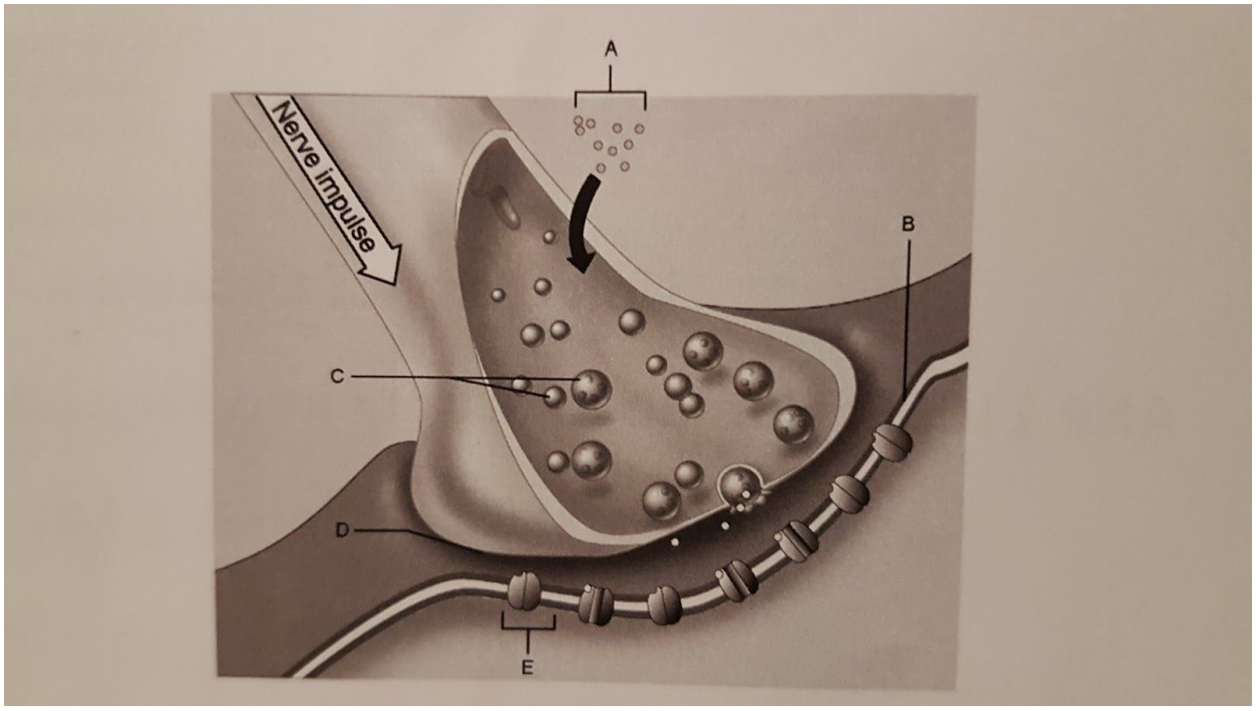
ANP 1105 Midterm 1 (Russell and Savory)
UNIVERSITY OF OTTAWA
NO ANSWERS (FOR PRACTICE)

For questions 1 and 2, use the diagram to identify the following



1. Ion channel
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3. Which of the following determines the velocity of a nerve impulse?
   a) axon diameter
   b) axon length
   c) axon myelination

d) b and c
e) a and c

4. Which of the following is true about inhibitory postsynaptic potential (IPSP)?
   A. it is required for repolarization after an action potential
   B. It results in the extracellular fluid becoming more negative
   C. It can be caused by intake of chloride ions in the cell
   D. It is most often triggered by the import of potassium into the cell against its concentration gradient

5. If a postsynaptic cell is stimulated to threshold by temporal summation this implies that: _____.
   a) a presynaptic neuron is sending frequent EPSP
   b) the presynaptic neuron is sending frequent IPSP
   c) the postsynaptic cell is sending frequent action potential
   d) the postsynaptic cell can be influenced by only one presynaptic cell

6. Which of the following is a set of true statements about graded potentials?
   a) It travels long distances, uses sodium transport and is triggered by neurotransmitters
   b) It varies in size, most often begins at a dendrite and spreads through ionic attraction
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7. Which of the following is true about action potentials?
   a) Chemical synapses ensure bi-directional transmission of the AP
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For the next 2 questions, match the following term to the description

