

THE BARINGO- KOIBATEK

DISTRICTS EDUCATIONAL IMPROVEMENT EXAMINATIONS-2009

231/1

BIOLOGY(THEORY)

PAPER 1

JULY/AUGUST-2009

TIME: 2 HOURS.

1. Name **two** parts of a light microscope that contribute to the enlargement of a specimen. (2 marks)

2. (a) Give **two** characteristics that distinguish scientific names of organisms from other ordinary names. (1 mark)

- (b) Name the kingdom whose members comprise of euglena and green algae (1 mark)

Kingdom _____

3. (i) Name a branch of biology that deals with internal study of organisms. (1 mark)

- (ii) Name a characteristic in an organism involved in energy production. (1 mark)

4. (i) Differentiate root hair from hair root. (1 mark)

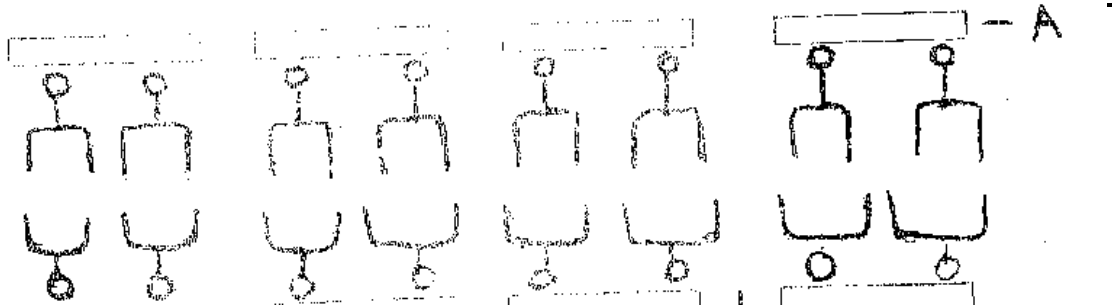
- (ii) Explain how the root hair cell is adapted to its functions (2 marks)

5. Hairs and leaves of sundew, an insectivorous plant, curl around and traps insects when they land on the plant. (1 mark)

- (a) Identify the biological importance of the response names in (a) above (1 mark)

- (b) Explain the biological importance of the response names in (a) above (2 marks)

6. The diagram below represents part of a cell.



Name the parts of a cell represented by the diagram.

(1 mark)

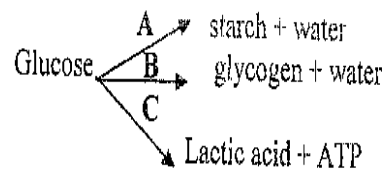
(b) Name the part labeled a

(1 mark)

(c) Which property does the part labeled B give to the cell part represent by the diagram.

(1 mark)

7. The flow chart below shows some physiological process that occur in the body of living organisms.



Identify process A, B and c

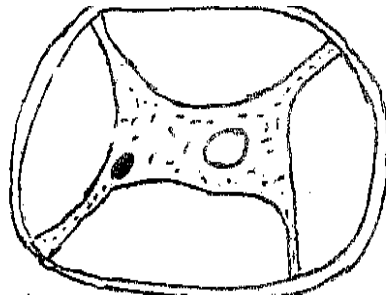
A _____
 B _____
 C _____

8. (a) Name the part of the alimentary canal of mammals at which absorption of digested food takes place.

(1 mark)

- (b) State any two structural adaptations of the part mentioned in (a) to the function it perform. (2 marks)

9. The diagram below shows a plant cell that had been placed in a certain solution



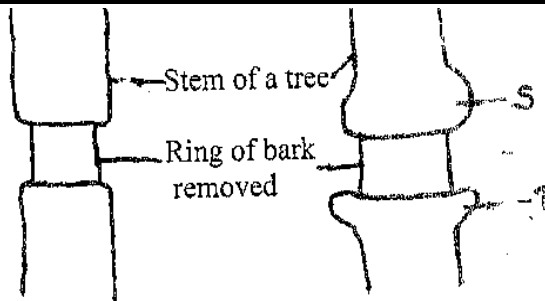
- (a) What term is used to describe the condition of the above cell? (1 mark)

- (b) Account for the appearance of the cell shown above. (2 marks)

10. (a) Name a carbohydrate digesting enzyme in the duodenum (1 mark)

- (b) What is the role catalase enzyme in plant tissues/ (1 mark)

