**Name: ……………………………………………………………………………………………..**

**Combination: ……………………… Signature: …………………………………………**

**UGANDA ADVANCED CERTIFICATE OF EDUCATION**

**PRE – REGISTRATION EXAMINATIONS 2016**

**BIOLOGY**

**PAPER 3**

**TIME: 2HOURS**

**Instructions**

Answer all questions in the spaces provided

Neatness is an added advantage

1. You are provided with specimen K which has been freshly killed.
2. i) Examine the eyes, relate their structure and location to function for successful survival of the specimen in its habitat. (3marks)

Structure

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

Location

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ii) With the help of dissection instruments, open the mouth, get hold of the structure within the floor of the buccal cavity, pull it and release it. How is it significant to feeding? (3marks)

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ii) Dissect the specimen to pull the skin out of the body wall. How is it adapted to the process of gaseous exchange? (3marks)

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1. Dissect the specimen to display the blood vessels carrying blood.
2. From the head region on the right of the specimen back to the heart.
3. To the alimentary canal displaced to the right of the specimen and the kidney, the left turned on top of the right. With an undisplaced heart, draw and label your dissection. (30marks)
4. You are provided with solutions D, E and X. You are required to carry out tests on solutions D and E and investigate the action of X on the solutions.
5. Carry out tests in the table below to determine the food nutrients in D and E. Record your tests, observations and deductions in the table. (13marks)

|  |  |  |  |
| --- | --- | --- | --- |
| **Tests** | **Solution** | **Observations** | **Deductions** |
| **Benedict’s test** | D |  |  |
| E |  |  |
| **Iodine test** | D |  |  |
| E |  |  |

1. Label four test tubes as 1, 2, 3 and 4. Add contents to each testtube as shown in the table below;

|  |  |
| --- | --- |
| Test tube 1 | 1cm3 of X + 3cm3 of D |
| Test tube 2 | 1cm3 of X + 3cm3 of E |
| Test tube 3 | 1cm3 of X + 5cm3 of D + 1cm3 of Y |
| Test tube 4 | 1cm3 of X + 3cm3 of E + 1cm3 of Y |

Incubate the test-tube for 30minutes in a water bath maintained at 37 – 400C.

After 30minutes, divide the contents of each test tube into two and carry out the iodine and Benedict’s tests as shown in the table below. Record your observations and deductions in the table. (16marks)

|  |  |  |  |
| --- | --- | --- | --- |
| **Test tube** | **Test** | **Observation** | **Deduction** |
| 1 | **Iodine test** |  |  |
| **Benedict’s test** |  |  |
| 2 | **Iodine test** |  |  |
| **Benedict’s test** |  |  |
| 3 | **Iodine test** |  |  |
| **Benedict’s test** |  |  |
| 4 | **Iodine test** |  |  |
| **Benedict’s test** |  |  |

1. From your results, state the nature of solutions X and Y giving reasons for your answer.
2. X (3marks)

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1. Y (1mark)

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