**Passive & Active Transport** (p. 74 – 83)

**I. Diffusion**

**1. Define the term passive transport.**

Passive Transport –

**2. Differentiate between a concentration gradient and equilibrium.**

Concentration Gradient : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equilibrium : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. Define the term diffusion.**

Diffusion –

**4. What are two types of substances that can passively diffuse across a cell membrane?**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**II. Osmosis**

**1. Define the term osmosis.**

Osmosis –

**2. Water diffuses from a lower concentration to a higher concentration.**

Circle One : True False

**3. Complete the table.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Fluid Outside Cell** | **Outside Solution** | **Water Movement** | **Result** |
| Lower Water  Concentration |  |  | Cell Shrinks |
| Higher Water  Concentration |  | Into Cell |  |
|  | Isotonic | In & Out at  Equal Rates |  |

**4. How do contractile vacuoles reduce swelling effects due to hypotonic solutions?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**III. Crossing The Membrane**

**1. Define the term ion channel.**

Ion Channel –

**2. List four common ions transported through ion channels.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. The inside of a cell is typically more positively-charged than the outside solution.**

Circle One : True False

**4. Define the term facilitated diffusion.**

Facilitated Diffusion –

**5. List three types of substances transported through facilitated diffusion.** (Not in the book.)

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**IV. Movement Against A Concentration Gradient** *(Primary Transport)*

**1. Define the term active transport.**

Active Transport –

**2. Active transport requires the usage of ATP energy.**

Circle One : True False

**3. Describe how a sodium-potassium pump operates across a cell membrane.**

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**V. Movement In Vesicles** *(Secondary Transport)*

**1. Differentiate between endocytosis and exocytosis.**

Endocytosis : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Exocytosis : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_