Topical Worksheet

Chapter 6 Model of Cells

Suggested Answer

Section A

1	2	3	4	5
C	D	C	C	B

Section B

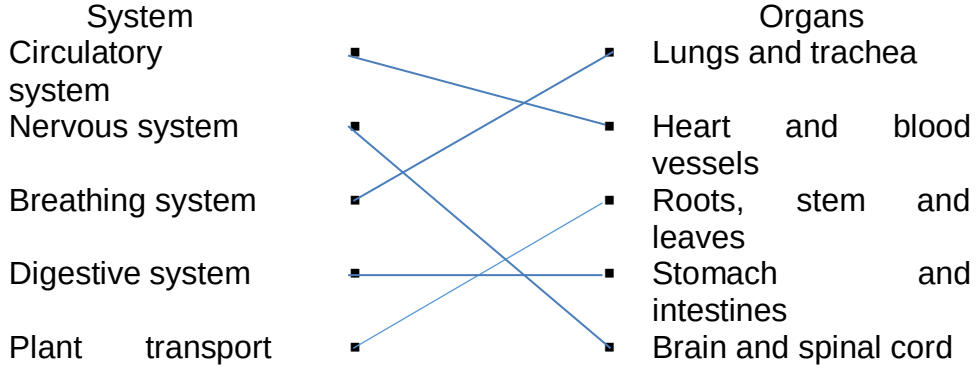
QN	Suggested Answers	Marks
1a	A: nucleus B: cell membrane C: cytoplasm D: vacuole	**2**
1b	Animal cell; No cell wall / lacks large central vacuole / lacks chloroplasts	**1** **1**
1c	**A:** • Controls cell activities (eg. repair of worn-out parts) • Responsible for cell reproduction / cell division • Contains chromosomes which carry genetic information **B:** • Controls the substances entering and leaving the cell • Generally allows glucose, water and oxygen to enter, Generally allows waste products to leave • Serves as a boundary between the cell and external environment. **C:** • Contains many organelles (eg. mitochondria - site where energy is released from food substances during cellular respiration) • Contains food storage • Site where many chemical reactions take place	**3** **3** **3**

2			
		Animal	Plant cell
	Similarities	Both animal and plant cells have nucleus, cytoplasm, cell membrane and vacuoles.	**1** **1**
	Differences	1. Has numerous small, temporary vacuoles.	Has a large central vacuole. **1**
		2. Does not have chloroplasts.	Has chloroplasts. **1**
		3. Does not have cell wall.	Has cell wall. **1**

3	Muscle cells; Muscle cells require the most energy to enable/to carry out movement in the body; Energy is released by respiration in the mitochondria; therefore muscle cells have the most mitochondria to release energy.	**1** **1** **1**

4a	Transmit nerve impulses.	**1**
4b	Contract and relax to bring about movement.	**1**
4c	Transport oxygen around the body.	**1**
4d	Male sex cell carrying the chromosomes will fuse with the egg to form a zygote (fertilised egg).	**1**

5	<table><tr><th>Tissue</th><th>Function</th></tr><tr><td>Nervous tissue</td><td>Transmit messages in the form of electrical impulses around the body</td></tr><tr><td>Muscle tissue</td><td>Contract and relax to bring about movement in animals</td></tr><tr><td>Connective tissue</td><td>Supports and binds other tissues together</td></tr></table>	**3**

6		**5**

7a	Division of labour is the breakdown of work into smaller and more specific tasks for maximum efficiency.	**2**
7b	Division of labour ensures the smooth and efficient working of an organism. Work is divided among each type of cell, tissue and organ to ensure body receive sufficient oxygen and energy	**2**