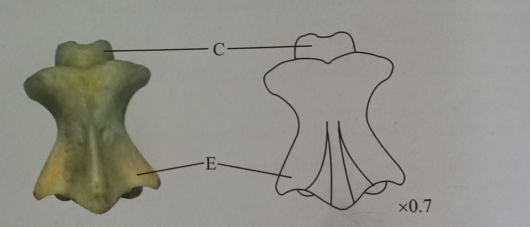
f) (i) Name the part labelled K on photograph labelled M (1mk)

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(ii) Explain how the coiling of the structure occurred (2mks)

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3 a) Use the photograph provided to answer the questions that follow.



(i)identify the bone (1mk)

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ii)Give reason for your answer in (i) above (1mk) ………………………………………………………………………………………………………………………………………………………………………………………………………………….......

iii) Name the region of the body from which the above bone was obtained (1mk) ………………………………………………………………………………………………………………………………………………………………………………………………………………….......

(iv) Name the bone which articulates with the above bone at its anterior end (1mk) ………………………………………………………………………………………………………………………………………………………………………………………………………………….......

(v) Identify the type of joint formed in (iv) above (1mk) ………………………………………………………………………………………………………………………………………………………………………………………………………………….......

(vi) Name the structure that joins the two bones in c(i) together at the joint formed above (1mk) ………………………………………………………………………………………………………………………………………………………………………………………………………………….......

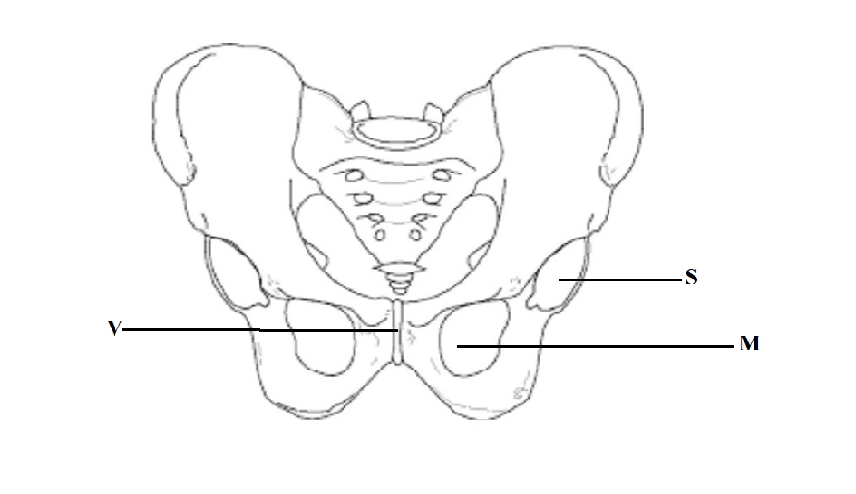
vii) Identify the view of the above bone in the photograph (1mk) …………………………………………...……………………………………………………………………………………………………………………………………………………………………….......

viii) State two differences between the above bone and the bone it articulates with at the anterior end. (2mks)

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b)(i) Identify the bone in the photograph below (1mk)

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(ii) Name the structure labeled S and state the structure that it articulates with. (2mks) …………………………………………………………………………………………………………………………………...………………………………………………………………………………………………………………………………………………………………………………………….......

(iii) Name the structure labelled V and state its function (2mks) ……………………………………………………………………………………………………………………………..……………………………………………………………………………………………………………………………………………………………………………………………….......

(iv) Name the part labelled M on the diagram (1mk)

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