Animal Cells

Name: _____ Date: _____ Total: 25 marks

Part A: Match the Organelles (5 marks)

Match each organelle with its correct function.

Organelle	Function
1. Nucleus	A. Controls what enters and leaves the cell
2. Cell membrane	B. Produces energy through aerobic respiration
3. Cytoplasm	C. Contains DNA and controls cell activities
4. Mitochondria	D. Makes proteins
5. Ribosomes	E. Jelly-like substance where many chemical reactions occur

Answers: 1. ____ 2. ____ 3. ____ 4. ____ 5. ____

Part B: Fill in the Blanks (5 marks)

Use the words: nucleus, ribosomes, membrane, mitochondria, cytoplasm

1. The _____ contains the cell's genetic information.
2. The cell _____ controls the movement of substances into and out of the cell.
3. The _____ are responsible for making proteins.
4. Most of the cell's aerobic respiration takes place in the _____.
5. Many chemical reactions occur in the _____.

Part C: Drawing and Labelling (5 marks)

Draw a typical animal cell in the space below. Label these five structures: nucleus, cell membrane, cytoplasm, mitochondria and ribosomes.

Drawing space

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Part D: Short Answer Questions (6 marks)

1. Why do muscle cells usually contain many mitochondria? (2 marks)

2. Explain how the nucleus and ribosomes work together to produce proteins. (2 marks)

3. Why is the cell membrane important for keeping a cell alive? (2 marks)

Part E: Apply Your Knowledge (4 marks)

A scientist studies two cells:

- Cell A: Contains many mitochondria.
- Cell B: Contains many ribosomes.

1. Which cell is likely to have a higher demand for energy? Explain. (2 marks)

2. Which cell is likely to produce large amounts of protein? Explain. (2 marks)

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Answer Key – Teacher Copy

Part A: 1–C, 2–A, 3–E, 4–B, 5–D.

Part B: 1. Nucleus; 2. Membrane; 3. Ribosomes; 4. Mitochondria; 5. Cytoplasm.

Part C: Award one mark for each correctly drawn and labelled structure. Accept a simple oval cell with appropriate internal structures.

Part D:

1. Muscle cells need large amounts of energy for contraction. Mitochondria release usable energy through aerobic respiration.
2. The nucleus contains DNA instructions for making proteins. Ribosomes use instructions carried by mRNA to assemble proteins.
3. The cell membrane regulates the movement of substances, allowing necessary materials to enter and wastes to leave.

Part E:

1. Cell A, because mitochondria are responsible for most aerobic respiration and ATP production.
2. Cell B, because ribosomes are the structures that make proteins.

Learning target coverage: Parts A and B assess identification and functions; Part C assesses drawing and labelling; Parts D and E assess how organelles work together and how their structures relate to their functions.

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