Name of School:…………………………………………………………………..…………………………………

Candidate’s Name:…………………………………………………………………………………………………

Centre No. /Index No:…………………………………………………………….… Signature:……………

P530/3

Biology Practical

Paper 3

3 ¼ Hours



**ELITE EXAMINATION BUREAU MOCK 2019**

**Uganda Advanced Certificate of Education**

**BIOLOGY PRACTICAL**

**PAPER 3**

**3 Hours 15 minutes**

**INSTRUCTIONS TO CANDIDATES**

* *Answer all the questions in the spaces provided*
* *Use well sharpened pencil for drawings*
* *Untidy work shall not be marked.*

**For examiner’s use only**

|  |  |  |
| --- | --- | --- |
| **Questions** | **Marks** | **Examiner’s initials** |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| **Total** |  |  |

**Turn Over**

1. You are provided with freshly killed specimen Z. Examine it carefully and answer the questions that follow;
2. Examine the skin in the trunk region from the dorsal side.
3. Describe the structure and nature of the skin from the dorsal side of the trunk. (3marks)

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

1. Give ecological significance of the aspects of the dorsal skin to the specimen. (3marks)

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

1. Study the ventral side of the foot and palm of the limbs of the specimen.
2. Draw the foot and the palm to the same magnification. Do not label. (*4marks*)
3. Suggest an explanation for the differences observed on the foot and palm. (*3marks*)

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

1. Dissect the specimen to trace routes of blood flow;
2. from excretory organs and gonads on the left and hind limb on the right.
3. to anterior half of the gut.

Draw and label the structures displayed in (i) and (ii) above in one diagram with the heart displaced upwards. (*30marks*)

1. You are provided with specimen V and sugar solutions of varying concentrations labelled A, B, C, D, E and F.
2. Measure 8cm3 of each solution and transfer the solutions into test tubes labelled correspondingly. Using a cork borer, obtain 6 equal sized cylinders of 0.5cm diameter and equal length of 6cm from specimen R. Immerse a cylinder into each of the solutions in the tubes and leave to stand for 1hour.
3. After 1hour, transfer solution A into a measuring cylinder and record the final volume in table 1 below. Repeat the procedure with the rest of the remaining solutions. (*6marks*)

Table 1.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Solutions. | A | B | C | D | E | F |
| Final volume. |  |  |  |  |  |  |
| Initial volume: final volume |  |  |  |  |  |  |

1. Calculate the initial volume to final volume ratio of the solutions in the spaces provided in table 1 above.
2. From the table;
3. Suggest the solution with the concentration nearest to that of the cell sap of specimen R. Explain your answer. (3marks)

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

1. Arrange the solutions A to F in order of decreasing osmotic potential. Explain your answer. (7marks).

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

1. Explain the results obtained in test tubes A, D and E.

Test tune A.

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

Test tube D

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

Test tube E.

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

1. Examine the cylinders placed in solutions B and F (*4marks*)
2. Compare the physical condition of the cylinders from the two solutions.

|  |  |
| --- | --- |
| Cylinder from solution B | Cylinder from solution F |
|  |  |
|  |  |
|  |  |
|  |  |

1. Suggest the ecological significance of your observations in (d) (i) above in the life cycle of the specimen R. (*3marks*)

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

1. You are provided with specimens **P, Q, R, S** and **T**.
2. State **three** observable differences between specimens P and S. (*3marks)*

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

1. Using a hand lens, examine the tarsus of the hind limb of specimens R.
2. Draw and label. (*5marks*)

1. Give the ecological significance of the structure of each tarsus. (*3marks)*

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

1. Examine the mouth parts of specimens S and T, using a hand lens.

Draw and label the mouth parts of specimens S and T. *(5marks)*

1. Using features of the abdomen only, construct a dichotomous key to identify specimens P,Q,R,S and T. *(6marks)*

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

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

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

**END**