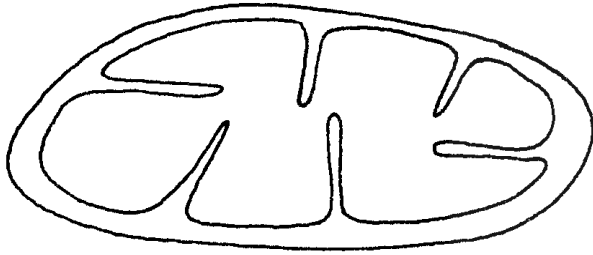


FORM 1 BIOLOGY
END OF TERM EXAM - TERM 3
TIME: 1 ½ HOURS
INSTRUCTIONS

Answer all questions in the paper.

1. a) Identify the organelle below

(1mark)



b) How is it adapted to its function?

(2marks)

c) State the function of cristae in mitochondria.

(1 mark)

(b) State two areas in the human body where one would one find the above organelle in abundance

(1 mark)

2. Name the end products of the following processes

i. Condensation of monosaccharides

(2 marks)

ii. Hydrolysis of a Disaccharide

(2 marks)

3. Name the carbohydrate stored in

i. Mammalian liver

(1 mark)

ii. Potato tube

(1 mark)

4. (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)

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

(i) Respiration (1 mark)
.....
.....

(ii) Excretion (1 mark)
.....
.....

(iii) Reproduction (1 mark)
.....
.....

5. Describe the procedure one would follow to test for the following food substrates

a) Starch (2 marks)
.....
.....
.....

b) Reducing sugars (3 marks)
.....
.....
.....

c) Proteins (3 marks)
.....
.....
.....

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

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

(i) synthesis proteins
.....
.....

(ii) transport cell secretions
.....
.....

(iii) Control material entering and leaving the cell.
.....
.....

7. (a) What is diffusion. (2 marks)
.....
.....

(c) Outline three roles of active transport in the human body. (3 marks)
.....
.....

8. a) The scientific name of the black jack plant is *Bidens pilosa* which taxonomic group does each name refer to

Bidens (1 mark)

Pilosa (1 mark)

(c) Give 3 reasons why classification is important (3 marks)

9. Differentiate between the following terms.

a) hypertonic and hypotonic solutions. (2 marks)

.....

b) Turgid and flaccid cell (2 marks)

.....

c) Turgor pressure and wall pressure (2 marks)

.....

10. An experiment was carried out to investigate the effect of different concentrations of sodium chloride on human red blood cells. Equal volumes of blood were added to equal volumes of salt solutions of different concentrations. The results were shown below.

Set - up	Sodium chloride concentration	Shape of red blood cells at the end of experiment	Number of blood cells at the end of experiment
A	0.9%	Normal	No change in number
B	0.3%	Swollen	Fewer in number

If the experiment was repeated with 1.4% sodium chloride solution, state the results you would expect with reference to:-

i) Number of red blood cells. (1 Mark)

ii) Appearance of red blood cells when viewed under the microscope. (3 marks)

a) Account for the fewer number of red blood cells in 0.3 % sodium chloride solution.

(4 Marks)

b) Give the biological terms which can be used to describe

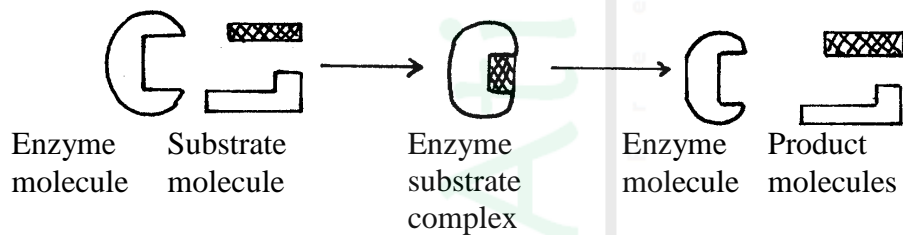
i) 0.9 % sodium chloride solution.

(1 Mark)

ii) 1.4 % Sodium chloride solution.

(1 Mark)

11. The figure below shows a biological reaction between an enzyme molecule and a substrate molecule.



(i) State the properties of enzyme shown above.

(2 marks)

(ii) State three factors that can affect reaction above

(3 marks)

12 Study the diagram below and answer the questions that follow.

