

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

SCHOOL:.....

231/1  
BIOLOGY  
PAPER 1  
THEORY  
JULY / AUGUST 2007  
2 HOURS

## BOMET DISTRICT MOCK EXAMINATION Kenya Certificate Of Secondary Education 2007

231 / 1  
BIOLOGY  
PAPER 1

### INSTRUCTIONS TO CANDIDATES

❖ Answer **ALL** questions in this paper in the spaces provided.

### For Examiner's Use Only

Questions	Maximum Score	Candidate's Score
1-27	80	

This paper consists of 8 printed pages. Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing.

1. **Give three** examples of continuous variations in human beings. (3mks)

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.....

2. **State** the changes that take place in the skin to reduce heat loss when it gets cold. (3mks)

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.....  
.....

3. (i) **Name** the **main** product of the dark stage of photosynthesis. (1mk)

.....

(ii) **State** the importance of chlorophyll in photosynthesis. (1mk)

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.....

4. **State** the function of the following

(i) Coarse adjustment Knob. (1mk)

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(ii) Diaphragm. (1mk)

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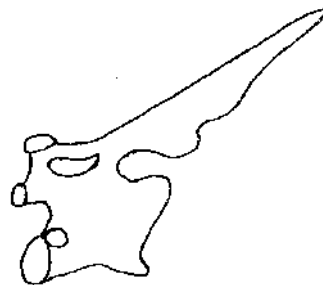
5. (a) **What** is fertilization? (2mks)

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(b) **Explain** how double fertilization takes place in plants. (2mks)

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6. The diagram below represents a mammalian vertebra.



(a) **What** is a vertebra? (1mk)

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(b) (i) **Identify** the vertebra represented above. (1mk)

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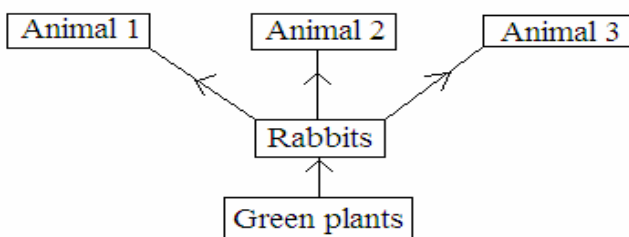
(ii) **Give two** reasons for your answer in b (i) above. (2mks)

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.....

7. **State two** reasons why blood flows under high pressure in arteries than veins. (2mks)

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8. The flow chart shows part of a food relationship in an ecosystem.



(a) (i) **Name** the food relationship shown. (1mk)

.....

(ii) **How many** trophic levels are shown in the diagram? (1mk)

.....

(b) **What** is the **main** source of energy in the ecosystem? (1mk)

.....

9. (i) **State two** regions in the human alimentary canal where starch is digested. (2mks)

.....  
.....

(ii) **Give** a reason for your answer in 9 (i) above (1mk)

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.....

10. **State** the structural adaptation of the shape of the following. (3mks)

(i) Tilapia fish

.....

(ii) Mitochondria

.....

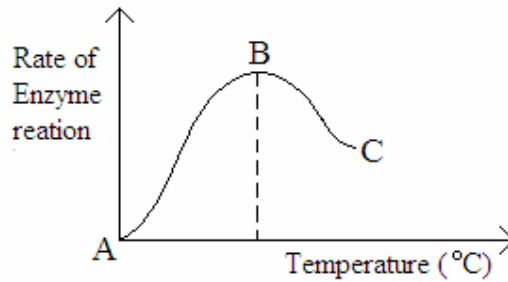
(iii) Pinna of the mammalian ear

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11. **What** is the effect of gibberellins on the shoots of plants? (4mks)

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.....  
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12. The graph below shows action of heat on enzyme reaction.