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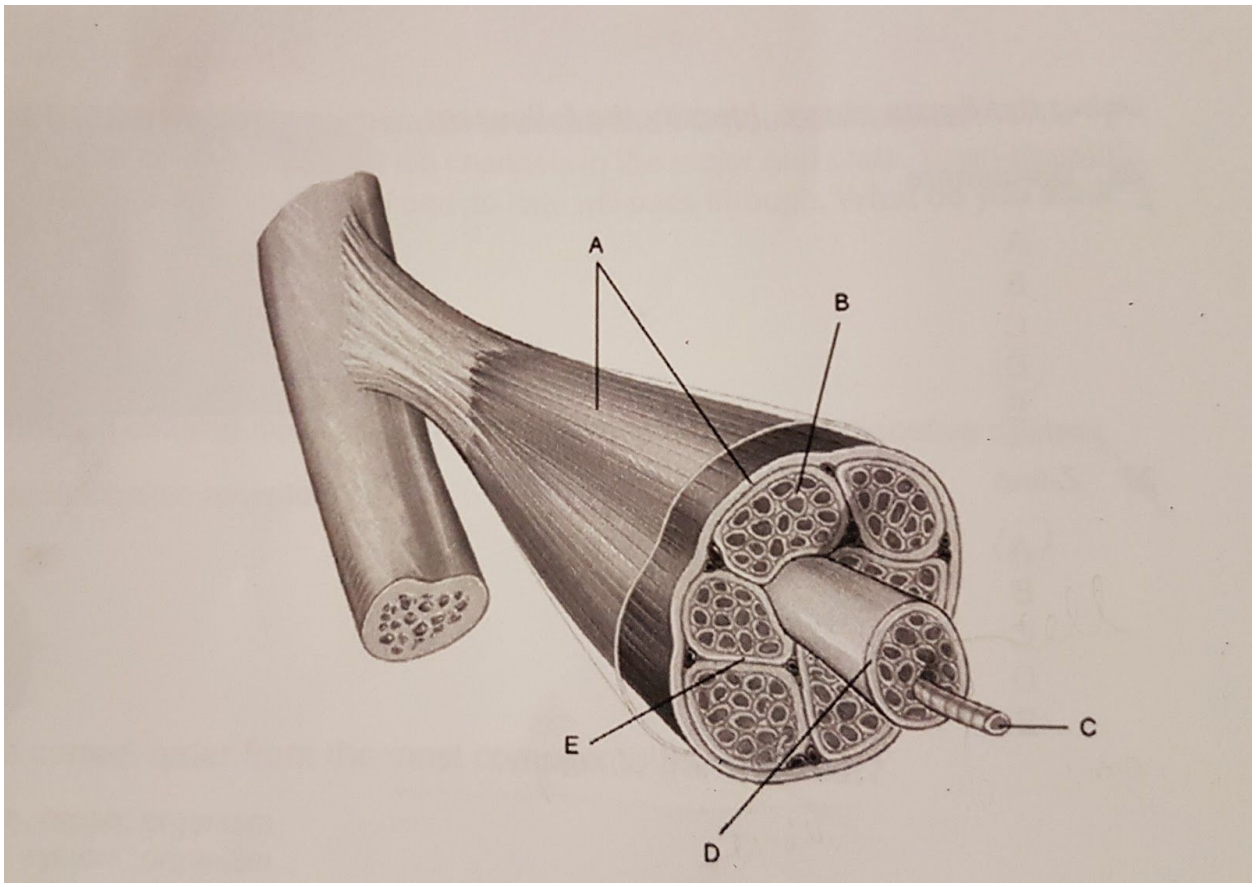

