**NAME …………………………..……………….. DATE …………………………**

**INDEX NO. ……….……….…………………...…..… SIGNATURE ……………..…………..**

**231/3**

**BIOLOGY**

**PAPER 3**

**(PRACTICAL)**

**TIME: 1¾ HOURS.**

**LANET JOINT EVALUATION TEST, 2020**

*Kenya Certificate of Secondary Education*

**231/3**

**BIOLOGY**

**PAPER 3**

**(PRACTICAL)**

**NOVEMBER/DECEMBER 2020**

**TIME: 1¾ HOURS.**

**INSTRUCTIONS TO CANDIDATES**

* Answer **all** the questions.
* You are required to spend the first 15 minutes of the 1¾ hours allowed for the paper reading the whole paper carefully before commencing your work.
* Answers must be written in the spaces provided in the question paper.
* Additional pages must not be inserted.
* This paper consists of 5 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing

**FOR EXAMINER’S USE ONLY**

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| --- | --- | --- |
| **Questions** | **Maximum score** | **Candidate's score** |
| Question 1 | 14 |  |
| Question 2 | 14 |  |
| Question 3 | 12 |  |
| **Total score** | **40** |  |

1. The diagram below illustrates the life cycle of a certain organism.

**Q**

**Z**

**B**

**A**

K

1. (i) Giving reasons, name the division to which the organism belongs.

Division………………………………………………………………………………(1mark)

Reasons (2marks)

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(ii) Which portion of the plant’s life is independent? (1mark)

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1. (i) Name the parts labeled A and B. (2marks)

A …………………………...............................……………………………………………….

B …………………………................................………………………………………………

(ii) State one function of the part labeled B. (1mark)

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(iii) Define the term alternation of generation. (1mark)

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(ii) Identify the generations labeled K and L. (2marks)

Q …………………………………………………………………………….

Z ……………………………………………………………………………

(iii) In what way is generation L advantageous to generation K? (2marks)

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(iv) Give a reason why the plant shown in the diagram above is common in swampy areas (2marks)

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1. You are provided with several specimens **N** and indicator **D**, which is Bromolthymol blue. Study them and answer the questions that follow:
2. (i) Identify the part of plant represented by specimen **N**. (1mark)

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 (ii) Give a reason for your answer in a) i) above. (1mark)

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1. i) Name the physiological process which is taking place in specimen **N**. (1mark)

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ii) Describe the **two** changes which occurred to specimen **N** during the process named in b) i) above. (2marks)

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1. i) State **two** internal factors which would promote the physiological process exhibited by specimen **N**, (2marks)

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ii) State **two** external conditions which would inhibit the process demonstrated by specimen **N**.(2marks)

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1. Add 1ml of indicator marked **D** into a test tube, add 6 pieces of specimen **N** into the test tube. Close the mouth of the test tube tightly using a tissue paper. Leave the set up to stand on the tube rack for 30 minutes after which carefully remove specimen N without pouring the indicator marked D using a wooden splint.
2. Record your observation after 30 minutes (1mark)

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1. Account the observation in d) i) above (3marks)

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1. Suggest a control for his experiment. (1mark)

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1. You are provided with photograph L, K and J. Examine them.

**PHOTOGRAPH L**

**PHOTOGRAPH K**

Anus

 E

 F

G

 H

**PHOTOGRAPH J**

Anus

 E

 F

G

 H

**PHOTOGRAPH J**

Anus

 E

 F

G

 H

**PHOTOGRAPH J**

1. Using observable features only, state class of animals shown in the photograph L and K. (4 marks)

**L**

 Class ………………………………………………………………………………………………

 Reason……………………………………………………………………………………………

 **K**

 Class ………………………………………………………………………………………………

 Reason…………………………………………………………………………………………….

1. (i) On the photograph J name the parts labeled E, F and G. (3 marks)

E..............………………………………………………………………………………………………

 F..………………………………………………………………………………………………………

 G.....……………………………………………………………………………………………………

 (ii) State the functions of the structures labeled H in photograph J. (2marks)

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1. (i) The actual length of animal J in cm is shown by a section of the ruler in the photograph.

 Calculate the tail power (show your working) (2marks)

(ii) State the significance of tail power to the life of fish in water. (1mark)

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