

NAME.....ADM NO.....

SCHOOL..... CLASS.....

231/1

BIOLOGY PAPER 1

THEORY

TIME: 2 HOURS



KCSE ACHIEVERS PREDICTION



INSTRUCTIONS TO CANDIDATE:

- Write your name and index number in the spaces provided above.
- Answer ALL the questions in the spaces provided.
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For Examiner's use only

QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
1-26		



1. State two characteristics of organisms that are easily observed in both animals and plants. (2marks)

2. (a) Terrestrial insects such as locusts were captured and their blood was analysed. It was found that the blood does not have blood pigments such as haemoglobin. Explain. (2 marks)

(b) State how the tracheal system in insects is adapted to gaseous exchange. (3 marks)

3. State two functions of a diastema in herbivores. (2 marks)

4. State three biotic factors that could affect an antelope living in Masai Mara. (3 marks)

5. Describe how the leaves of submerged plants are adapted to gaseous exchange. (3 marks)



6. Name the part of the seed whose growth brings about epigeal germination. (1 mark)

7. State three aspects of light that affect the rate of photosynthesis. (3 marks)

8. (a) Identify the class with organisms that have three body parts and three pairs of legs. (1 mark)

(b) Suggest three reasons why members of the class named in (a) above are adapted to all types of habitats. (3 marks)



9. (a) List three types of gene mutation. (3 marks)

(b) (i) What are sex-linked genes? (1 mark)

(ii) Name two conditions that are sex-linked. (2 marks)

10. (a) Name two digestive enzymes produced in their inactive form. (2 marks)



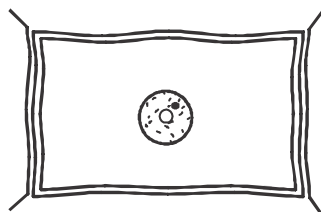
11. Name the organelles that carry out the following functions (4mks)

- (i) Destroy old and worn-out organelles
- (ii) Formation of spindle fibres
- (iii) Osmoregulation
- (iv) Selective passage of substances into the cell

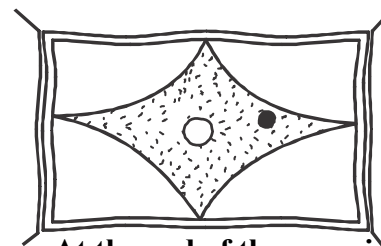
12. (a) Why would you give an athlete glucose and not sucrose after a race? (1mk)

(b) What happens to lactic acid after oxygen debt recovery? (2mks)

13. The diagram below represents a plant cell that was subjected to a certain treatment.



At the start



At the end of the experiment



a) **Account** for the shape of the cell at the end of the experiment.

(2 marks)

b) **Draw** a diagram to illustrate how an animal cell would appear if subjected to the same treatment. (1mk)

14. Name **two** types of valves in the heart.

(2 marks)

15.a) Name the hormones that controls metamorphosis in insects

(2marks)

b) Give one advantage of metamorphosis in insects

(1mark)

