**NAME: …………………………………………. INDEX NO: ……………………………….**

**SCHOOL: ……………………………………… CANDIDATE’S SIGNATURE: …………**

 **DATE : ……………………………………**

**231/3**

**BIOLOGY**

**PAPER 3**

**(PRACTICAL)**

**TIME: 1¾ HOURS**

**INSTRUCTIONS TO CANDIDATES:**

1. *Write your* ***Name,******Index Number*** *and* ***School*** *in the spaces provided.*
2. ***Sign*** *and write the* ***Date*** *of Examination in the spaces provided.*
3. *Answer all the questions in the spaces provided.*
4. *You are required to spend the first 15 minutes of the 1¾ hours allowed for this paper reading the whole paper carefully before commencing your work.*

**FOR EXAMINER’S USE ONLY**

|  |  |  |
| --- | --- | --- |
| **QUESTION** | **MAX. SCORE** | **CANDIDATE’S SCORE** |
| 1 | 14 |  |
| 2 | 17 |  |
| 3 | 09 |  |
| **TOTAL** | **40** |  |

**SECTION A (40 MARKS)**

**Answer all questions in this section in the spaces provided.**

1. (a) Examine the photograph **below** carefully and answer the questions that follow.



1. **What** name is given to the coiled part labeled **M** found on the photograph? (1mk)

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

1. **Name** the type of response shown in the photograph. (1mk)

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

1. **Name** the stimulus responsible for the response named in (ii) above. (1mk)

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

1. **Explain** the mechanism of the response. (3mks)

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

1. **State** the biological significance of the response described in (iv) above to the survival of the specimen. (2mks)

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

1. **Photograph F** illustrates the observations made two weeks after the plant was trimmed.



* + 1. Name the phenomenon that was experienced by the plant before it was trimmed.

(1mk)

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

* + 1. Account for the observation made in the shoot after the practice. (3mks)

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

* + 1. Explain the application of the practice in agriculture. (2mks)

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

1. You are provided with solution L and Laboratory Reagents. Use it to carry out experiments as follows:
	* 1. Take the filter paper and carefully fold it twice through the middle. Open it up to make a funnel. Put it in a plastic funnel. Place the set up in 100ml beaker.
		2. Take 15mls of solution **L** add 5 drops of dilute hydrochloric acid (HCL).
			1. Record your observations. (1mk)

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

* + - 1. Where in the body is HCL found and what is its importance in the body? (1mk)

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

* + 1. Using the set up, filter solution **L** into the 100ml beaker. Remove from the filter paper all the materials on it and place them in a Petri dish using the spatula. Dry the filter paper over flame care being taken not to burn it.
			1. Record your observations. (1mk)

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

* + - 1. What conclusion do you make on the observation? (1mk)

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* + - 1. What name is given to this test? (1mk)

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* + 1. Use the provided reagents to carry out food tests on the filtrate and residue by filling in the table below.

**FILTRATE**

|  |  |  |  |
| --- | --- | --- | --- |
| **FOOD BEING TESTED** | **PROCEDURE** | **OBSERVATION** | **CONCLUSION** |
|  |  |  |  |

**RESIDUE**

|  |  |  |  |
| --- | --- | --- | --- |
| **FOOD BEING TESTED** | **PROCEDURE** | **OBSERVATION** | **CONCLUSION** |
|  |  |  |  |

Briefly explain what happened if there are any difference between results of filtrate and residue.

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

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

1. Below is a section through a mammalian organ.



* + 1. Identify the section. (1mk)

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

* + 1. Name the parts labeled 1, 2 and 15. (3mks)

1:……………………………………………………

2:……………………………………………………

15:………………………………………………….

* + 1. State **two** functions of the photographed specimen. (2mks)

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

* + 1. Indicate **on** the photograph where the **Glomerulus**, and **Distal Convoluted tubule** are located? (2mks)
		2. What are the differences between the organ in a kangaroo rat and tilapia? (2mks)

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