(a) **What** is the effect of temperature on the rate of enzyme reaction? (2mks)

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(b) **State** the relationship between temperature and enzyme activity. (2mks)

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13. (a) **Distinguish** between pyramid of numbers and Pyramid of biomass. (2mks)

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(b) Give a reason why pyramid of biomass is a better representation of an ecological relationship. (1mk)

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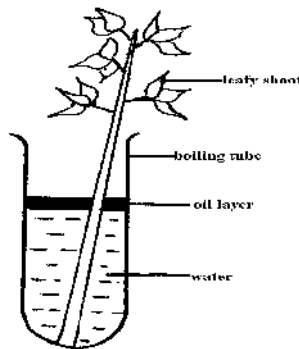
14. State the functions of each of the following parts of male reproductive system. (3mks)

(a) Sertoli cells  
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(b) Epididymis  
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(c) Seminiferous tubules.  
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15. Some students set up the experiment shown below to investigate a certain physiological process in plants. After one hour they place cobalt chloride paper on leaf surface.



(a) What process was being investigated? (1mk)  
.....  
.....

(b) State the role of the oil layer in the experiment. (1mk)  
.....  
.....

(c) Suggest the changes observed on the cobalt chloride paper after one hour. (1mk)  
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16. **Explain** why student visits latrine to urinate more frequently on cold days. (2mks)

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17. **Name** the type of skeletons found in the following animals. (3mks)

(i) Insects

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(ii) Earthworms

.....

(iii) Man

.....

18. During oxidation of certain food substances, the respiratory quotient was found to be 0.718

(i) **Name** the type of food substance being oxidized. (1mk)

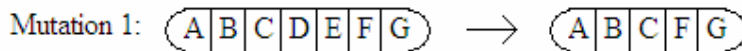
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(ii) **State two** advantages of using the food substances named. (2mks)

.....

.....

19. The diagram below shows various types of gene mutations..



(a) **Identify** the type of gene mutation shown above. (2mks)

Mutation 1 .....

Mutation 2 .....

(b) **Distinguish** between gene and chromosomal mutations. (2mks)

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20. (a) **Give two** forms in which carbon (IV) oxide is transported in human blood. (2mks)

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(b) **Name** the enzyme that enhances the loading and off – loading of carbon (IV) oxide in the human blood. (1mk)

.....

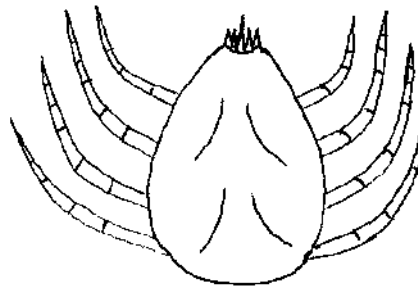
21. **Explain** how marine fish regulate their osmotic pressure. (3mks)

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22. **Name three** types of nerve cells found in the nervous system of vertebrates. (3mks)

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23. The diagram below represents a certain organism



(a) **Name** the class to which the organism belongs. (1mk)

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(b) **Name two** other organisms which belong to the class named in (a) above. (2mks)

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.....

24. **State three** ways in which tracheole system in insects is adapted for its functions. (3mks)

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25. **Name** the cell organelle that performs each of the following functions. (2mks)

(i) Destroy worn out organelle

.....

(ii) Tissue respiration

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26. **State** the type of solution that makes the plant cell:- (2mks)

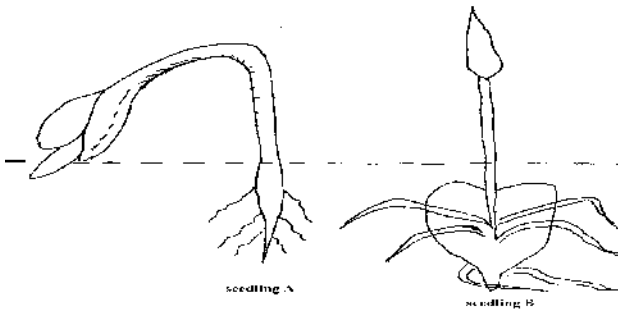
(i) Flaccid

.....

(ii) Turgid

.....

27. The diagram below represents a stage of growth in two different seeds.



(a) **Identify** the type of germination exhibited by seedlings A and B. (2mks)

Seedling A .....

Seedling B .....

(b) **State** the role of oxygen in germination. (1mk)

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