KCSE CLUSTER TEST 14

Biology Paper 1 Question Paper

1. State the uses of the following apparatus during ecological studies.CLASSIFICATION I

   a) Fish net (1mk)

   b) A pair of forceps (1mk)

2. Name the other body part of crustacea other than the abdomen. CLASSIFICATION II (1mk)

3. a) Define the following terms GENETICS

   i) allele (1mk)

   ii) Biotechnology

   b) State the importance of crossing over (1mk)

4. a) Give two properties of the cell membrane. CELL PHYSIOLOGY (2mks)

   b) How does diffusion gradient influence rate of diffusion? (1mk)

5. The table below shows the approximate concentration of various components of blood plasma, glomerular filtrate and urine of a healthy human being. EXCRETION AND HOMEOSTASIS

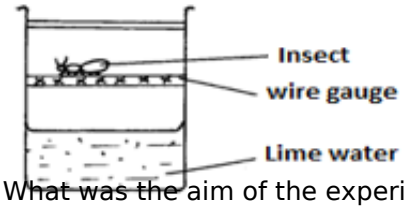
Component	Plasma %	Glomerular filtrate (%)	Urine %
Glucose	0.1	0.1	0
plasma Protein	7.0	0	0
Urea	0.02	0.02	2.0

   a) Name the process responsible for absence of glucose in urine. (1mk)

   b) Account for the absence of plasma protein in both glomerular filtrate and urine (2mks)

6. State two mechanisms that hinder self- pollination REPRODUCTION IN PLANTS AND ANIMALS (2mks)

7. Study the diagram below and answer the questions that follow GASEOUS EXCHANGE



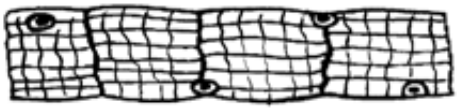
   a) What was the aim of the experiment? (1mk)

   b) i) State the expected results after three hours. (1mk)

   ii) Account for your answer in b (i) above. (1mk)

8. The diagram below represents certain types of muscles. Study them and answer the questions that follow THE CELL

A 

B 

i) Identify the type of muscles represented by A and B.

ii) Name one part of the body from which muscle A has been obtained. (1mk)

9. The number of stomata on the lower leaf and upper leaf surface of two leaves from plant x and y were counted under the field of view of a microscope.

The results were asshown in the table below. NUTRITION IN PLANTS AND ANIMALS

Leaf	Number of stomata

1

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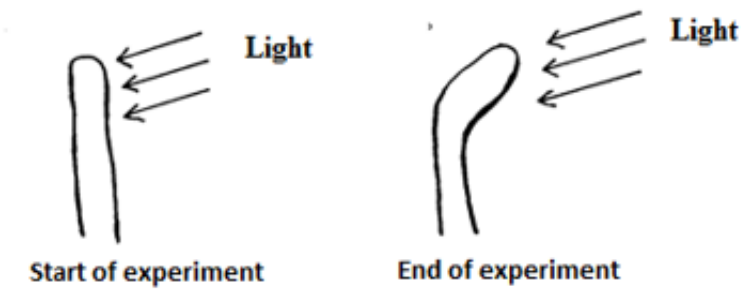
	Upper leaf surface	Lower leaf surface
x	13	5
y	24	22

a) Which of the two leaves would be expected to have a lower rate of transpiration(1mk).

b) Give two reasons for your answer in (a) above (2mks)

10. An experiment was set up as shown below to investigate the effect of unilateral light on the growth of the coleoptile. RECEPTION,RESPONSE AND CO-ORDINATION IN PLANTS AND ANIMALS



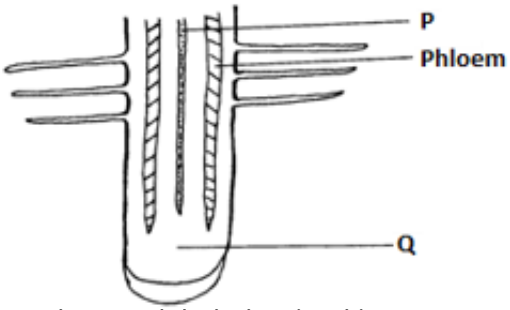
Explain the observation made at the end of the experiment (3mks)

11. . a) State the role of FollicleStimulating Hormone in the menstrual cycle of a human female. REPRODUCTION IN PLANTS AND ANIMALS (2mks) b) Name the source of progesterone hormone

after four months of pregnancy (1mk)