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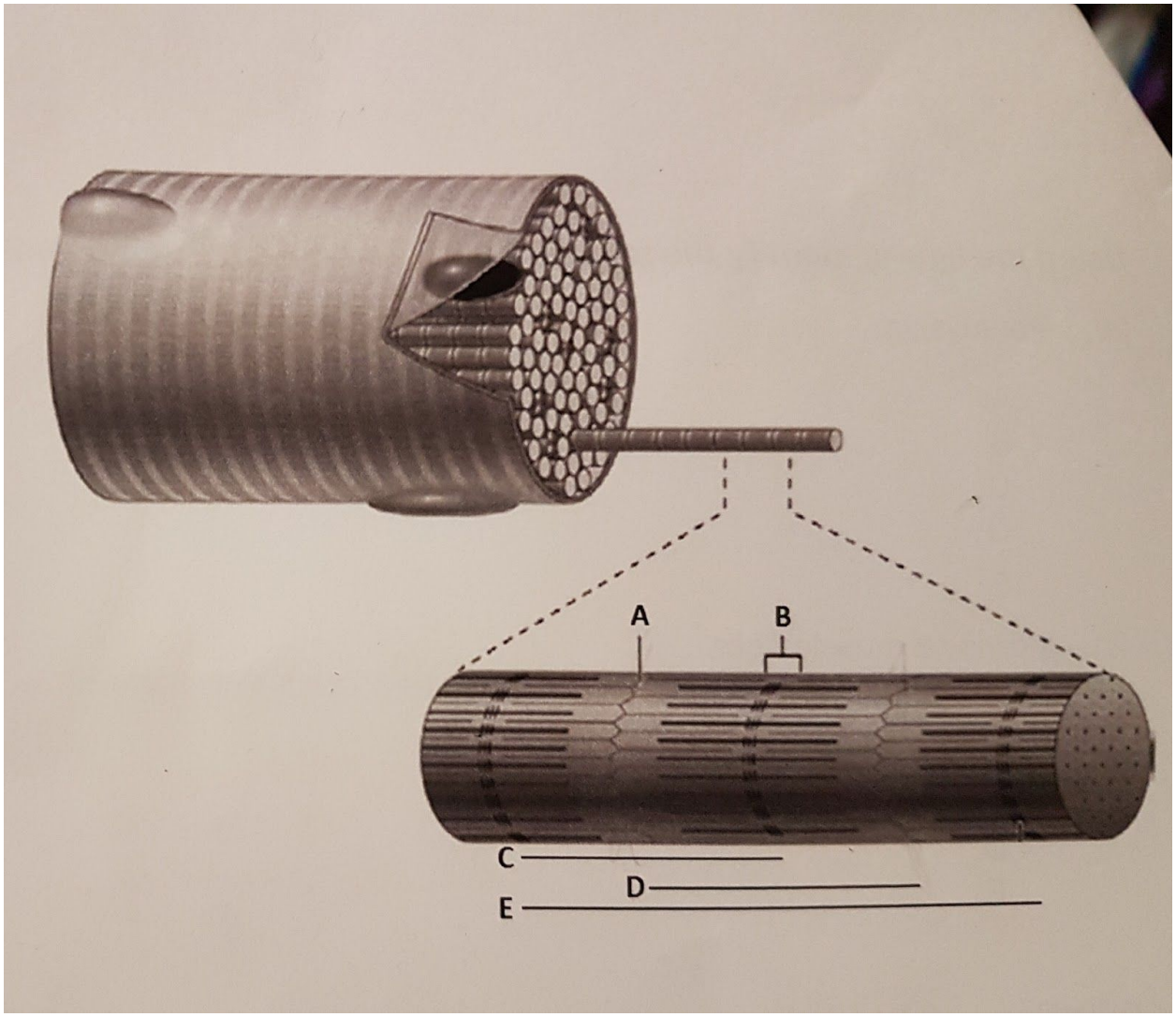

