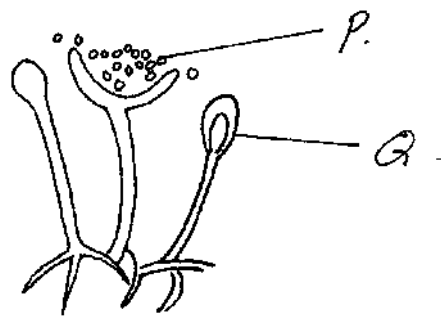


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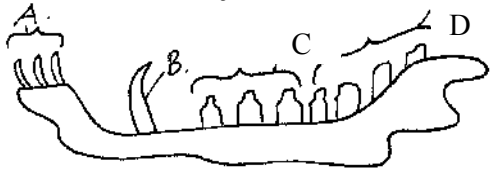
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**BIOLOGY**  
**THEORY**

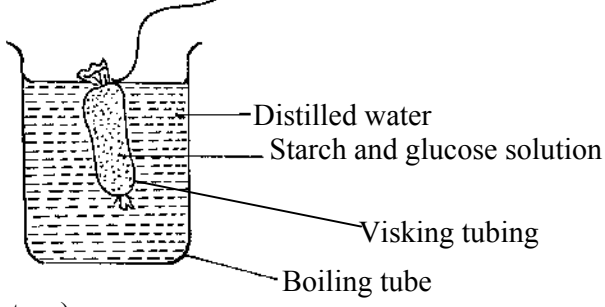
1. State the branch of biology that would be used in solving the problem of disputed parentage (1mk)
- 2) (i) Name one enzyme found in living tissue of plants and animals. (1mk)
- (ii) Give the function of the named enzyme above. (1mk)
3. State one advantage of wilting in plants (1mk)
4. Name three sites where gaseous exchange takes place in terrestrial plants. (3mks)
5. What's the importance of phototropism responses in plants. (1mk)
6. State two theories of the origin of life (2mks)
7. The diagram represents a bread mould growing on damp bread.



- a) Name the structure labeled P & Q. (2mks)
- b) Identify the kingdom to which it belongs. (1mk)
8. List the changes that take place during inhalation in mammals in the following
  - (i) Ribcage. (1mk)
  - (ii) Diaphragm (1mk)
9. The diagram below shows half the lower jaw of a mammal.



- a) Name the kind of teeth labeled A and C (2mks)
10. List two characteristics features of alveoli to its function. (2mks)
11. State the functions of the mammalian ear. (2mks)
12. Name the cell organelles responsible for
  - (i) Respiration (1mk)
  - (ii) Photosynthesis (1mk)
- (b) Which part is useful in maintaining support in herbaceous plants (1mk)
13. An experiment set-up shown below was to investigate a certain process.

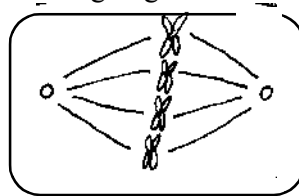


(Experimental set-up)

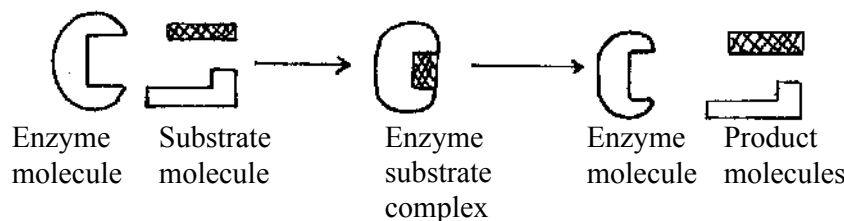
After 20 minutes, a student tested the sample from the boiling tube for starch and glucose and recorded the results as shown in the table.

