**BIOLOGY**

**Topic: 5**

*Active vs. Passive Transport*

 ***Mini – Summative #1***

**Directions:** **Select the lettered choice that best answers each question.**

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| 1. | The diagram below shows two different types of molecules entering a cell.   Based on the information above, which of the following **best** describes the relationship between the cell membrane and Molecule X and Y?  |
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| A. | Molecule X requires lower activation energy to move across the cell membrane. |
| B. | Molecule X needs a carrier protein to transport it through the cell membrane. |
| C. | Molecule Y requires ATP move across the cell membrane. |
| D. | Molecule Y binds with Molecule X to move into the cell. |

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| 2. | Which macromolecule makes up **most** of cell membrane layers?  |
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| A. | Carbohydrates |
| B. | Lipids |
| C. | Nucleic acids |
| D. | Proteins |

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The diagram below shows several processes that occur using the cell membrane.



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| 3. | Which of the following is an example of **diffusion**?  |
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| A. | Process W and Process X |
| B. | Process X and Process Y |
| C. | Process Y and Process Z |
| D. | Process Z and Process W |

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| 4. | Which of the following is true about **passive transport**? |
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| A. | It does not allow material to diffuse. |
| B. | It requires energy to create a higher concentration of materials outside the cell. |
| C. | It requires energy to create a higher concentration of materials inside the cell. |
| D. | It allows particles to pass without the use of the cell's energy. |

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| 5. | What is the term for a **fluid** moving across a membrane from an area of high concentration to one of low concentration? |
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| A. | Endocytosis |
| B. | Facilitated diffusion |
| C. | Active transport |
| D. | Osmosis |

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| 6. | Fill in the blank.The cell membrane is referred to as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because it allows some materials to pass through, but not all. |
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| A. | Porous |
| B. | Selectively permeable |
| C. | Hypotonic |
| D. | Actively diffusive |

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| 7. | What is needed for material to enter the cell membrane through active transport? |
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| A. | A higher concentration of material inside the membrane |
| B. | A hypotonic solution |
| C. | The cell's energy (ATP) |
| D. | A higher concentration of material outside the membrane |

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| 8. | Fill in the blank. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ occurs spontaneously when molecules spread out from an area of high concentration to an area of lower concentration. |
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| A. | Diffusion |
| B. | Osmosis |
| C. | Active transport |
| D. | Permeability |

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| 9. | How might the molecule indicated in the diagram pass into this cell against the concentration gradient?  |
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| A. | It might dissolve in water and enter by diffusion. |
| B. | It might dissolve in water and enter by osmosis. |
| C. | A carrier protein might take it in by active transport. |
| D. | A carrier protein might take it in by facilitated diffusion. |

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| 10. | Use the diagram of the cell membrane below to answer the question. Which organic molecule is indicated by the arrow? |
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| A. | A phospholipid |
| B. | A protein |
| C. | A fatty acid |
| D. | An amino acid |

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| 11. | The diagram below shows two different kinds of substances, A and B, entering a cell. Based on the information above, which of the following **best** describes the relationship between the cell and substances?  |
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| A. | Substance A requires active transport to move across the membrane into the cell |
| B. | Substance B requires active transport to move across the membrane into the cell |
| C. | Substance A requires active transport to move across the membrane out of the cell |
| D. | Substance B requires passive transport to move across the membrane out of the cell |

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The diagram below illustrates the transport of materials across a cell membrane.



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| 12. | Which of the following is an example of active transport?  |
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| A. | X |
| B. | X and Y |
| C. | Y and Z |
| D. | Z |

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| 13. | Which of the following is an example of passive transport?  |
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| A. | Y |
| B. | X and Y |
| C. | Y and Z |
| D. | Z |

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