

Homework Assignment 1

Section A: Living Organisms and the Environment

Characteristics, Cells, Microbes and Cell Transport Processes

Part A.

1. a) Briefly explain why someone may think a car is a living organism. (3 marks)
- b) Give THREE reasons why a car is not a living organism. (3 marks)

- 2 a) Explain why a virus is not considered a living organism. (2 marks)
- b) State TWO features that a bacterial cell and plant cell have in common. (2 marks)

Part B.

1. Outline the differences and similarities between an animal cell and a plant cell. (5 marks)

2. Describe the structure of a sperm cell, giving the functions of the parts mentioned. Give the (5 marks)

Part C.

1. An animal cell is placed in a concentrated sugar solution for 3 hours.
 - a) Describe the appearance of the animal cell after this period of time. (1 mark)
 - b) State the cell transport process that is taking place and describe how this process caused the resulting appearance of the animal cell. (3 marks)
 - c) Using a labelled diagram, show how a plant cell would look after exposure to the same sugar solution above. (2 marks)

2. Compare the cell processes of diffusion and active transport giving ONE example of each process in living organisms. (4 marks)

TOTAL: 30 marks