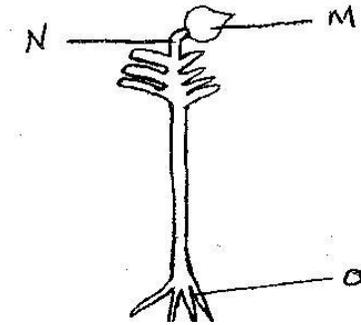


Maranda high

1. List two surfaces where gaseous exchange occurs in Amphibians
2. Name two causes of Asthma
3. Explain how muscles attached to the diaphragm bring about inhalation in man
4. a) Name the form in which energy is stored in muscles  
b) State two economic importance of anaerobic respiration to man
5. On complete oxidation lipids yield more energy than equal amount of carbohydrates. Give two reasons why lipids are not use as respiratory substrates.
6. Name one structure that is used for excretion in the following organisms  
(a) Paramecium.....  
(b) Fish.....  
(c) Insects.....
7. State three adaptations of the proximal convoluted tubule to re-absorption
8. The figure below represents a certain type of plant – study it carefully and answer questions that follow.



- (a) State the division to which the plant belongs
  - (b) Name the parts labeled M,N,O
  - (c) State three economic importance of organism that belong to the Kingdom Fungi
9. (a) What is the formula for calculating linear magnification using alight microscope  
(b) State two functions of centrioles.  
(c) What is a prokaryotic cell?
  10. (a) State two ways in which active transport differ form diffusion  
(b) Distinguish between haemolysis and plasmolysis
  11. Explain how temperature increase the rate of the diffusion
  12. (a) State the specific site in which the following reactions occur  
Light stage  
Dark stage  
(b) Explain the role of light in photosynthesis  
(c) State the significance of photosynthesis in nature
  13. How does the arrangement of the vascular tissues in monocotyledonous roots compare to those of the dicotyledons roots.
  14. It was found out that the lower jaw of organism Z had a gap that facilitated the movement of the tongue during chewing.  
(i) Name the organism  
(ii) Identify the mode of nutrition of organism Z
  - (b) Below is a dental formula of a certain organism. Use it to answer questions that follow: -

|   |   |    |   |
|---|---|----|---|
| 0 | 0 | 3  | 3 |
| i | c | pm | m |
| 3 | 1 | 2  | 3 |

  
(i) Calculate the total number of teeth in the mouth of the organism

15. Differentiate between open and closed circulatory system are less active

| Open | Closed |
|------|--------|
|      |        |

- (b) Explain why organism with open circulatory system are less active  
 Why do the teeth of herbivorous grow continuously throughout the life of the individual animal?
- (c) Name two characteristics that make the Xylem suitable for the long distance transportation of water and solutes.
- (d) State two function of blood other than transport
- (e) Distinguish between ecosystem and community as used in Ecology.

16. In a certain ecological study, students wanted to estimate the population of crabs in a pond .

They captured 6000 crabs on day one and marked them. They captured 500 crabs on the second day out of which 300 had the mark

- (i) Estimates the population of crabs in the pond  
 (ii) Give two assumptions made during this study

20. Name two sources of progesterone hormone in the human body

21. State three mechanisms that hinder self pollination in flowering plants

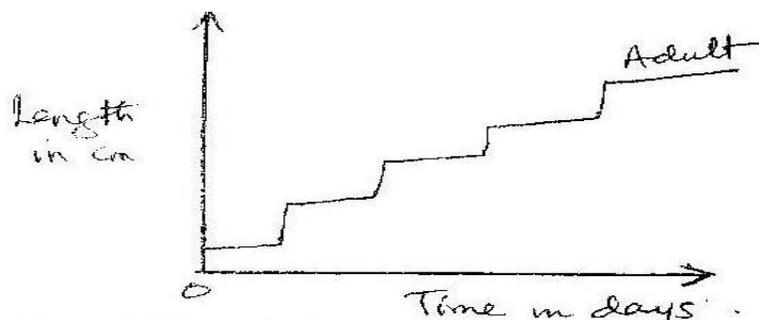
22. Name a hormone responsible for development of fruits in plants

23. State two advantages of sexual reproduction

24. (i) Explain how the fallopian tube is adapted to perform its functions

(ii) Name the causative agent of AIDS

25. The diagram below shows a growth curve



26. (i) Identify the type of growth curve above

(ii) Name the phylum that exhibits this kind of growth curve

27. (ii) Identify three functions of water in seed germination

28. Name two sex- linked traits associated with the X-chromosome

29. (i) Define the term mutation

(ii) Identify the type of gene mutation illustrated in the diagrams below

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| G | C | A | T | T | C | A |
|---|---|---|---|---|---|---|

Original D.N.A

|  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
|  | C | T | T | A | C | A |
|--|---|---|---|---|---|---|

D.N.A after gene mutation

Identify

(iii)State two applications of genetics in real life.

