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Chapter # "Cells and Tissues"

Q. M.C.Qs:

- gases such as oxygen and carbon dioxide cross the cell membrane by
 - Passive diffusion through the lipid bilayer
 - Primary active transport
 - Specific gas transport proteins
 - Secondary active transport
- Carrier proteins take part in
 - Water transport
 - Active transport of ions
 - Passive transport of ions
 - None of these
- Which of the following is an example of primary active transport?
 - $\text{Cl}^- - \text{HCO}_3^-$ exchange
 - $\text{Na}^+ - \text{K}^+$ ATPase
 - $\text{Na}^+ - \text{H}^+$ exchange
 - $\text{Na}^+ - \text{Ca}^{++}$ exchange
- The principal intracellular cation is :
 - Na^+
 - Ca^{++}
 - K^+
 - Cl^-
- The sodium pump**
 - Exchanges extracellular Na^+ for intracellular K^+
 - Is an ion channel
 - Is important for maintaining a constant cell volume
 - Can only be inhibited by metabolic poisons
- Which of the following values is closest to the resting membrane potential of mammalian cells:**
 - +20 mV
 - 20 mV
 - 60 mV
- Which of the following statements regarding exocytosis is correct?**
 - Is always employed by cells for secretion
 - Takes up large molecules from the extracellular space
 - Allows the retrieval of elements of the cell membrane
 - Is used to deliver material into the extracellular space
- Endocytosis is used by cells to:
 - ingest bacteria and cell debris
 - retrieve elements of the cells membrane after exocytosis
 - secrete largely molecules into the extracellular space
 - none of these
- Pinocytosis
 - at sites of membrane called coated pits
 - for large proteins molecules
 - by formation of the pinocytic vesicle
 - all of these
- the resting membrane potential is mainly determined by:
 - the K^+ gradient
 - the Cl^- gradient
 - the Ca^{2+} gradient
 - the Na^+ gradient
- Which of the following process requires membrane proteins?
 - pinocytosis
 - exocytosis
 - phagocytosis
 - receptor-mediated endocytosis
- Phagocytosis
 - is preceded by opsonization
 - requires the presence of Ca^{+2} ions in extracellular fluid
 - occurs mainly in leucocytes
 - all of these
- the small polar molecules , ions and macromolecules can travel between the nucleus and the cytoplasm through
 - membrane channels
 - inter membrande transporters
 - transporters like kinesin
 - nuclear pore complexes



14. The fluidity of a phospholipid bilayers depends on:
1. chain length of the fatty acid 2. Glycoprotein content of the lipid bilayer
3. Degree of unsaturation of fatty acid 4. Carbohydrate content of the lipid bilayers\
a. 1 only b. 1 & 3 only c. 2 only d. 1 & 2 only
15. Why is transport across the plasma membrane necessary?
A. transport of substances for metabolic activities C. movement of substances produced by cells
B. movement of waste product out of cell D. all of the above
16. Which of the following methods does not require any carrier or channel for transport of substances?
A. secondary active transport B. facilitated diffusion
C. simple diffusion Primary active transport
17. Which substances are transported through facilitated diffusion?
A. galactose B. urea C. oxygen D. alcohol
18. Match the following-
A. simple diffusion 1. Movement of charged substances
B. secondary active transport 2. Energy from hydrolysis of ATP
C. primary active transport 3. Stored energy from ionic gradient
D. facilitated diffusion 4. Movement without and membrane protein
19. Which type of movement occurs when Na/K pump is used?
A. Na ions moves out of the cell and K⁺ move in
B. K⁺ ion moves out of cell and Na ion move in
C. both Na and K⁺ ions move inside the cell
D. both Na and K⁺ move out of the cell
20. Which method facilitates the movement of water molecules?
A. simple diffusion B. facilitated diffusion C. osmosis D. primary active transport
21. Which of the following statement is NOT true?
A. chemical changes leads to change in shape of pump
B. symporters are the one which moves substances in diff direction
C. Vitamin K is transported through simple diffusion
D. in passive transport, the substance moves down its concentration gradient
22. Which substance is transported through secondary active transport?
A. urea B. water C. O₂ d. none of the above
23. What is the source of energy in active transport?
A. from sunlight B. hydrolysis of ATP
C. energy stored in ionic concentration gradient D. both A and C
24. In what case, the transporters are known as antiporters?
A. when 2 substances move in same direction
B. when 2 move in same direction and 1 in opposite
C. when 3 move in same direction
D. when 2 substances move in opposite direction



ANSWERS:-

1. A
2. B
3. B
4. C
5. C
6. C
7. D
8. B
9. D
10. A
11. D
12. D
13. D
14. B
15. all of the above
16. simple diffusion
17. galactose
18. a - 4 b - 3 c - 2 d - 1
19. Na ions move out of the cell and K⁺ ion move in
20. osmosis
21. symporters are the one which moves the substances in opposite direction
22. none of the above
23. both B and C
24. when 2 substances move in opposite direction





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