NAME................................................................................................................................

INDEX NO....................................................SIGNATURE...................................................

553/2

**BIOLOGY PRACTICAL**

**PAPER 2**

JULY/AUGUST 2016

2HOURS

WESTERN JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

**BIOLOGY PRACTICAL**

**PAPER 2**

2HOURS

**INSTRUCTIONS TO CANDIDATES:**

* Answer **all** questions
* Drawings should be made in spaces provided
* Use a sharp pencil for your drawings
* Coloured pencils or crayons should NOT be used
* No additional sheets of writing papers are to be inserted in the booklet
* Work on additional sheets will not be marked

|  |  |  |  |
| --- | --- | --- | --- |
| **FOR EXAMINERS’ USE ONLY** | | | |
| **Question** | **Marks** | | **Examiner’s Initials** |
| No. 1 |  | |  |
| No. 2 |  | |  |
| No .3 |  | |  |
| TOTAL | |  |  |

1. **You are provided with solution X which contains food nutrients and Y which is unknown.**

(a). Carry out the following tests to identify the food nutrients contained in X. Record your observations and deductions in table 1 below. **06mks**

|  |  |  |
| --- | --- | --- |
| **Tests** | **Observations** | **Deductions** |
| (i) To 2cm3 of **X** in a test tube, add 3 drops of Iodine solution |  |  |
| (ii) To 1cm3 of **X** in a test tube, add 5 drops of dilute sodium hydroxide solution followed by 3 drops of copper (II) sulphate solution. |  |  |
| (iii) To 1cm3 of **X** in a test tube, ad 5 drops of benedict’s solution and boil. |  |  |

(b). Carry out the following tests to determine the nature of **Y** and find out its action on **X** by following the instructions provided. Label four test tubes as **E, F, G** and **H** and in each, put contests as shown in table 2 below

**Table 2**

|  |  |
| --- | --- |
| **Test tube** | **Instructions** |
| E | 1cm3 of X, 5drops of Y and add 5 drops of dilute hydrochloric acid and shake. |
| F | 1cm3 of X, 5 drops of Y and 5 drops of dilute sodium hydroxide solution and shake. |
| G | 1cm3 of X, 5 drops of Y and 5 drops of distilled water and shake |
| H | 1cm3 of Y, boil for 1 minute then cool,  1 cm3 of X and 5drops of distilled water |

Place all the four test tubes E, F, G and H in a water bath maintained at 35-400c for 10minutes. After 10minutes, carry out Benedict’s test on each test tube and record your observations and deductions in table 3 below. **10mks**

**Table 3**

|  |  |  |  |
| --- | --- | --- | --- |
| Test tube | Test | Observations | Deductions |
| E |  |  |  |
| F |  |  |  |
| G |  |  |  |
| H |  |  |  |

(c). From your results, state the identity of solution Y giving a reason. **2mks**

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(d). Explain your results in each tube **4mks**

Test tube E........................................................................................................................................

Test tube F........................................................................................................................................

Test tube G.......................................................................................................................................

Test tube H.......................................................................................................................................

2. **You are provided with specimen J, K, L, M and N which are plant organs.**

(a) (i). Describe the observable characteristics of Specimens **J, K, L, M** and **N** in the table below **10mks**

|  |  |  |
| --- | --- | --- |
| Specimen | Stalk | Lamina |
| J |  |  |
| K |  |  |
| L |  |  |
| M |  |  |
| N |  |  |

(ii). Using the characteristics of the lamina only, construct a dichotomous key to identify

specimens J, K, L,M and N. **4mks**

(b). Draw and label specimen J. State your magnification **6mks**

3. You are provided with specimens **T, U, V, W** and **X** which are animals. Use the specimens to answer questions that follow.

(a).With reasons, state the phyllum of the specimens. **4mks**

Phyllum:............................................................................................................................

Reasons:............................................................................................................................

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(b). State the classes of specimen T and W giving reasons for each.

(i) Specimen T

Class.................................................................................................................................

Reasons.............................................................................................................................

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(ii) Specimen W

Class.................................................................................................................................

Reasons.............................................................................................................................

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(c) Suggest two survival adaptations of each of the specimens V and W**. 4mks**

(i) Specimen V ..........................................................................................................................................

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(ii) Specimen W

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(d) Carefully remove the hind leg from specimen V

Draw and label **6mks**

**END**