Time (Min)	Start	After 20 minutes
Starch	Absent	Absent
Glucose	Absent	present

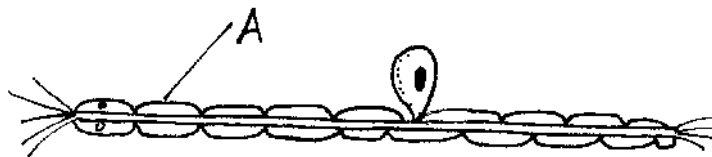
- a) Explain the presence of glucose in the water sample. (1mk)
- b) What change occurred in the volume of liquid in
  - (i) The boiling tube (1mk)
  - (ii) The visking tube (1mk)
- 14. State two methods of preventing malaria. (2mks)
- 15. State two functions of the synovial fluid in a hinge joint. (2mks)
- 16. Name the factors in seeds that cause dormancy. (3mks)
- 17. Name the hormone responsible for
  - a) Conversion of glycogen to glucose (1mk)
  - b) Regulation of the amount of water in the blood. (1mk)
- 18. The diagram below shows a cell undergoing mitosis.



- a) Name a region in a flowering plants where this cell division takes place. (1mk)
- b) (i) Name the stage of cell division represented by the diagram. (1mk)
- 19. Explain the meaning of the term 'survival of the fittest' (2mks)
- 20. Name three components of DNA molecule. (3mks)
- 21. Name the substances produced as a result of anaerobic respiration in:-
  - (i) Yeast (1mk)
  - (ii) Human muscles (1mk)
- 22. The figure below shows a biological reaction between an enzyme molecule and a substrate molecule.

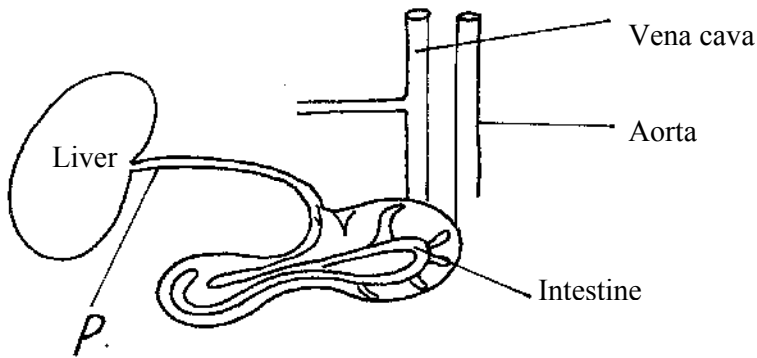


- (i) State the properties of enzyme shown above. (2mks)
- 23. Apart from magnifying objects state the other functions of a microscope. (1mk)
- 24. State three features that places a spider in class arachnida and not insecta. (3mks)
- 25. State the importance of diffusion in organisms. (2mks)
- 26. The diagram below represent a neuron

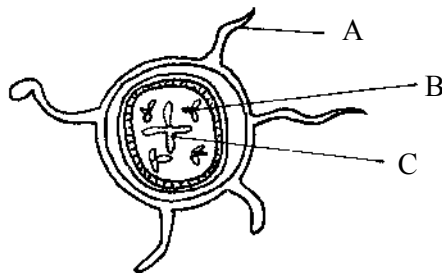


- a) Identify the type of neuron illustrated (1mk)
- b) Name the part labeled A and state its functions. (2mks)
- 27. State two advantages of fossil records of evidence of evolution (2mks)
- 28. Distinguish between protogyny and protandry. (2mks)

29. The figure below shows liver, intestine and related blood vessels in the human body.



- a) Name the blood vessel labeled P. (1mk)
  - b) Name two substances that are transported by blood vessel P. (2mks)
30. State the role of sunlight in the process of photosynthesis. (1mk)
  31. Name (i) one enzyme that occur in the mammalian red blood cells (RBC) (1mk)  
(ii) State the role of the enzyme named in (i) above. (1mk)
  32. How is aerenchyma tissue adapted to its functions in hydrophyte plants. (1mk)
  33. The diagram below shows the transverse section of a young dicotyledonous root.



- (i) Mention the parts labeled (3mks)  
A  
B  
C
  - (ii) Mention the function of the structure labeled B. (1mk)
34. State the function of the following structure of the human brain. (3mks)  
(i) Cerebrum  
(ii) Cerebellum  
(iii) Medulla oblongata
  35. (i) State the scientific skills that would be needed in carrying out an experiment on translocation of food in a plant from the leaves to the rest of the plant.(3mks)  
(ii) What biological tool would be useful to an entomologist when collecting small crawling animals (1mk)