

NAME:..... INDEX

NO:.....

SCHOOL:.....  
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CANDIDATE'S SIGNATURE.....

DATE:.....

BIOLOGY  
PAPER 2  
THEORY  
JULY / AUGUST 2008  
TIME 2 HOURS**BOMET DISTRICT MOCK EXAMINATION**  
**Kenya Certificate Of Secondary Education 2008**231 / 2  
BIOLOGY  
PAPER 2**INSTRUCTIONS TO CANDIDATES**

- ❖ Write your name and Index number in the space provided above.
- ❖ Answer **ALL** the questions in section **A** in the spaces provided on the question paper.
- ❖ In section **B** answer question **6 (compulsory)** and either question **7 or 8** in the spaces provided after question **8**.

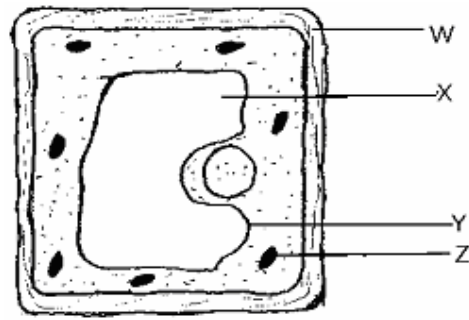
**For Examiner's Use Only.**

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
	6	20	
	7	20	
	8	20	
<b>TOTAL SCORE</b>		80	

This paper consists of 12 printed pages. Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing.

1. Examine the diagram below carefully and use it to answer the questions that follow.

2



- (a) **Name** the parts labelled X, Y and Z (3mks)

X

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Y

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.....

Z

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- (b) **State** the substance by which the part labelled W is made up of (1mk)

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- (c) **Name** the process by which mineral salts move into the structure labelled X (1mk)

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- (d) **Explain** what happens to a red blood cell when placed in distilled water (3mks)

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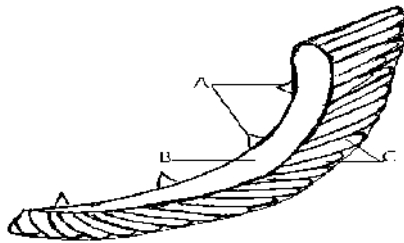
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2. (a) **Name two** sites where gaseous exchange takes place in an aquatic plant. (2mks)

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 .....  
 .....

- (b) The diagram below represents the gills of a bony fish. **Study** it and answer the questions that follows.



- (i) **Name** the parts labelled A, B and C. (3mks)

A: .....  
 B: .....  
 C: .....

- (ii) **State** the function of the part labelled A (1mk)

.....  
 .....  
 .....

- (iii) **Explain** how the part labeled C is adapted to perform its function. (2mks)

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 .....  
 .....

3. (a) Reproduction is a characteristic of living things. **State two** importance of it in living

things

(2mks)

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(b) (i) At what stage of mitosis do chromosomes replicate to form daughter chromatids.

(1mk)

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(ii) **State three** differences between mitosis and meiosis

(3mks)

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(c) **State two** ways in which flowers prevent self –pollination.

(2mks)

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4. In a family with four children, three were found to have normal skin pigmentation while one was an albino. Using letter **A** to represent gene for normal skin pigmentation and **a** to represent gene for albinism

(a) **What** are the genotypes of the parents?

(2mks)

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(b) **Work out** the genotype of normal pigmented children and the albino child.

Show your working.

(4mks)

(c) **What** is the probability that the seventh child will be an albino?

(1mk)

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(d) **What** is meant by the term test cross in genetic studies?

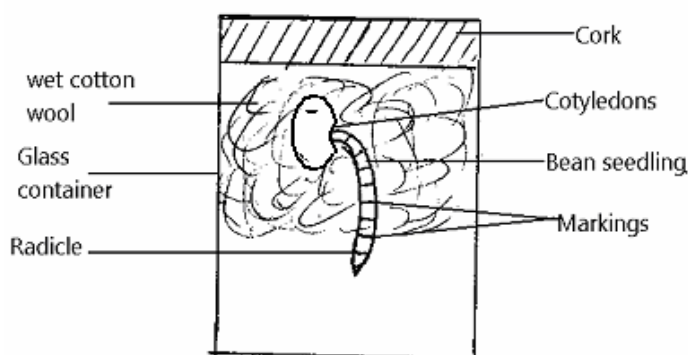
(1mk)

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5. A student set up an experiment as shown in the diagram below.

(a) **What** was being investigated in the experiment?

(1mk)

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(b) On the diagram below **indicate** the expected results after three days.

(2mks)



(c) **Why** was it necessary to have wet cotton wool in the container? (1mk)

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(d) **What** is the role of each of the following to a germinating seed?

(i) Oxygen (2mks)

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 .....  
 .....

(ii) Cotyledons (1mk)

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 .....

(e) Small seeds require light immediately after germination. **Explain** (1mk)

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 .....  
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6. In an experiment, the energy required by persons of different sizes were determined, their weights and amount of energy their bodies used at rest were measured.

The results were as shown in the table below.

Weight of individuals (Kgs)	Amount of energy used per kg of body weight per day in KJ
5	300
15	200
25	150
35	130
45	115
55	105

65	100
75	95

- (a) Using a suitable scale draw a graph of the amount of energy used per Kg of body weight per day against the weight of individuals. (6mks)

## GRID

- (b) (i) From the graph **determine** the energy requirement of a person weighing 10Kg. (1mk)

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- (ii) **What** is the difference in energy requirements between persons weighing 60 and 70 Kg (2mks)

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(c) **Why** did individuals with bigger body size require lesser energy per Kg of body weight than one with smaller size? (3mks)

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(d) Use the graph to **determine** the energy requirement of an infant whose body weight is 2.5 Kg. (2mks)

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(e) (i) **How** would the results differ if the experiment was repeated using reptiles of equivalent weight as humans instead of the human beings? (1mk)

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

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(f) Apart from body weight, which other factors determines the energy required by an individual (2mks)

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- (g) **Name** the class of food that provide energy to a mammal during starvation. (1mk)

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- (h) **State one** function of roughage in a diet of a mammal. (1mk)

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7. **Describe** how the mammalian heart is adapted to its function (20mks)

8. **Discuss** the evidence of organic evolution (20mks)

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*231/2*





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231/2



