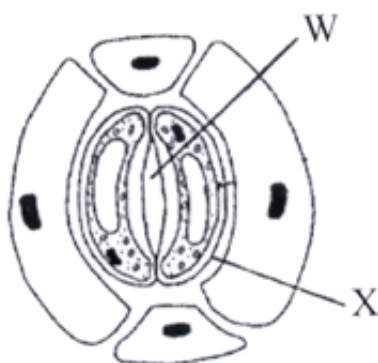


1. The diagram below shows part of plant tissue



- a) Name cell labeled X and part labeled W.

X.....
W.....

- b) State two adaptations of cell label X to its function.

.....
.....

2. a) Name the causative agents of the following diseases.

- i) Amoebic dysentery

.....
.....

- ii) Tuberculosis

.....
.....

3. a) What is the importance of the encounter current flow in the exchange of gases in a fish?

.....
.....

- b) Describe the path taken by Carbon (iv) Oxide released from the tissues of a cockroach into the atmosphere.

.....
.....

4. A student added equal amounts of blood to equal volumes of salt of different concentrations. She observed and counted the red blood cells at the beginning of the experiment and at end of the experiment.

The results were as shown:-

Set up	Concentration of salt	Beginning	After 30 mins
A	0.1mol	500	500
B	0.01mol	500	250

Account for the results in:

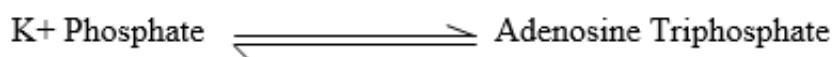
a) Set up A

.....

b) Set up B

.....

5. The equation below represents a reaction that occurs during respiration in a cell.



a) Identify the compound K.

.....

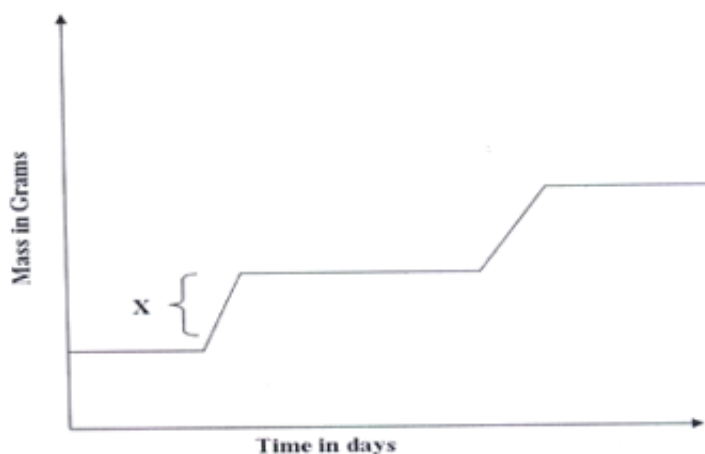
b) State two differences between K and ATP.

.....

c) Name the organelle responsible for the production of energy in a cell muscle.

.....

6. The graph below represents the growth pattern of animals in a certain phylum.



a) Name the type of growth curve shown above.

.....

b)

i) Identify the process represented by x.

.....

ii) Name the hormone responsible for the process in b (i) above.

.....
.....
c) State the importance of the growth a pollen tube to a plant.

.....
.....

7. State two factors that affect absorption of mineral ions by a plant roots.

.....
.....

8. It is not advisable to a plant sukumawiki along a busy highway. Explain.

.....
.....

9. A DNA strand has the following base sequence; G-C-C-T-A-G-A-T-C-A-C

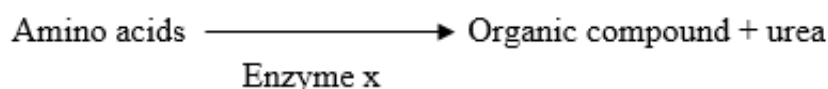
What is the sequence of the: i) Complementary DNA strand?

.....

ii) M – RNA strand copied from this DNA strand

.....

