

Name..... Index No.....  
School..... Candidates Signature.....  
Date: .....

231/1  
BIOLOGY  
(THEORY)  
Paper 1  
July/August 2011  
Time: 2 Hours

**LOWER YATTA DISTRICT JOINT EVALUATION EXAM- 2011**  
*Kenya Certificate of Secondary Education (K.C.S.E)*

**BIOLOGY**  
**Paper 1**  
**July/August 2011**  
**Time: 2 Hours**

**INSTRUCTIONS TO CANDIDATES**

- ✓ Answer **ALL** the questions in the space provided.
- ✓ Additional pages **MUST** not be inserted.
- ✓ Candidates may be penalized for false information and even wrong technical terms.

**FOR EXAMINER'S USE ONLY**

QUESTION	MAXIMUM SCORE	CANDIDATE SCORE
1 - 31	80	

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

1. Name **two** factors that determine energy requirements in a man.

(2 Marks)

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2. Define the term pollination.

(2 Marks)

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3. An organism was found to have the following characteristics.

- Jointed appendages.
- Body with exoskeleton.
- Lays eggs which later hatch to young ones.
- Has compound eyes.
- Body segmented.
- Dorso.ventrally compressed.

a) Name the phylum into which the organism belongs.

(1 Mark)

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b) To which class does the organism belong?

(1 Mark)

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c) Give an example of an organism that belongs to class named in (b) above.

(1 Mark)

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4. Give the function of each of the following in reproduction.

i) Ovary.

(2 Marks)

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ii) Testes.

(2 Marks)

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5. List **three** pieces of evidence of evolution.

(3 Marks)

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6. In an experiment a seedling was placed in horizontal position and left for several days. Draw the appearance of the seedling after 4 days. (2 Marks)



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7. State the importance of roughage in digestion. (2 Marks)

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8. What is a reflex arc? (1 Mark)

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9. State **three** functions of water in a germinating seed. (3 Marks)

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10. State **two** functions of mucus secreted by goblet cells along the walls of alimentary canal. (2 Marks)

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11. State the role played by bark in plants. (3 Marks)

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12. State **three** events that take place in a flower after fertilization.

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13. a) Name the hormone that controls osmotic pressure of body fluids. (1Mark)

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b) State **two** symptoms of diuresis. (2 Marks)

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14. What is the function of each of the following parts of a microscope?

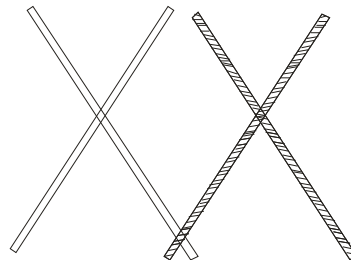
a) Condensor. (1 Mark)

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b) Mirror. (1 Mark)

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15. The figure below shows a stage in cell division.



a) Name the type of cell division shown by the diagram. (1 Mark)

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b) i) Name the stage of the cell division that exhibits the process shown. (1 Mark)

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ii) State the significance of the process name in b(i) above. (1 Mark)

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16. State **three** adaptations of thoracic vertebra to function.

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17. What are the effects of releasing raw sewage to water?

(3 Marks)

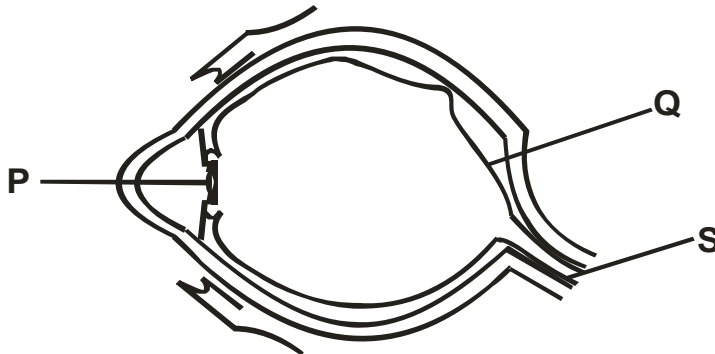
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18. What are sex-linked genes?

(1 Mark)

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19. Study the figure below of human eye.



a) Name parts P and Q.

(2 Marks)

P .....

Q .....

b) State the modification of part Q to function.

(1 Mark)

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.....

c) What is the function of part S?

(1 Mark)

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20. a) Name the process by which nephrons remove wastes and other materials from blood wastes and other materials from blood into Bowman's capsule. (1 Mark)

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b) State **two** modifications of nephron's in fresh water fish. (2 Marks)

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21. State **three** functions of the liver which contribute towards homeostasis. (3 Marks)

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22. State the functional differences between arteries and veins. (2 Marks)

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23. Distinguish between active and passive immunity. (2 Marks)

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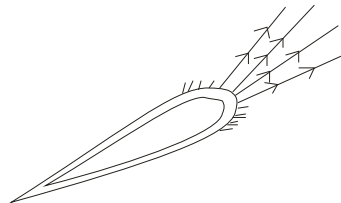
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24. Name **two** types of hormones in insects which regulate growth and development. (2 Marks)

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25. Study the diagram below.



a) i) Name the agent of dispersal. (1 Mark)

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

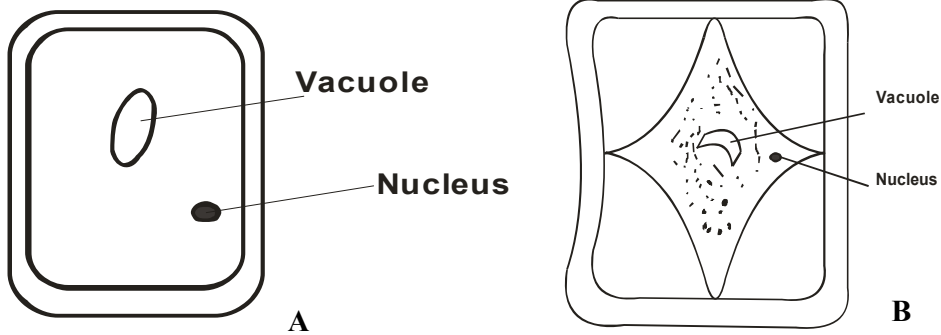
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b) State **one** importance of fruit and seed dispersal.

(1 Mark)

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26. Diagram below show changes in plant cells when put in solution X.



a) Identify the nature of solution X.

(1 Mark)

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b) Account for change shown.

(3 Marks)

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27. Name the stages of photosynthesis and identify their site in Chloroplast.

(4 Marks)

Stage	Site

28. Explain why food is stored in insoluble form in cells of living things.

(2 Marks)

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29. When body temperature increases above normal; blood arterioles in skin vasodilate. Give a reason.

(2 Marks)

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30. Name the types of joints found at the articulation points in each of the following pairs.

i) Pelvic girdle and femur.

(1 Mark)

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ii) Humerus and ulna.

(1 Mark)

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31. State **two** adaptations of guard cells.

(2 Marks)

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