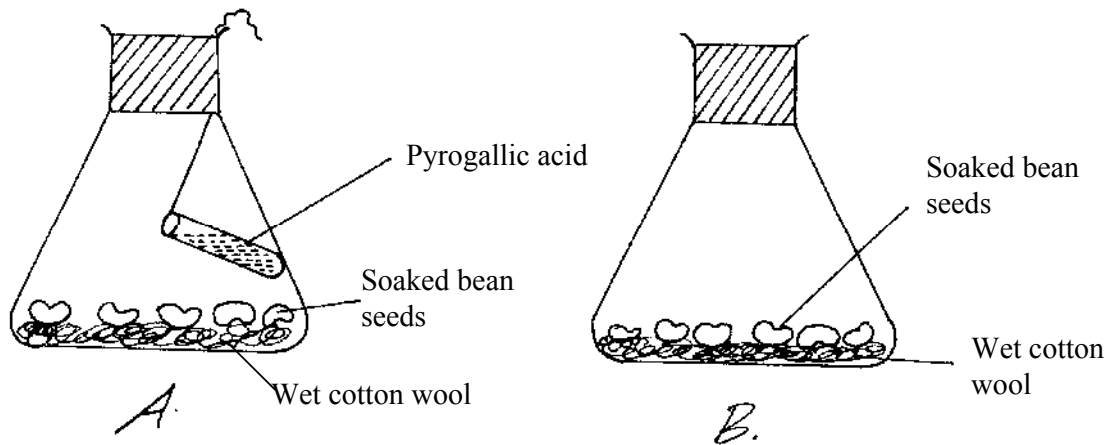


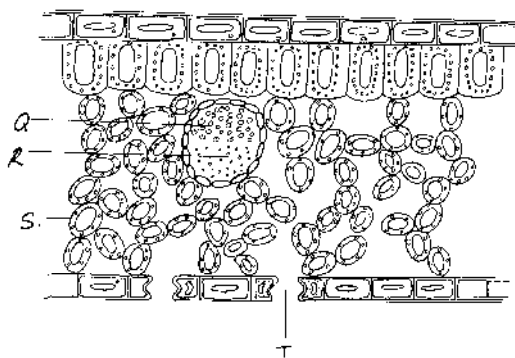
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BIOLOGY
THEORY

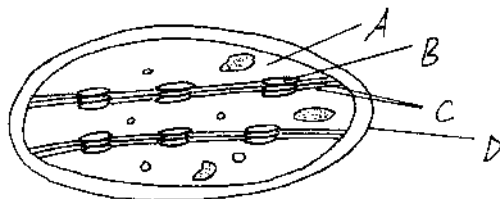
1. (a) What is meant by resolving power of a microscope. 2mks *TRZ*
 b) State the reason behind the addition of iodine solution, to an onion epidermis on a slide while being observed on a light microscope. 1mk *TRZ*
2. a) It is necessary for large organisms to have an elaborate transport system. Explain why. 2mks
 b) Explain why an Amoeba does not require a transport system. 1mk *TRZ*
3. State the role of Hydrochloric acid in the stomach. 2mks *TRZ*
4. Explain how presence of hairs on a leaf lowers the rate of transpiration. 2mks *TRZ*
5. Account for the osmoregulatory changes that would take place in a marine amoeba if it was transferred to a fresh water environment. 3mks *TRZ*
6. Identify the structural adaptation of a male and female parts of a flower, for wind pollination. 2mks *TRZ*
7. Lamarcks theory of evolution has been rejected by scientist today. Explain why. 2mks *TRZ*
8. State the role played by an exoskeleton in the class insecta. 3mk *TRZ*
9. What is apical dominance? 2mks *TRZ*
10. State the role of the following in digestion in a mammal:
 (a) Teeth 1mk *TRZ*
 (b) Enzymes 1mk *TRZ*
11. When are the following hormones secreted?
 (a) Insulin hormone. 1mk *TRZ*
 (b) Anti-diuretic hormone. (ADH) 2mks *TRZ*
12. A form three class set up the experiment shown below. Make a careful observation and answer the questions that follow.



