Name ………………………………………………………… index No…………

Signature………………………………………………………………………………

 ACEITEKA JOINT EXAMINATIONS 2015

 UGANDA ADVANCED CERTIFICATE OF EDUCATION

 BIOLOGY PRACTICAL

 P530/3

 PAPER 3

 TIME: 3 HOURS

**Instructions to candidates**

* This paper consists of three questions.
* Answer all questions
* Write answers only in the spaces provided

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| --- |
| **For Examiners’ use only** |
| 1 | 2 | 3 | Total |
|  |  |  |  |
|  |  |  |  |

1. You are provided with specimen T which is freshly killed
2. Place the specimen and observe laterally the head region
3. Draw and label its observable features (7 marks)
4. How are four of the features in (a) (i) above adapted for the survival of organisms?

(4 marks)

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1. Dissect to open the abdominal cavity. carefully cut out the whole gut to fully expose

 undisplaced organs anterior and observable vessels that drain blood from organs dorsal to it. Draw and label (14 marks)

1. By further dissection, open the thoracic cavity and clear any tissues anterior to the heart. Continue to fully expose
2. Respiratory organs and structures of sensitivity
3. Vessels that supply blood to the head region from the heart and respiratory tract structure. Draw and label your dissection. (15 marks)
4. Examine the respiratory tract. Relate its structure to role it plays during breathing.

(2 marks)

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1. You are provided with solutions W, X, Y and Z.
2. Carry out iodine, Benedict’s and biuret tests on solutions X,Y and Z. Record your tests, observations and deductions in table 1 (20 marks)

|  |  |  |
| --- | --- | --- |
| Test  | Observations  | Deductions  |
| Iodine test  | X |  |  |
| Y |  |  |
| Z |  |  |
| Benedict’s test  | X |  |  |
| Y |  |  |
| Z |  |  |
| Biuret test | X |  |  |
| Y |  |  |
| z |  |  |

1. Label test tubes X,Y and Z. Add in each 3cm3 of corresponding solution followed by 3cm3 of solution W. Incubate the mixtures at 37 – 40oC for 1 hour. (You can proceed to do other work). After 1 hour, carry out iodine, Benedict’s and Buiret tests on the contents of test tubes. Record your observations and deductions as indicated in table 2

|  |  |  |
| --- | --- | --- |
| Test  | Observations  | Deductions  |
| Iodine test  | Y  |  |  |
| Benedict’s test | X  |  |  |
| Y  |  |  |
| Z |  |  |
| Biuret test | X |  |  |
| Y |  |  |
| Z |  |  |

1. (i) Explain your results. (4 marks)

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(ii) Suggest the possible organs from which substances W can be secreted along the human

digestive system (2 marks)

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1. You are provided with specimen P,Q,R and S. Cut P and R transversally while Q and S longitudinally
2. Describe the arrangement of seeds in
3. P (2 marks)

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1. Q (2 marks)

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1. (i) State two structural similarities in both P and R (2 marks)

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(ii) State three structural differences between P and R

|  |  |
| --- | --- |
| P | R |
| ………………………………………………… | ………………………………………………… |
| …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………. | …………………………………………………………………………………………………..…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………… |

1. (i) Draw and label one half of Q (6 marks)
2. Draw and label one half of S (6 marks)
3. How are the specimens adapted for dispersal from the parent plant? (2 marks)

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1. Limiting to only structural features, construct a dichotomous key for identification of specimens. (3 marks)

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