

BIOLOGY FORM 3 EXAM

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

1.a) Explain the meaning of each of the following terms. {2mks}

i) Cell

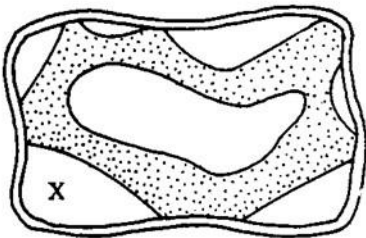
ii) Tissue

b) Name the two structures which are present in plant cells but absent in animal cells. {2mks}

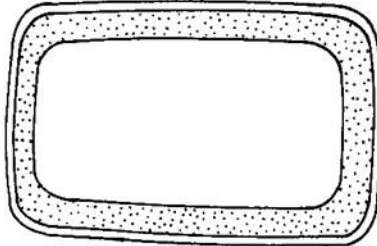
c) The diagrams below represent two plant cells A and B placed in two different solutions. diagrams and answer questions that follow:

Study the

A



B



i) Identify the nature of solution into which each cell was placed. (2marks)

A

B

ii) Name the physiological process responsible for the observed results. (1mark)

iii) Give the correct biological term used to describe cell A. (1mark)

iv) Describe what would happen if a red blood cell was placed in the solution in which cell B was placed. (2 marks)

2.) a) i) Define nutrition. {1mk

ii) State the importance of nutrition. {3mks

b) Differentiate the various modes of feeding. {2mks

i) Autotrophism

ii) Heterotrophism.

3. State the importance of photosynthesis. {1 mk

4.a i) Name the transport structures of a flowering plant. {2mks

ii) State the ways in which xylem vessels are adapted to their function. {2mks

5) i) What is transpiration? {1mk

ii) Name the sites through which transpiration takes place in a plant. {3mks}

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6) a) What is counter current-flow system? {2mks}

b) What is the advantage of counter-flow system? {2mks}

7) i) What is aerobic respiration. {1mk}

ii) State why accumulation of lactic acid during vigorous exercise lead to an increase in heartbeat. {1mks}

iii) State the economic importances of anaerobic respiration. {2mks}

iv) What is oxygen debt? {1mks}

5. a) Define the following terms. {2mks}

i) Excretion

ii) Homeostasis

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6. State two functions of the liver. {2mks}
- 7.a) State the importance of osmoregulation. {2mks}
- b) State the ways by which desert mammals conserve water. {2mks}
- c) Explain why some desert animals excrete uric acid rather than water. {2mks}
- d) Explain why eating a meal with too much salt leads to production of a small volume of concentrated urine. {2mks}
- e) Explain the role played by antidiuretic hormone in homeostasis. {2mks}
- f) Distinguish between diabetes mellitus and diabetes insipidus. {2mks}
- g) How can high blood sugar level in a person be controlled? { 1mk}
- h) Why does glucose not normally appear in urine even though it is filtered in the mammalian Bowman's capsule? { 1mk}