- If the set up was kept at a room temperature for one week,
- (a) What was the aim of the experiment? 1mk *TRZ*
 - b) Account for the results at the end of the experiment. 2mks. *TRZ*
 13. State the importance of sexual reproduction in living organisms. 2mks *TRZ*
 14. State the role of saprophytes in an ecosystem. 2mks *TRZ*
 15. List three characteristics that would place man in the class mammalia. 3mks *TRZ*
 16. Name two support tissues in plants. 2mks *TRZ*
 17. Study the diagram below and answer the questions that follow:

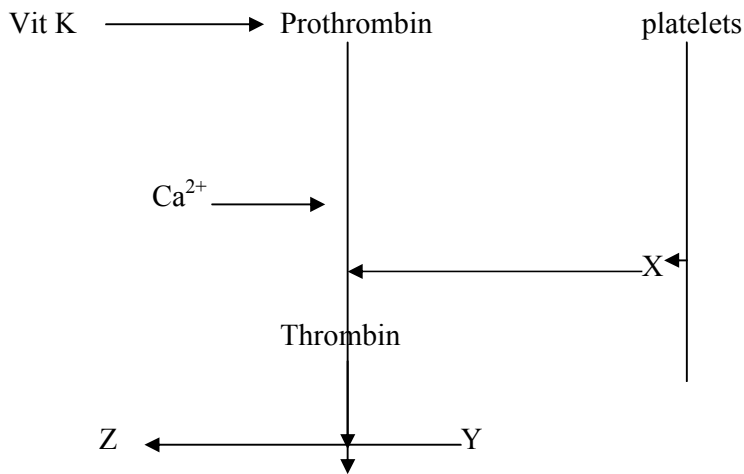


- a) Identify the parts labeled: 1mk *TRZ*
 b) Explain how water from structure Q reaches structure T. 3mks *TRZ*
18. State how a root hair cell is adapted for its functions. 2mks *TRZ*
19. a) State two ways in which plants get rid of their nitrogenous wastes. 2mks *TRZ*
 b) State two adaptations of the nephron for selective re-absorption. 2mks *TRZ*
20. Describe any two ways in which an alveolus is adapted to its functions. 2mks *TRZ*
21. Account for the loss in dry weight of cotyledons in a germinating bean seed. 2mks *TRZ*
22. a) Name the type of responses exhibited by
 i) Movement of termites from dry soil towards moist soil. 1mk *TRZ*
 ii) Twinning stem on contact with a support. 1mk *TRZ*
 b) State the significance of the responses you have named in a) above. 2mks *TRZ*
23. Name the parts of the mammalian ear that are responsible for:
 a) Amplification of sound vibrations. 1mk *TRZ*
 b) Regulation of air pressure on both sides of the ear drum. 1mk *TRZ*
24. Study the diagram below and answer the questions that follow.



- a) Name the parts labeled: 2mks *TRZ*
 b) In which of the labeled parts would:
 i) Carbon (iv) oxide fixation occur? 1mk *TRZ*
 ii) Light absorption take place? 1mk *TRZ*
25. With reference to inheritance of genetic defects, state the meaning of the term carrier. 2mks *TRZ*
26. Chloroquin has been used for many years since its discovery, for the treatment of malaria, but it is no longer effective. Suggest why it is no longer effective. 2mks *TRZ*
27. Identify the type of muscle found in:
 a) Sweat duct. 1mk *TRZ*
 b) Heart 1mk *TRZ*
28. Give an account for each of the following:
 a) Xylem vessels do not collapse even when they do not contain water. 1mk *TRZ*
 b) A mature onion epidermal cell does not lose its shape even after losing water. 1mk *TRZ*
29. a) What are vestigial structures? 2mks *TRZ*
 b) State an example of a vestigial structure in man. 1mk *TRZ*
30. A student hammered a nail 1.5 meters high on the stem of a four-year-old tree. Suggest where you would expect to find the nail five years later when the tree will have grown further. 2mks *TRZ*
31. When is a plant cell said to be fully plasmolysed? 2mks *TRZ*

32. Study the flow diagram showing the process of blood clotting and answer the questions that follow:



- a) Name the substance labeled X.
- b) State the importance of the substance labeled Z

1mk*TRZ*
2mks*TRZ*