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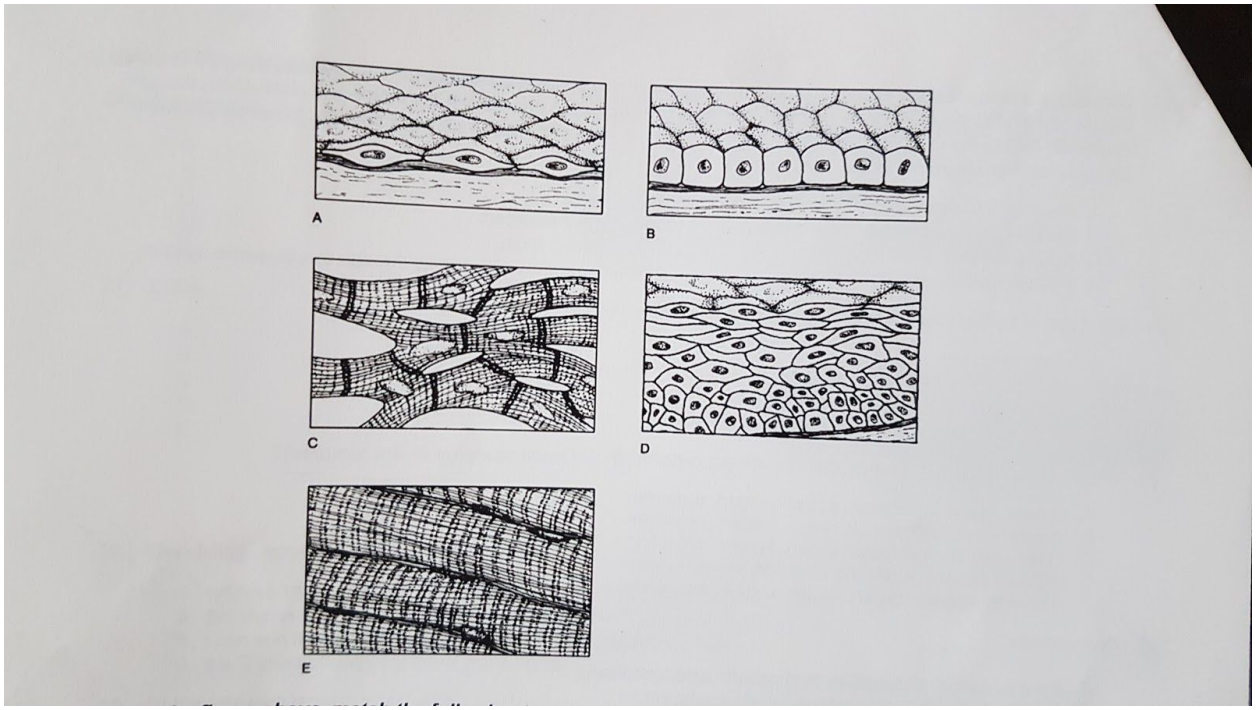

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a) Cells of the immune system recognizing the tumorous cells as foreign and destroying them
b) The cancer cells conserving energy for more growth
c) Allowing the cancer cells to bind to their healthy, neighbouring cells
d) A decrease in the permeability of the tumour cell's plasma membrane preventing the uptake of chemotherapy drugs

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a) Phagocytosis
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53. A type of transport protein found in the plasma membrane of cells lining the inside of the intestine allows sodium ions to diffuse down their concentration gradient. The ions move

through the transport protein, and into the cell. These transport proteins will use the kinetic energy of the diffusing sodium ions to bring glucose into the cells as well. Which of the following would stop transport of glucose through this transport protein?

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55. Which of the following is a function of a plasma membrane protein?
    a) Circulating antibody
    b) Molecular transport through the membrane
    c) Forms a lipid bilayer
    d) Oxygen transport

