SI Knowledge Practice:

Name:

1. Carrier mediated transport:
   1. Is dependent on the amount of lipids in a membrane
   2. Is generally carried out by membrane proteins
   3. Occurs only down concentration gradients
   4. Is always passive
   5. Always requires energy
2. The net diffusive flux of carbon dioxide across the membrane will be:
   1. Predicted by the direction of its mediated transport system
   2. Inversely proportional to its molecular radius and weight
   3. Inversely proportional to the difference in its concentration on the two sides of the membrane.
   4. Independent of its physical and chemical nature
   5. Depends on the nature of the carbon dioxide used.
3. Which is the first part of the cell that is affected when the pH of the extracellular fluid changes?
   1. Nucleolus
   2. Cilia
   3. Cytosol
   4. Cytoskeleton
   5. Cell membrane
4. Which of the following is NOT a function of membrane proteins?
   1. Support
   2. Transport
   3. Metabolic regulation
   4. Cell-cell recognition
   5. Produce energy
   6. C & D
   7. C& E
   8. All are functions of membrane proteins
5. When describing the cell’s membrane potential, the cell interior is :
   1. More positively charged than the exterior
   2. More negatively charged than the exterior
   3. Electrically neutral
   4. Continuously reversing its electrical charge
   5. Positively charged whenever the sodium-potassium pump is active

ESSAY – Write Out Questions

1. Differentiate between integral proteins and peripheral proteins:
2. A human cell was placed in a beaker of 2M NaCl, after 20 minutes the cell began to swell. When the cell was placed in another unknown solution, there was no effect 24 hours later. Using appropriate scientific terminology, provide a hypothesis or deductive conclusion to the observation.
3. Define membrane fluidity? How does membrane fluidity affect the cell or cellular functions?
4. Define tonicity? What is the difference between tonicity and osmosis? How are the two related?
5. What is an electrogenic pump? Define electrochemical gradient? How does this relate to membrane potential?