Intercellular communication and connection

1. What is the main topic of the presentation ?
   - a) Cellular Respiration
   - b) Intercellular Connection and Communications
   - c) Cellular Metabolism
   - d) Cell Cycle and Division

2. Which molecules are responsible for anchoring two cells together in Desmosomes ?
   - a) Keratins
   - b) Cadherins
   - c) Integrins
   - d) Collagens

3. Where are Tight Junctions commonly found ?
   - a) Muscle tissues
   - b) Nervous tissues
   - c) Epithelial tissues
   - d) Connective tissues

4. Which type of chemical signal is long range ?
   - a) Paracrine
   - b) Autocrine
   - c) Hormones
   - d) Neurotransmitters

5. The primary function of Desmosomes is to :
   - a) Allow communication between cells
   - b) Prevent extracellular fluids from leaking

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- c) Anchor two cells together
- d) Allow passage of ions and small molecules

6. The rapid change in membrane potential that briefly reverses the electrical charge across a cell's plasma membrane is called :

- a) Resting potential
- b) Graded potential
- c) Action potential
- d) Threshold potential

7. Which ion is responsible for the depolarization phase of an action potential ?

- a) Chloride (Cl^-)
- b) Calcium (Ca^{2+})
- c) Potassium (K^+)
- d) Sodium (Na^+)

Fill-in-the-blank Questions

8. Desmosomes are commonly found in tissues getting exposed to _____.

9. Tight Junctions are also called _____.

10. _____ is a local chemical signal released by a neuron to a synaptic target.

11. In Tight Junctions, molecules are forced to go through the _____.

12. _____ are patches characterized by apposed thickenings of the membranes of two adjacent cells.

13. Cells communicate with each other to perform specialized functions and maintain _____.

14. Chemical signals used for communication between cells include Paracrine, Autocrine, Hormones, and _____.

15. The resting membrane potential is typically around _____ mV.

16. During the repolarization phase of an action potential, K^+ ions _____ (enter/exit) the cell.

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True or False Questions

17. Desmosomes provide structural support and prevent cells from overstretching. (True/False)

18. Tight Junctions allow extracellular fluids to leak between cells. (True/False)

19. Cadherins are responsible for anchoring two cells together in Gap Junctions. (True/False)

20. Neurotransmitters are an example of long-range chemical signals. (True/False)

21. Cell Adhesion Molecules (CAMs) are associated with Tight Junctions. (True/False)

22. Desmosomes are characterized by apposed thickenings of the membranes. (True/False)

23. Hyperpolarization makes a neuron less likely to fire an action potential. (True/False)

Additional Multiple Choice Questions

24. What do cells use for cell-to-cell recognition ?

- a) Neurotransmitters
- b) Hormones
- c) Cell Adhesion Molecules (CAMs)
- d) Ions

25. Which neurotransmitter is associated with muscarinic receptors ?

- a) Dopamine
- b) Serotonin
- c) Acetylcholine
- d) GABA

26. Which of the following is not a type of cell junction ?

- a) Tight Junction
- b) Gap Junction
- c) Desmosome Junction

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- d) Ion Junction

27. The main purpose of cell junctions is to :

- a) Provide energy to cells
- b) Facilitate cell division
- c) Ensure proper cell-to-cell communication and connection
- d) Protect cells from pathogens

28. Which chemical signal acts locally but on the cell that produces it ?

- a) Paracrine
- b) Autocrine
- c) Hormones
- d) Neurotransmitters

29. Which of the following is not a function of cell junctions ?

- a) Nutrient absorption
- b) Structural support
- c) Cell-to-cell communication
- d) Protecting DNA from damage

30. Intercellular connections are vital for :

- a) Isolating cells from each other
- b) Ensuring cells operate independently
- c) Maintaining homeostasis and specialized functions
- d) Accelerating the aging process of cells

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