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    a) Oxygen
    b) Urea
    c) Alcohol
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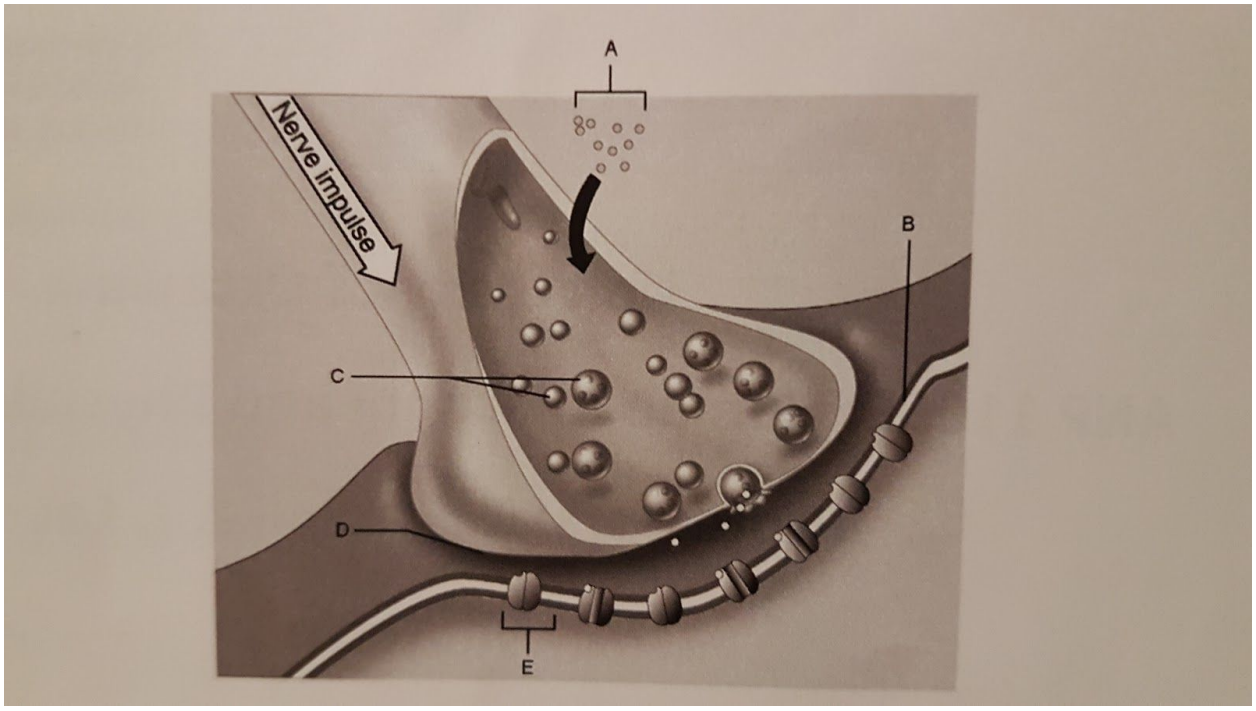

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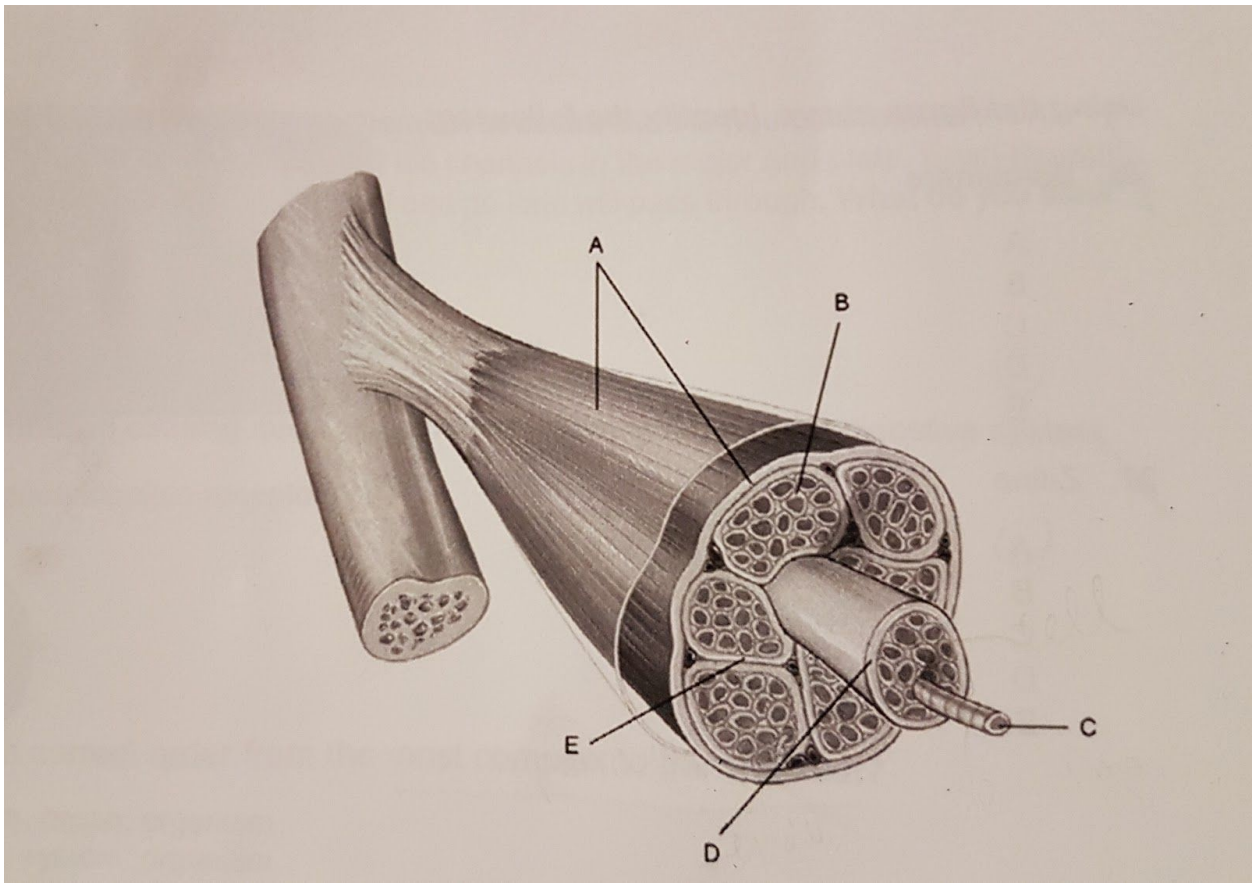

