**Kenya Certificate of Secondary Education 2019**

**SG Education Consultancy**

**231/ 1 Biology- Paper 1(Theory)**

**ENDTERM 1 -Time :**2 hours

**Name …………………………………………….……… Index Number…………………………..**

 **Signature ………………….…...……….. Date …………………………………………………..**

**INSTRUCTIONS TO CANDIDATES**

1. *Write your name and class in the spaces provided above.*
2. *Append your signature and write the date of examination in the spaces provided above.*
3. *Spelling errors especially of* ***biological*** *terms shall be penalized*
4. *Answer* ***ALL*** *questions in the spaces provided.*
5. *Candidates should answer the questions in English*
6. **This paper consists of 9 printed pages.Candidates should check the question paper to ascertain that all the pages are printed as indicated and no questions are missing**

**For Examiner’s Use Only**

|  |  |  |
| --- | --- | --- |
| **Question** | **Maximum score** | **Candidate’s score** |
|  **1 – 30** |  **80** |  |

Turn over

1. Explain the importance of the following life processes

1. Respiration (1mark)

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1. Reproduction (1mark)

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2. a) Define binomial nomenclature (1 mark)

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 (b) State **four** reasons why classification is important in biology (4 marks)

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3. (In an experiment a biology teacher set up the materials indicated below:

 

If the experimental set up was left overnight, explain the appearance of the potato tissue in:

A (1mark)

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B (1mark)

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

C (1mark)

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4. Name structures used for gaseous exchange in higher plants (2marks)

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5. State four adaptations of the Red blood cell to its function. (4 marks)

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6. (a) State the importance of pleural fluid in the lung of a mammal. (2marks)

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(b) State two function that cilia of the trachea play during gaseous exchange in a mammal? (2 mark)

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(c) What significance does mucus offer a mammal during gaseous exchange? (1 mark)

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1. State the role of each of the following components of the skin. (2 marks)

Sebum

………………………………………………………………………………………………………………Melanini

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

1. State three Biotic factors in an ecosystem. (3 marks)

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1. The diagram below represents a male reproductive transverse section structure in plant

B



A

1. Name structures A and B (2marks)

A

…………………………………………………………………………………………………………………B

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

1. Name the type of cell division taking place in structure A (1 mark)

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1. State Two significance of the named type of cell division in (ii) above in Sexual Reproduction.

 (2marks)

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1. Give the full Name of the abbreviation. DNA (1 mark)

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1. An animal has the following dental formula:

I = 0/2 C = 0/0 PM = 3/3 M = 2/3

* + 1. Suggest the type of diet for this animal. (1mark)

…………………………………………………

* + 1. Give a reason for your answer in (a) above. (1mark)

…………………………………………………….

* + 1. How many teeth does the animal have in total?

………………………………………

1. The diagram below shows the transverse section of a young dicotyledonous root.



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

A

………………………………………………………………………………………………………………B

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

* 1. What is the function of the structure labeled B. (1mark)

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1. (a) State the function of glucagon hormone. (1mark)

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 (b) Identify the gland responsible for its production. (1mark)

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1. Differentiate between the following terms. (2marks)
	* 1. Population and community:

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* + 1. Parasite and predator:

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1. The illustration below shows a part of the ovary of an angiosperm.



* + 1. Identify the structure. (1mark)

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* + 1. Name the parts labelled S, T, U and W. (2marks)

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1. Name the causative agents of the following diseases in humans. (2marks)

|  |  |
| --- | --- |
| **Disease** | **Causative agent** |
| Typhoid |  |
| Malaria  |  |

1. The diagram below represents a bony fish.



* + 1. State **two** observable features that justify the inclusion of specimen above in class Pisces. (2marks)

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* + 1. From the diagram, identify the fins which carry out the following functions:

(i) Balancing and braking. (1mark)

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1. Give **two** functions of calcium in human body. (2marks)

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1. (a) How do the etiolated plant differ from the normal plant? (2marks)

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 (b) State the importance of etiolation in plants. (2marks)

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1. a) The diagram below shows part of alimentary canal of a mammal.



B

A

C

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

A

………………………………………………………………………………………………………………………C

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

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

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b) Why is xylem tissue referred to as a mechanical tissue in plants (1mark)

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21. A patient was given a drug which caused afferent arteriole entering the glomerulus to dilate while efferent arteriole constricted. Explain the effect the drug had to the amount of urine produced. (3 marks

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22. a) What is homeostasis? (1mark)

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 (b) Name **three** processes in the human body in which homeostasis is involved. (3marks)

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23. Name the organelle that:-

a) Manufacture and transport lipids and steroids in a cell. (1mark)

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b) Contain enzymes that are capable of destroying old damaged cells. (1mark)

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c) Control all the processes in a cell. (1mark)

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d) Form cilia and flagella in cells that have them. (1mark)

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24. State the significance of sunken stomata in plants. (2marks)

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25. . Highlight ***three*** importance of transpiration in plants. (3marks)

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26. Two students were observing bacteria using two slides that were duplicates of each other.

 Student A saw 10 bacteria while student B saw 50 bacteria using identical microscopes.

 (a) Suggest a reason why they observed different numbers of bacteria. (1mark)

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 (b) Which of the following combination would give a higher total magnification? (1mark)

 Eye piece × 10 Objective × 20

 Eye piece × 10 Objective × 40

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27. The graph below show the growth curve of an organism.

Growth parameter

Time

1. Name the phase of growth labelled. Bnad D (2marks)

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 (b) Account for the growth shown in phase **A**. (1mark)

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