11. The diagram below show the results of an experiment carried out on a growing plant.

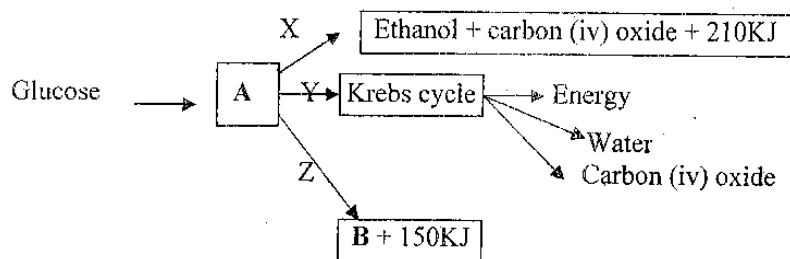


- (a) What was the aim of the experiment? (1 mark)

(b) Explain the results at the part labeled S and T. (2 marks)

- 12 Name the tissue in plants that is responsible for:
- (i) Transportation of water and mineral salts. (1 mark)
 - (ii) Absorption of water and mineral salts. (1 mark)

12. The chart below represents a simple respiratory pathway in cells.



Name the substance labeled A and B (2 marks)

A _____
B _____

14. Name the respiratory surface responsible for gaseous exchange in each of the following organisms. (3 marks)

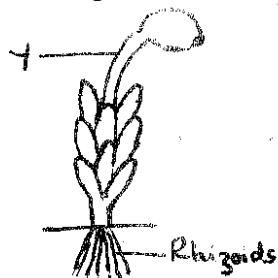
- (i) Tadpole _____
- (ii) Rabbit _____
- (iii) Housefly _____

15. The equation below represents a metabolic process that occurs in a mammalian liver.

Amino acids \longrightarrow organic compound + urea

- (a) Name the process represented by the equation above. (1 mark)
- (b) What is the source of amino acids in this process? (1 mark)
- (c) what is the importance of the above process in mammals? (2 marks)

16. Study the diagram of a plant below.



- (a) Name the division to which the plant specimen belongs.
- (i) division _____ (1 mark)
- (ii) Label Y _____ (1 mark)

- (b) In the life cycle of the diagram above state the predominant stage of this plant. (1 mark)

17. A scientist collected two kinds of fish P and Q which had the following characteristics

P-Produces nitrogenous waste in form of ammonia

Q-produces nitrogenous waste in form of trimethylamine oxide:

- (a) Name the habitats of:

P _____

Q _____

(2 marks)

- (b) Explain the structural adaptation of the nephron of a camel.

(2 marks)

18. (a) Name the instrument used to measure light penetration in water.

(1 mark)

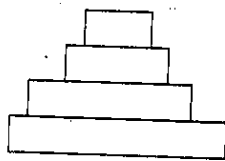
- (b) Explain why primary productivity in the middle of Indian ocean decreases with increasing ocean depth. (2 marks)

19. (i) State two distinguishing structural features of kingdom fungi (2 marks)

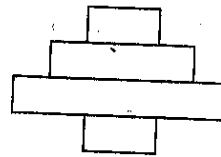
- (ii) Give two difference between class diplopoda and class Chilopoda.

(2 marks)

20. Study the diagram below carefully.



A



B

- (a) What do A and B represent

(2 marks)

A

B

- (b) Name a distinguishing feature Between A and B. (1 mark)

(1 mark)

- (c) In a pyramid of biomass, how is the mass determined? (1 mark)

(1 mark)

21. (a) State the origin of corpus luteum (1 mark)

(1 mark)

- (b) Explain why a male human fails to break his voice if the testes are removed prior to puberty. (2 marks)

22. Shoot of seedlings grow very tall with weak stems and yellow leaves when in darkness

- (a) Define etiolation. (1 mark)
(b) State two function of cytokinins in plant growth (2 marks)
What is apical dominance? (1 mark)

23. (a) Below is a DNA nucleotide. State the RNA nitrogen bases that will code with DNA Nitrogen bases.



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- (b) State what a nucleotide is made of in DNA chain (1 mark)
(c) Distinguish between phenotype and genotype. (2 marks)
Phenotype
Genotype

24. Name three vestigial structures in man. (3 marks)

25 (a) Name the photochemical pigment in the eye which is not sensitive to colour. (1 mark)

- (b) What are the functions of the pigment named in above (a)above (2marks)

26. What is meant by

- (a) Organic evolution? (1 mark)
(b) Continental drift? (1 mark)
(c) What is adaptation? (1 mark)

27. The diagram below represents a type of vertebra of a mammal.

- (i) Identify the vertebra. (1 mark)
(ii) State one structural feature to support your answer in 27(i) above. (1 mark)
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