

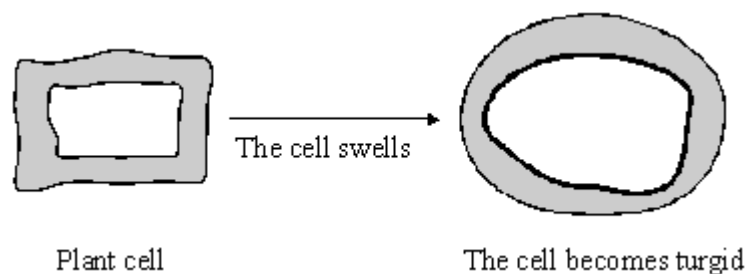
Name of the Student: _____

Max. Marks : 19 Marks

Time : 19 Minutes

Q1.

- (a) The diagrams show what happens to the shape of a plant cell placed in distilled water.



- (i) Explain why the cell swells and becomes turgid. Name the process involved.

(2)

- (ii) Give **one** feature of the cell wall which allows the cell to become turgid.

(1)

- (b) Describe the change which will occur if a piece of peeled potato is placed in a concentrated sugar solution and explain why this change occurs.

(3)

(Total 6 marks)

Q2.

- (a) How many pairs of chromosomes are there in a body cell of a human baby?

(1)

- (b) Place the following in order of size, **starting with the smallest**, by writing numbers **1 – 4** in the boxes underneath the words.

chromosome

nucleus

gene

cell

(1)

- (c) For a baby to grow, its cells must develop in a number of ways.

Explain how each of the following is part of the growth process of a baby.

- (i) Cell enlargement

(1)

- (ii) The process of cell division by mitosis

(3)

- (d) Why is cell specialisation (differentiation) important for the development and growth of a healthy baby from a fertilised egg?

(2)

(Total 8 marks)

Q3.

Plants need chemical energy for respiration and for active transport.

- (i) Write a balanced chemical equation which represents the process of respiration in plants.

(2)

- (ii) Describe the process of active transport in the root hair cells of plants.

(3)

(Total 5 marks)