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BIOLOGY PRACTICAL

Paper 2

2 HOURS



**ELITE EXAMINATION BUREAU MOCK 2016**

**Uganda Certificate of Education**

BIOLOGY PRACTICAL

Paper 2

**2 Hours**

**INSTRUCTIONS TO CANDIDATES**

* *Answer all questions*
* *Drawings should be made in the spaces provided*
* *No additional sheets of writing paper are to be inserted in the answer booklet*

**For examiner’s use only**

**Turn Over**

|  |  |
| --- | --- |
| **Question** | **Marks** |
| 123 |  |
| **Total**  |  |

1. a) You are provided with freshly prepared solution N, use it to answer the questions below. Follow the instructions carefully.

**Part I:**

Carry out the following tests to identify solution N, using the reagents provided. Record your observations and deductions in table I below. **(4marks)**

|  |  |  |
| --- | --- | --- |
| **Test** | **Observations** | **Deductions**  |
| To 1cm3 of solution N in (i) a test tube, add 3 drops of iodine solution  |  |  |
| (ii) To 1cm3 of solution N in a test tube, add 1cm3 of Benedict’s solution and boil the mixture. |  |  |

**Part II: Procedure**

1. Fill a clean test tube with 2cm3 of iodine solution, close the mouth of the Test tube with a soaked visking tube and tie around the neck of the test tube using a cotton thread or rubber band.
2. Pour 10cm3 of solution N into a clean beaker. Wash the tied test tube with water and then place it with its contents into the beaker containing solution N. The test tube must be placed while inverted, so that the end having a visking tube touches the solution in the beaker. Label this set up A and leave it to stand for 10minutes.
3. Using a second test tube, pour 2cm3 of solution N into it (the 2nd test tube). Close the mouth of the test tube using a visking tube and a cotton thread in the same way as in setup A above. Pour 10 cm3 of iodine solution into a clean beaker. Wash and then invert the test tube into a beaker containing the iodine solution just the way test tube A was done. Label it as set up B. Leave both setups A and B to stand for 10 minutes.

**Note:** The two setups could be done simultaneously and the timing started at the same time. After 10 minutes shake the contents in the test tube and beaker.

Record your observations in both test tube and beaker in table II below. **(4marks)**

**Table II**

|  |  |
| --- | --- |
| Set up in  | **Observation after 10minutes** |
| Observation in test tube  | Observation in beaker  |
| A |  |  |
| B |  |  |

 b) Explain your observations in table II above setup in A: - **(2marks)**

 Set up A

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

Set up B

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

c) State the main aim of the experiment **(1mark)**

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

d) Suggest any four importance of the process to living organisms. **(4marks)**

(i) …………………………………………………………………………………………………

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

(ii) …………………………………………………………………………………………………

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

(iii) …………………………………………………………………………………………………

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

(iv) …………………………………………………………………………………………………

e) What sources of errors may be done by a student and state how they can be corrected. Use the table below. **(3marks)**

|  |  |  |
| --- | --- | --- |
| **No.** | **Source of error** | **Correction** |
| (i) (ii) (iii)  |  |  |

2. You are provided with specimens A, B, C and D which are fruits.

a) What type of fruits are specimens B and D?

B …………………………………………………………………………………… **(1mark)**

D …………………………………………………………………………………… **(1mark)**

b) Examine the specimens A, B, C, D and state two observable external characteristic features of each specimen in the table below. **(8marks)**

|  |  |
| --- | --- |
| **Specimen** | **Characteristic features** |
| A |  |
| B |  |
| C |  |
| D |  |

C) Use the characteristics in (b) above to construct a dichotomous key to identify the specimens **(3marks)**

d) For each of the specimens A, B, C and D, state the agent of dispersal and describe how each specimen is adapted to being dispersed by the stated agent.

(i) Specimens A (1 ½ marks)

Agent of dispersal

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

Adaptations.

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

(ii) Specimen B (1 ½ marks)

Agent of dispersal

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

Adaptations

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

(iii) Specimen C (1 ½ marks)

Agent of dispersal

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

Adaptations

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

iv) Specimen D (1 ½ marks)

Agent of dispersal

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

Adaptations

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

e) Split open specimen C longitudinally, draw and label one half that has seeds. State your magnification.

3. You are provided with specimen O and P which are members of the same kingdom.

a) Classify specimen O into its appropriate phylum and class, giving two reasons for its classification. (3 marks)

 Phylum of O:…………………………………………………………………………………

 Reasons:

1. ………………………………………………………………………………………………
2. ………………………………………………………………………………………………

 Class of O:…………………………………………………………………………………………

1. ………………………………………………………………………………………………
2. ………………………………………………………………………………………………

b) Specimen O is a social organism. State its function in habitat and give two adaptations to its function. (03 marks).

Function of O……………………………………………………………………………………

Adaptations

(i) ………………………………………………………………………………………………

(ii) ……………………………………………………………………………………………

 c) Cut off the hind leg of specimen P. Using the observable structural features describe it. (02 marks)

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d) i) Draw the last five abdominal segments of specimen P clearly showing all features seen from the ventral view (06 marks).

ii) With a reason identify the sex of specimen P. (01 mark)

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

 e) State any four observable structural differences between specimen O and P in the table below. (04 marks).

|  |  |
| --- | --- |
| Specimen O | Specimen P |
|  |  |
|  |  |
|  |  |
|  |  |

**END**