

NAME ..... INDEX NO .....

SCHOOL..... SIGNATURE .....

DATE .....

**231/1**  
**BIOLOGY**  
**PAPER 1**  
**(THEORY)**  
**2 HOURS**

## **GOLDEN ELITE EXAMINTIONS 2020**

*Kenya Certificate of Secondary Education (K.C.S.E)*

**231/1**  
**BIOLOGY**  
**PAPER 1**  
**(THEORY)**  
**2 HOURS**

### **INSTRUCTIONS TO CANDIDATES**

- Write your name and Index Number in the spaces provided above.
- Sign and write date of examination in the spaces provided above.
- Answer **ALL** questions in the spaces provided.
- All workings **MUST** be clearly shown where necessary.

### **FOR EXAMINERS USE ONLY.**

<b>Question</b>	<b>Maximum Score</b>	<b>Candidates Score</b>
1 – 28	80	

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Candidates should check the question paper to ensure that all the papers are printed as indicated and no questions are missing

1. Name the reagent used for testing presence of (3 marks)

(a) Starch  
.....

(b) Reducing sugars  
.....

(c) Vitamin c  
.....

2. State the processes which occur in each of the following organelles. (2 marks)

(a) Chloroplast  
.....

(b) Mitochondrion  
.....

(c) Ribosomes  
.....

3. A student observed a specimen through a light microscope. He used the objective lens marked X40. If he indicated the magnification of the image as x 400, what was the eye - piece magnification?

(Show your working). (3 marks)

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4. State the function of the following in mammalian trachea. (3 marks)

(a) Rings of cartilage  
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(b) Mucus  
.....

(c) Cilia  
.....

5. (a) What do you understand by the term biological control? (1 mark)

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.....

(b) Explain why all the energy produced by producers does not flow to the tertiary consumers. (2marks)

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.....

6. Name any three forces that maintain the transpiration stream (3 marks)

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.....  
.....

7. Give the form in which the following gases are transported in blood. (3 marks)

(a) Oxygen

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(b) Carbon (IV) oxide

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(c) Carbon (II) oxide

.....

8. (a) Name the main group of organisms which comprise the Kingdom Monera. (1mark)

.....

(b) State any three ways in which the organisms named in 8 (a) above affect human lives. (3marks)

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.....  
.....

(d) State the main characteristics of Monera which distinguish it from all other kingdoms. (1 mark)

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.....

9. State ways in which the xylem tissue is adapted to carry out its function. (3marks)

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.....

10. Why is it necessary for an athlete to breathe heavily after running? ( 2 marks)

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.....

11. State ways in which the following diseases can be prevented

(a) Typhoid and amoebic dysentery (2 marks)

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.....

(b) Malaria (2 marks)

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.....

12. What are the three distinguishing features of phylum Arthropoda? (3marks)

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13. (a) Name the main product of the dark stage of photosynthesis. ( 1mark)

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(b) What is the role of chlorophyll during photosynthesis (2mark)

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14. Name three mechanisms that prevent self-pollination in flowers that have both male and female parts. (3 marks)

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15. State three applications of anaerobic respiration. (3 marks)

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16. What is the significance of highly folded inner membrane of a mitochondrion? (2 marks)

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17. Why is it necessary for blood from the gut to pass through the liver before joining general circulation? (2 marks)

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18. A person's urine tested positive for reducing sugars.

(a) Name the type of sugar present in the urine. (1 mark)

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(b) Name the gland and the hormone which failed to control the above condition. (2 marks)

Gland

.....

Hormone

.....

(c) Which disease was the person suffering from? (1 mark)

.....

19. State two roles played by the process of reproduction. (2 marks)

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.....  
.....

20. What is the habitat of the following plants? ( 3marks)

(i) Xerophytes

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(ii) Hydrophytes

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(iii) Halophytes

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21. (a) State ways in which molars are adapted to their functions. ( 2marks)

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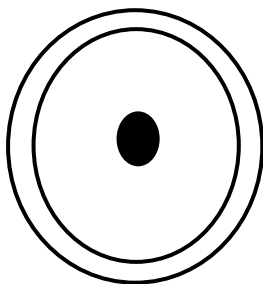
(b) Name any two dental diseases. (2 marks)

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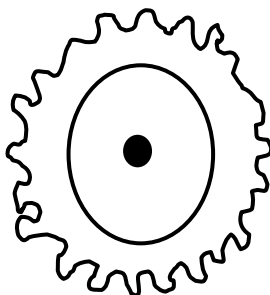
22. How is the sperm cell adapted to carry out its function? (3 marks)

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23. The following are diagrams of two pollen grains.



K



L

(a) State one observable difference between K and L. (1 mark)

.....  
.....

(b) State the agent of pollination for each of them. (2 marks)

K

.....

L

.....

24. How do sunken stomata reduce transpiration? (2marks)

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.....

25. Give the classes to which the following animals belong. (3marks)

(a) Human being

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(b) House fly

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(c) Spider

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26. (a) State one event that occurs in prophase of meiosis I which does not occur in prophase of mitosis. (1 mark)

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(b) What are the results of the above phenomena? (2 marks)

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27. Explain why growing grass die a few days when salt is sprinkled on it. (3marks)

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