

Chapter – 18 | Neural Control and Coordination

QUIZ
PART-03

1. At rest, axon membrane is more permeable to:

- A. Na^+
- B. K^+
- C. Cl^-
- D. Ca^{2+} (B)

Explanation : Resting membrane is more permeable to potassium ions.

2. At resting state, axoplasm contains high concentration of:

- A. Na^+ and glucose
- B. K^+ and negatively charged proteins
- C. Ca^{2+} and oxygen
- D. Cl^- and hormones (B)

Explanation : Inside axon has more K^+ and negative proteins.

3. Sodium-potassium pump transports:

- A. 2 Na^+ out and 3 K^+ in
- B. 3 Na^+ out and 2 K^+ in
- C. 3 K^+ out and 2 Na^+ in
- D. Equal Na^+ and K^+ (B)

Explanation : $\text{Na}^+ - \text{K}^+$ pump maintains ionic gradient.

4. Resting membrane is:

- A. Depolarised
- B. Polarised
- C. Neutral
- D. Destroyed (B)

Explanation : Outside is positive and inside is negative.

5. Action potential is produced due to rapid entry of:

- A. K^+
- B. Na^+
- C. Protein
- D. Hormone (B)

Explanation : Na^+ entry causes depolarisation.

6. During depolarisation:

- A. Outside becomes positive and inside negative
- B. Outside becomes negative and inside positive
- C. Both sides become negative
- D. Both sides become positive (B)

Explanation : Polarity reverses at stimulated site.

7. Resting potential is restored mainly by movement of:

- A. K^+ outside
- B. Na^+ inside
- C. Protein outside
- D. Glucose inside (A)

Explanation : K^+ diffuses out to restore resting potential.

8. Synapses are formed between:

- A. Two muscles
- B. Pre-synaptic and post-synaptic neurons
- C. Bone and cartilage
- D. Blood cells (B)

Explanation : Synapse connects neurons.

9. Chemical synapse has a fluid-filled space called:

- A. Synaptic cleft
- B. Node of Ranvier
- C. Axoplasm
- D. Corpus callosum (A)

Explanation : Chemical synapse contains synaptic cleft.

10. Electrical synapses in humans are:

- A. Very common
- B. Very rare
- C. Absent in all animals
- D. Found only in bones (B)

Explanation : Electrical synapses are rare in human body.