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



a) Name the process that represents the above equation.

.....

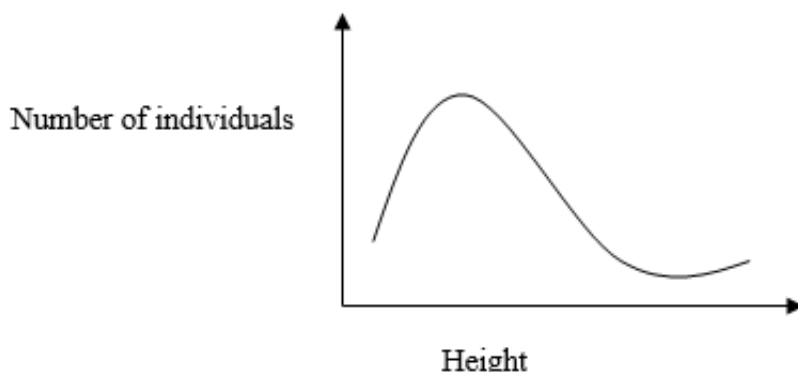
b) Identify the enzyme represented by x.

.....

c) What is the importance of the process to the mammal?

.....

11. The figure below represents the distribution of height of pupils in a school.



a) Name the type of variation represented by the curve.

.....
.....

b) Outline two possible causes of variation in height of individuals in man.

.....
.....

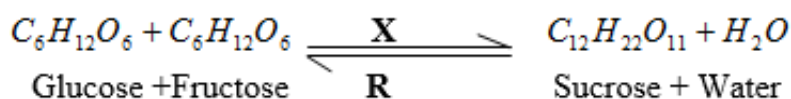
12. Name one plant division which displays alteration of generation.

.....
.....

13. Explain why plants growing in low latitude areas grow faster than those in high altitudes.

.....
.....

14. a) What is the function of Sodium hydrogen Carbonate that is added to test solution of non reducing sugar.



i) Name the process A and enzyme R.

Process X.....

Enzyme R.....

15. State two ways through which plants eliminate their metabolic wastes from their bodies.

.....
.....

16. a) What is double fertilization in flowering plants?

.....
.....

b) Name any two types of placentations found in ovaries.

.....
.....

17. List down two phenotypic characteristics that have been selected for the production of strains suitable for modern agricultural purposes.

.....
.....

18. a) Name any two accessory glands in the male urinogenital system.

.....
.....

b) What structural modification do human sperm cell have that:

i) Facilitate energy use.

.....
.....

ii) Facilitate movement.

.....
.....

19. a) Name the organ that secretes sebum.

.....

b) State two roles of sebum

.....
.....

20. a) State two ways in which human body is naturally protected against harmful bacteria.

.....
.....

b) State one way in which the composition of blood in the pulmonary artery and that of pulmonary vein differ.

.....
.....

21. State the roles of each of the following hormones in the process of reproduction in human male.

i) Follicle stimulating hormone.

.....
.....

ii) Luteinising hormone.

.....
.....

22. a) Name the carbohydrate that is stored in Mammalian muscles.

.....
.....

b) List down two differences between polysaccharides and Monosaccharides.

23. a) Define the term natural selection as used in evolution.

.....
.....

b) State two examples of natural selection in action.

.....
.....

24. State two structural feature of the placenta which facilitates the diffusion of substance between the maternal and foetal blood.

.....
.....

25. State how aerenchyma tissues in aquatic plants are adapted to their function.

.....
.....

26. State the functions of the following parts of a light microscope.

i) Diaphragm.....

ii) Objective lens.....

27. Explain how the following adaptations minimizes rate of transpiration.

i) Sunken stomata

.....

ii) Drooping leaves

.....

28. a) Give a reason why glucose does not normally appear in urine even though it is filtered in mammalian Bowman's Capsule.

.....

.....

b) Which hormones are involved in the salt-water balance in human body?

.....

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