12. . Give three adaptations of the Red blood cells to their functions TRANSPORT IN PLANTS AND ANIMALS (3mks)

13. Study the diagram below and answer the questions that follow TRANSPORT IN PLANTS AND ANIMALS



a) Name the part labeled P. (1mk)

b) Name the types of tissues found in the part marked Q (1mk)

c) Give the significance of the above named tissues in (b) above (1mk)

14. Give two limitations of fossils records as evidence of organic evolution. EVOLUTION (2mks)

15. Study the diagram below and answer the questions that follow REPRODUCTION IN PLANTS AND ANIMALS
a) Identify the cell illustrated above (1mk)

b) Name the parts A and B

16. There is a government campaign of vaccinating females from age 14 years to menopause against tetanus. GASEOUS EXCHANGE

Explain how a vaccine works?

17. State three things that happen to glucose produced during photosynthesis NUTRITION IN PLANTS AND ANIMALS (3mks)

18. a) Define the term species (1mk)

b) Name the division of plants in which seeds are enclosed in an ovary wall which develops into a fruit CLASSIFICATION I (1mk)

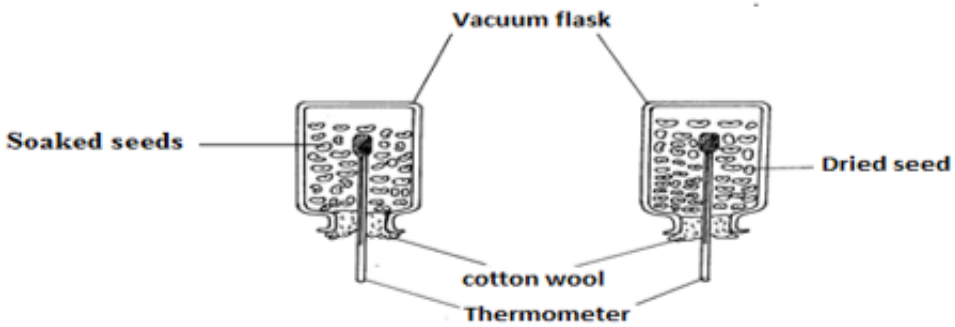
19. State three adaptations of hydrophytes that enable them to deal with problems of Transpiration ECOLOGY (3mks)

20. Spreading oil on the surface of stagnant water was an old method of controlling mosquitoes. ECOLOGY

a) How did the method work? (1mk)

b) Why is the method discouraged? (2mks)

21. A form two student set up an experiment using soaked and dry seeds as shown GROWTH AND DEVELOPMENT



a) What was the aim of the experiment? (1mk)

b) Account for the observations that were made. (2mks)

22. Form two students in the laboratory placed some chopped potato in a colourless liquid and observed that there was a reaction that produced bubbles. CELL PHYSIOLOGY

    a) What is the identity of the colourless liquid? (1mk)

    b) Account for the observation (2mks)

23. Plants and animal cells are different. INTRODUCTION TO BIOLOGY a) Name a structure in plant cells not found in animal cells (1mk)

    b) Name a structure in animal cells not present in plant cells: (1mk)

24. a) What is a respiratory surface? RESPIRATION (1mk)

    b) Account for the many number of respiratory surfaces in the class amphibia.(2mk

25. State two roles of the DNA molecule GENETICS

26. Name two strengthening tissues in plants SUPPORT AND MOVEMENT IN PLANTS AND ANIMALS (2mks)

27. After a short race, an athlete was seen to be panting and is said to be experiencing â€œoxygen debtâ€ GASEOUS EXCHANGE

    i) What is â€œoxygen debtâ€ (1mk)

    ii) Why donâ€™t plants experience â€œoxygen debtâ€? (1mk)

28. a) Give two characteristics of the Kingdom protoctista. CLASSIFICATION II (2mks)

    b) Name the organelle used by a paramecium to regulate water balance.

29. . Study the diagram below and answer the questions that follow RECEPTION,RESPONSE AND CO-ORDINATION

    a) Name the parts K and L (2mks)

    b) State one function of M (1mk)

30. Describe how blood is pumped out of the mammalian heart (systole). TRANSPORT IN PLANTS AND ANIMALS (3mks)

31. a) Name two parts in which excretory products are stored in plants. EXCRETION AND HOMEOSTASIS (2mks)

b) Give a reason why these excretory products donâ€™t harm the parts named in 3(a) above. (1mk)