

CSEC Human and Social Biology
Characteristics of Living Things and Cells
Worksheet

1a. Briefly describe what is biology? (1 mks)

b. We are surrounded by living and non-living things. As a biologist it is important to know the difference. List four (4) characteristics by which we are identify living things. (2 mks)

c. From the list above define three (3) of the stated characteristics. (6 mks)

d. Photosynthesis in plants is an example of? (1 mk)

- A. Excretion
- B. Irritability
- C. Nutrition
- D. Reproduction
- E. Secretion

2a. Living things are highly organized from the smallest to the largest part.

Fill in the blanks. (3 mks)

Cell → _____ → _____ → _____
→ Organisms

b. The basic unit of any complex organism is a..... (1 mk)

- A. Molecule
- B. Organ
- C. Cell
- D. Atom
- E. Tissue

3. Figure 1 shows a drawing of a typical animal cell

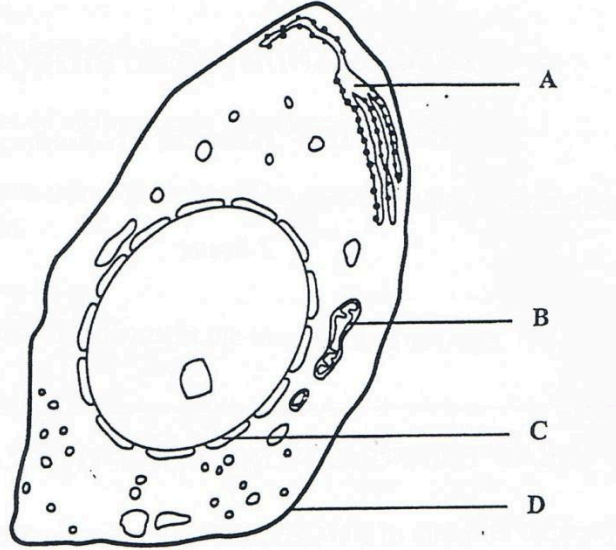


Figure 1. A typical animal cell

a. Name EACH of the FOUR structures labeled as A,B,C and D in Figure 1. (4mks)

b. Name ONE type of cell which does not possess a nucleus. (1 mk)

c. i. Name the compound which is found in the outer layer of plant cells but NOT animal cells. (1 mk) _____

ii. State the function of the compound named in (c) (i). (1 mk)

d. i. Identify the TWO main chemical constituents of the chromosome. (1 mk)

ii. Outline the role of the chromosomes in the nucleus. (2 mks)

4a. Describe what the term cell differentiation. (2 mks)

b. What is metabolism? (1 mk)

c. Which involves metabolic activity? (1 mk)

- A. Active transport
- B. Diffusion
- C. Evaporation of sweat
- D. osmosis
- E. passage of oxygen into alveoli cells

5a. Identify the processes described below, using only the terms from the list. (5 mks)

Active transport, diffusion, excretion, growth, respiration

- i. Releasing energy from food substances in cell-
- ii. Removal of waste substances from the body-
- iii. A permanent increase in weight or size-
- iv. Energy from cells used to move substances across the cell membrane-
- v. Spreading movement of particles-

5b. Define the term osmosis. (2 mks)

c. Complete the following statements:

In simple diffusion, the higher the _____ the
_____ the rate of movement. (2 mks)

d. i. Briefly explain the term 'active transport'. (2 mks)

ii. Give an example of active transport. (1 mk)

e. Osmosis is an important function within the cell. Describe what could happen if osmosis didn't occur within a cell. (2 mks)