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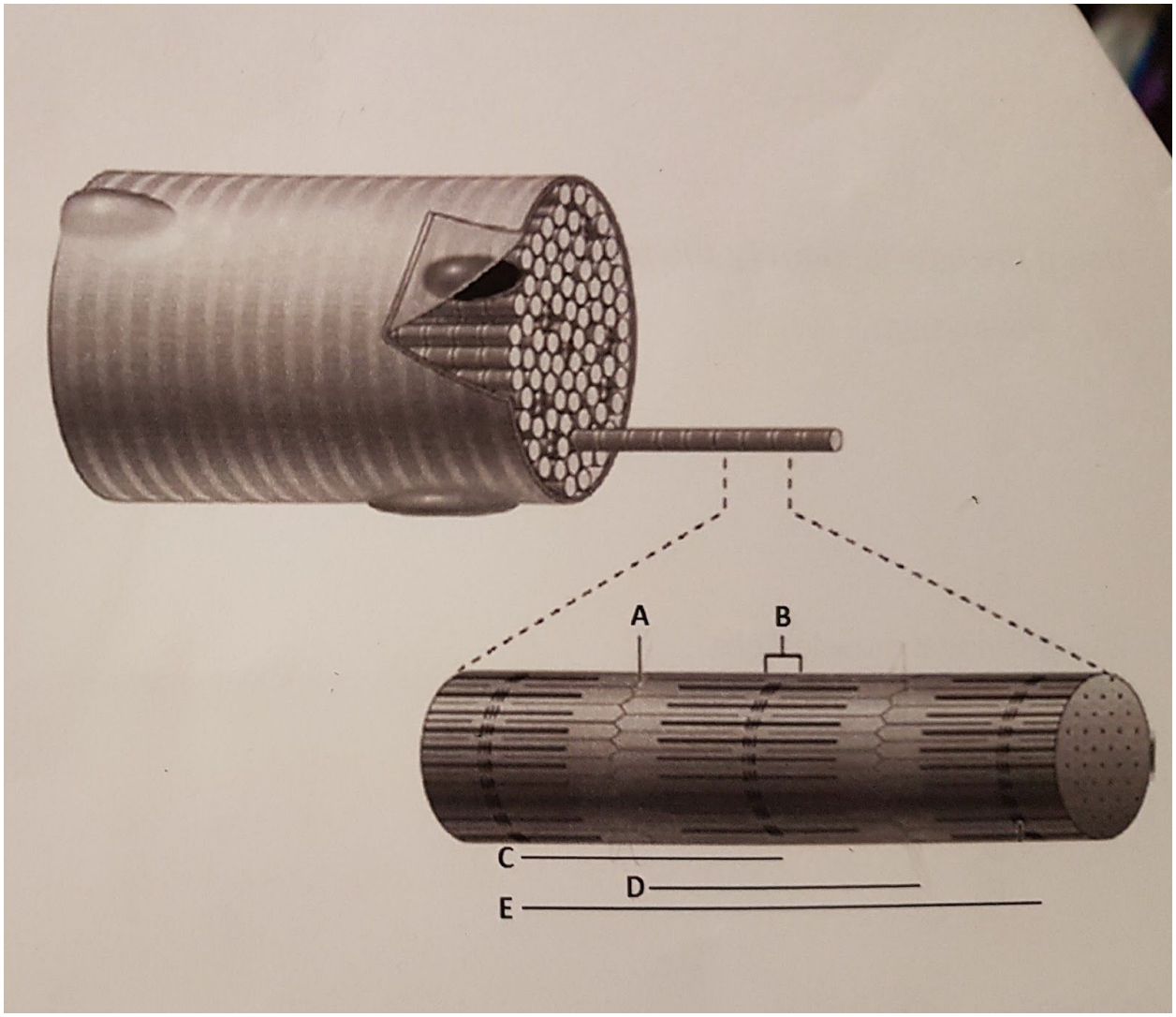

