

## Cell Membrane

1. Both simple and facilitated diffusion have which characteristic?
2. A pure phospholipids bilayer is most permeable to which substances?
3. How called the substances that dissolve readily in water?
4. What is happens with cell in hypotonic solutions?
5. What is called the control system that acts to oppose a change in the level of a variable and restore it to its original value?
6. What is the name of the transport of a coupled substances across the plasma membrane moved in the opposite direction?
7. How called the substances that are insoluble in water?
8. What is happens with cell in hypertonic solutions?
9. What is meant by the internal environment of the body?
6. What is the name of the transport of a coupled substances across the plasma membrane moved in the same direction?
7. Which is the main structural elements of cell membranes?
8. Which is the principal intracellular cation?
9. Which is the principal extracellular cation?
10. Which is the principal extracellular anion?
- 11 Which is quantitatively the major cation in the ECF compartment?
- 12 Describe the function of cell membrane.
- 13 What is meant by homeostasis?
14. What is the difference between the ionic compositions of extra- and intracellular fluids?
15. Explain the mechanism of diffusion through the cell membrane and list the common substances that normally pass the membrane in this manner.
16. What is meant of active transport through the cell membrane? Give the mechanism of active transport.
17. What is the significance of sodium pump?
18. What is meant by isotonicity, hypo- and hypertonicity?
19. Explain the mechanism of osmosis through the cell membrane and explain how osmotic pressure can develop across a semipermeable membrane.
20. What are the difference between extra- and intracellular fluids?
21. Describe the structure of cell membrane.
22. What is meant by Permeability?
23. Both active transport and facilitated diffusion have which characteristic?

## Excitation

1. How does a membrane potential develop across the nerve membrane?
2. The resting membrane potential of a cell is primarily dependent on the concentration gradient of which ion?
3. In extracellular fluid which ions is said to be a membrane-stabilizing factor?
4. The sodium pump is primarily responsible for maintaining the transmembrane concentration difference of which ions?
5. What is meant by All or Nothing Principle?
6. Explain the mechanism of action potential.
7. Describe the positive feedback regenerative process that cause depolarization.
8. Describe the mechanism of repolarization.
9. Describe the after-potentials.
10. Describe the spike potential.
11. Explain the effects of cathodal and anodal currents on the fiber membrane.
12. What is meant by threshold?
13. What is meant by accommodation?
14. Which factors increase membrane excitability?
15. List the factors increasing and decreasing membrane excitability.
16. What is meant by refractory period?
17. Which ion's movement is primarily responsible for the depolarization during an action potential?
18. The resting potential of a nerve fiber is primarily dependent on the concentration gradient of which ion?
19. Which ion's movement is primarily responsible for the repolarization during an action potential?
20. Which of potential (postsynaptic, action, receptor, end-plate) propagates without decrement?
- 2q. Some ion channels open when they bind a specific chemical agent. How is known such kind of channel?
22. Which potential (postsynaptic, action, receptor, end-plate) submitted the all-or-none principle?
23. Some ion channels open in response to depolarization of the membrane. How is known such kind of channel?
24. A stimulus that is below the threshold will not elicit an action potential while a stimulus that is above the threshold will do so, and each action potential has approximately the same magnitude and duration irrespective of the strength of the stimulus. How is known the process?
25. For which type of potential (postsynaptic, action, receptor, end-plate) the refractory period is a characteristic feature?