

FOCUS A365

Another Manyamfranchise.Com Evaluation Test

BIOLOGY
FORM 1
END TERM 2 EXAM
TIME: 1 HOUR

INSTRUCTIONS

Answer all questions in the spaces provided.

QUESTIONS (80 MARKS)

1. (a) When a balloon is pumped with air, it increases in size. Would you refer to this increase in size as growth? Explain your answer. (1 marks)

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(b) Explain the importance of the following processes to living things:-

(i) Respiration (1 mark)

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(ii) Excretion (1 mark)

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(iii) Reproduction (1 mark)

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2. a) State the function of lysosomes in a cell. (1 mark)

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b) Name the cell organelles that perform the following functions: (3 marks)

(i) synthesis proteins

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(ii) transport cell secretions

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(iii) Control material entering and leaving the cell.

3. An organ is to organism while an is to a cell. (1 mark)

4. State the functions of the following

i. Sap vacuole.

(1 marks)

ii. Golgi apparatus.

(1 marks)

5. Explain what is meant by the following terms as used in osmosis

(3marks)

a) Turgor pressure

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b) Hypertonic solution

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c) Haemolysis

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6. Name two specialized cells in plants.

(2 marks)

7. (a) What would happen to a plant cell if placed a hypotonic solution

(2 mark)

(b) The scientific name of man is given as HOMOSAPIENS

Write the name in a proper scientific way.

(1 mark)

(ii) State three characteristics of a cell membrane

(3 marks)

8. Cells of a certain herbaceous plant were found to have an average diameter of 2.5mm. The cells were placed in varying concentrations of sugar solution. The average diameter of these cells in each solution was determined and the results obtained as shown in the table below.

Concentration of sugar solution	Diameter of cells (mm)
1%	5.0mm
5%	4.0mm
10%	3.0mm
15%	2.0mm

(a) From these results determine the concentration of the cell sap of the herbaceous plant. (1mark)

(b) What term is given to the sugar solution whose concentration is equal to that of the cell sap?

(1 mark)

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(c) Give an explanation for the average diameter of the plant cells when placed in 10% sugar solution. (2 marks)
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9. Distinguish between turgor pressure and wall pressure. (2 marks)
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10. (a) How does surface area affect rate of diffusion. (2 marks)
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(b) State two roles of diffusion in living organisms. (2 marks)
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11. a) What is photosynthesis? (1 mark)
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b) Write a word equation for the process of photosynthesis (1 mark)
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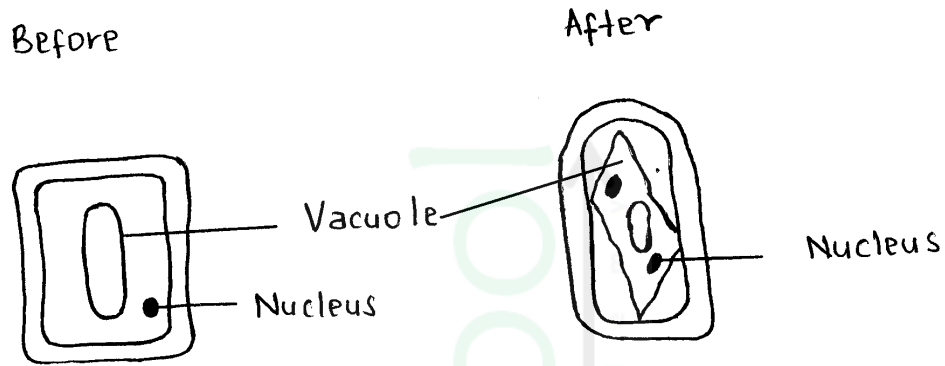
c) Briefly describe the process of the light stage of photosynthesis. (3Marks)
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d) State where the light and dark stages of photosynthesis occur in a leaf.

Light Stage (1Mark)
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Dark Stage (1Mark)
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12. The diagrams below shows the changes in a plant cell when put in a solution T.



(a) **Name** the solution T. (1mark)

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(b) **Explain** the observation at the end of the experiment. (3marks)

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13. Give **Three** principles of binomial nomenclature. (3marks)

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14. State three precautions that should be taken when collecting and observing specimens.(3 marks)

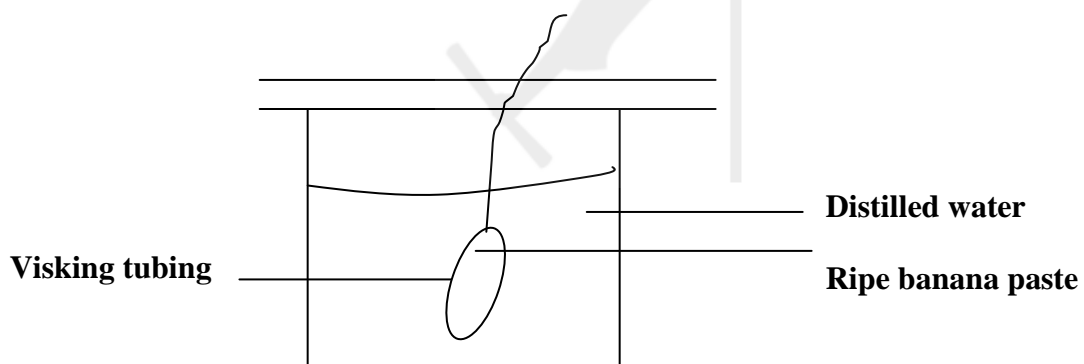
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15. A student mashed a piece of ripe banana and made it into paste by adding water, placed the paste in a visking tubing and suspended it in a beaker containing iodine solution as shown below. The set- up was left for 40 minutes.



(a) State the physiological process under investigation. (1 mark)

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(b) Account for the result obtained in the table. (3 marks)

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c) Name the equivalent of the visking tubing to a living cell (1mark)

16. List four adaptations of leaves that maximize efficiency for photosynthesis. (4marks)

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17. Define the term active transport (2marks)

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18. State three roles of osmosis in plants (3marks)

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19. List four differences between an electron microscope and a light microscope (4marks)

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20. Name the tissues that carry out the following functions in mammals.

(a) Binds and supports the various organs in the body (1mark)

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(b) Supports the animal's body off the ground (1mark)

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(c) Is responsible for movement (1mark)

(d) Transports oxygen throughout the body

(1mark)

21. Addition of large amounts of salt to soil in which plants are growing kills the plants. Explain (3marks)

22. State the functions of the following parts of a light microscope. (4marks)

(a) Stage

(b) Objective lens

(c) Diaphragm

(d) Fine adjustment knob

23. Define the term species

(1mark)

24. Differentiate between taxonomy and taxon

(2marks)