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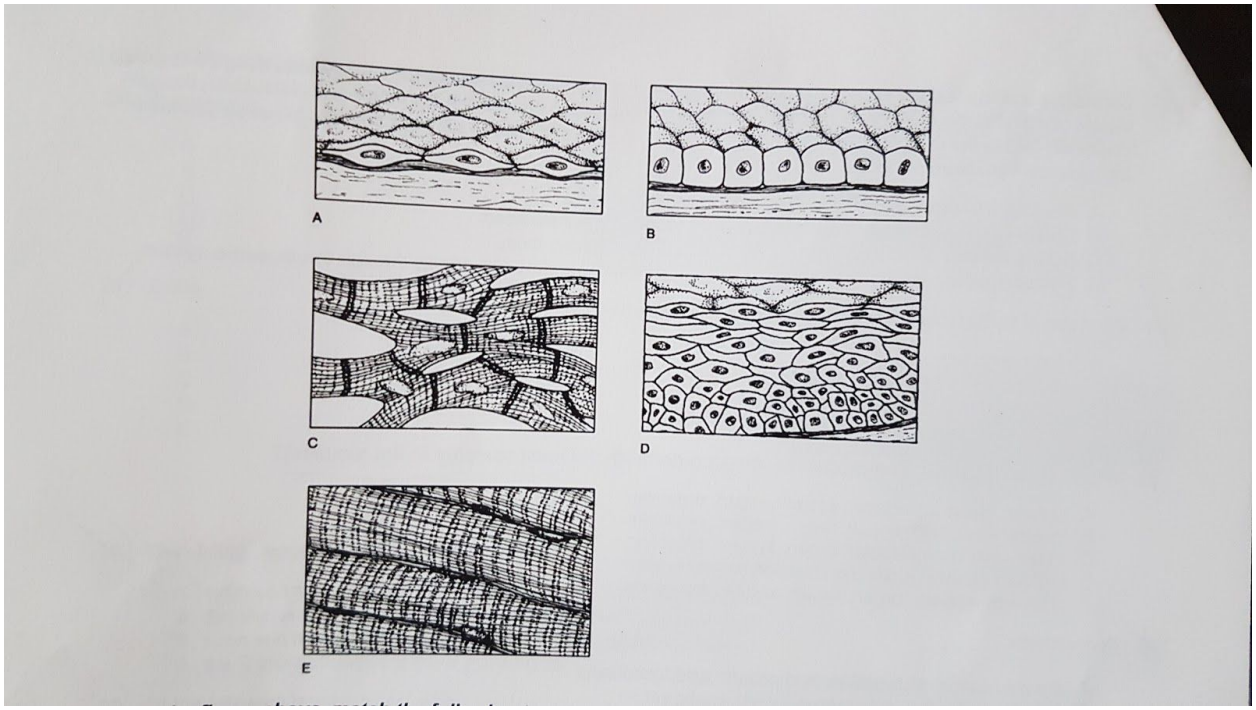

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c) Consumption of ATP
d) The use of transport proteins when moving substances from areas of low to high concentration

55. Which of the following is a function of a plasma membrane protein?

a) Circulating antibody
b) Molecular transport through the membrane
c) Forms a lipid bilayer
d) Oxygen transport

56. Which requires ATP to cross the plasma membrane?

a) Oxygen
b) Urea
c) Alcohol
d) Glucose
e) Carbon dioxide