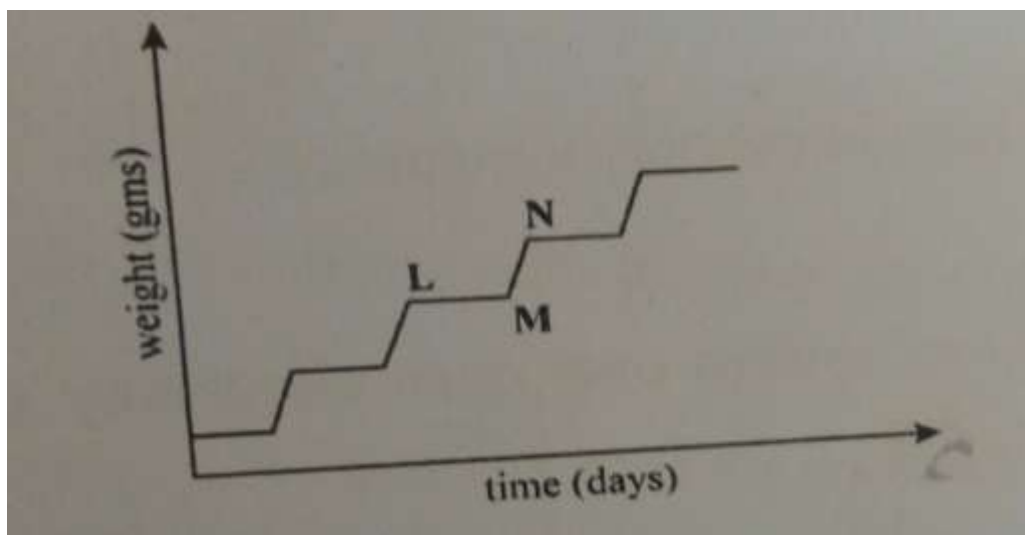
16a Name the physiological process by which water molecules move from one cell to the other
(1mark)

b) State the significance of the process in a) above

3marks

17.The graph below represents growth pattern in a group organism





(a)Name the type of growth curve

(1 mark)

(b) Name the phylum that shows this type of pattern

(1 mark)

(c)State one disadvantage of this type of pattern

(1mark)

18(a) How would you proof that a species of wildbeest in Tanzania belongs to the same species as a similar looking wildbeest in Kenya

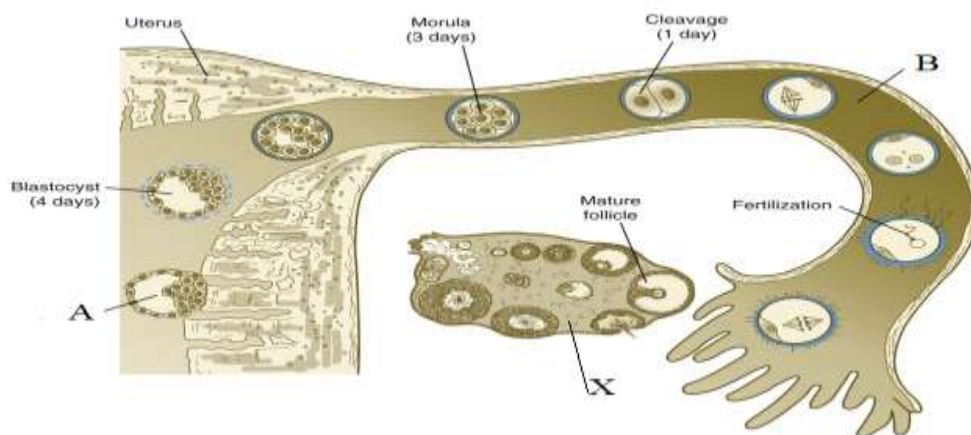
(1 mark)

(b) State two principles of Binomial Nomenclature. (2 marks)



19. Explain how altitude may affect the rate of breathing (2marks)

20. The diagram below shows some processes that take place in the ovary and oviduct around the time of fertilization.



Name

i) The process labeled A (1mark)

ii)

iii) Structure X and B (2marks)

X

B

iv) The hormone produced by structure labeled X (1mark)

21.(a)State three structural differences between arteries and veins (3marks)

(b)Name the blood vessels that transports blood to the following; (3marks)



i)heart to the lungs

ii)small intestine to the liver

iii)Aorta to the kidney

22a). State two theories that explains origin of life (2marks)

b) State three evidences of organic evolution (3marks)

23.Name the causative agent of the following diseases (2marks)

i) Malaria

ii)Typhoid

24. State three factors that increase the rate of traspiration. (3 marks)

25. Identify three methods that cause fruit dispersal. (3 marks)

26.State one distinguishing characteristic of Kingdom Monera 1mark)

