**Name.....STREAM.....**

**UGANDA CERTIFICATE OF EDUCATION**

**BIOLOGY PAPER 2**

**TIME:**

**INSTRUCTIONS**

- Answer all questions
- Drawings should be made in the spaces provided
- No additional sheets of writing paper are to be inserted in here
- Do not use coloured pencils and crayons

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

1. You are provided with a food solution X on which you are required to carry out a food test. Write your observations and deductions in the table below **.**

| Test | Observation | Deduction |
|---|---|---|
| (i) To 1cm$^3$ of solution **X** in a clean test tube, add 2 drops of Iodine solution. | | |
| (ii)To 1cm$^3$ of solution **X** in a clean test tube, add 1cm$^3$ of Benedict's solution and boil the mixture for 1 minute | | |
| (iii)To 1cm$^3$ of solution **X** in a clean test tube, add 3 drops of sodium hydroxide solution followed by 2cm$^3$ of copper(II) sulphate solution | | |
| (iv) To 1cm$^3$ of solution **X** in a clean test tube, add 1 cm$^3$ of dilute hydrocholic acid and boil for 1 minute, cool and then add sodium hydroxide solution followed by Benedict's | | |

| | | |
|---|---|---|
| solution and boil for 1 minute. | | |
| (v)To 1cm$^3$ of DCPIP solution in a test tube, add drop by drop solution **X** until there is no further changes. | A blue colour of DCPIP solution persisted | |

(a) What food nutrients are contained in solution X?

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(b) State the role of the following reagents in test (iv)

(i) Dilute hydrochoric acid

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(ii) Sodium hydroxide solution

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2. You are provided with specimen **A.** Study it carefully and use it to answer the questions that follow.

(a) Giving a reason in each case, classify specimen **A**.

Phylum.....

Reason .....

.....

Class .....

Reason .....

.....

Order .....

Reason.....

.....

(b) Examine the features of the head and the thorax. Make a well labeled drawing of head and thorax. State your magnification clearly.

(c) State one habitat in which specimen **A** can be found

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(d) State three ways in which specimen **A** is adapted to the habitat mentioned above.

(i) .....

.....

(ii) .....

.....

(iii) .....

.....

(e) State at least three economic importance of specimen **A**

(i) .....

.....

(ii) .....

.....

(iii) .....

.....

3. You are provided with specimen **B, C** and **D**. Use them to answer the following question

(a) (i) To which division do the specimens belong?

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

.....

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(b) Examine the leaves of specimen **B**

(i) State the type of venation

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(ii) Basing on the type of venation, state the class to which specimen **B** belongs.

.....

(c) Give the structural differences between specimen **B** and **C** in the table below.

| **Specimen B** | **Specimen C** |
|---|---|
| | |

(d) State the root system of specimen **D**

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.....

(e) State one structural differences between the root system of specimen **B** and **D**

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(f) Cut the shoot system of specimen **B**. Draw and label the remaining part of the specimen. State the magnification of your drawing.

**END**