Lecture # 2

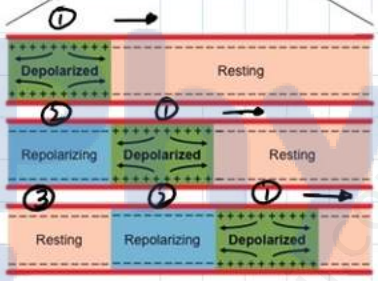
Oscilloscope (Measure) → **NERVE IMPULSE** → Wave of Electro-chemical change.
Unidirectional, Irreversible

RECEPTOR → SENSORY NEURON → CNS → MOTOR NEURON → EFFECTOR

MCQ's

Unequal distribution of Ions ← **RMP:**
(Resting memb. Potential)
Potential measured at no conduction.
−70 mV (PTB)
−65 mV (STB)
−90 mV (Cardiac cells)

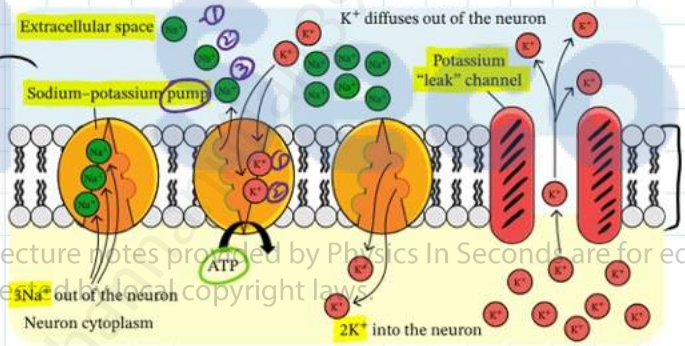
Na^+ (10x) (145 mMol/L) K^+ (5 mmol/L) — ECF / ICF
Na^+ (15 mmol/L) 50 mM K^+ (30x ↑↑) (150 mmol/L) — Neuroplasm



Electropositive (Na^+ ↑↑)
Electronegative
→ Proteins / Amino Acids
→ RNA / SO_4 / PO_4

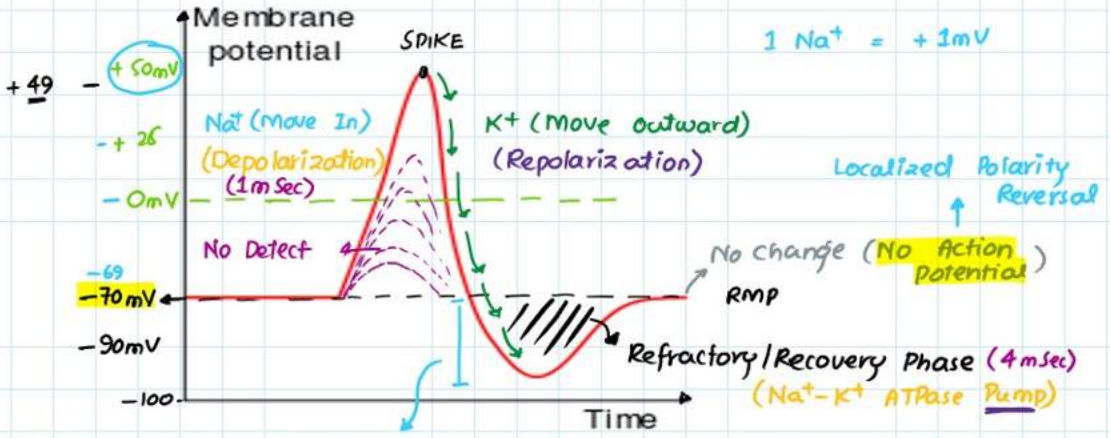
1. Na^+-gates/channels (Moves Na^+ inside) → Depolarization (Passive)
2. K^+-gates/channels (Moves K^+ outside) → Repolarization (Passive)

3. Recovery Phase
Refractory Phase
→ Active Transport



ECF → Extra cellular Fluid
↗ Impermeable to all ions
NEUROLEMMA
↳ Permeable to (K^+)
NEUROPLASM

- Stimulus → Any change which body can detect.
- Threshold Stimulus → Minimum value which body can detect.
- Sub-threshold Stimulus → which body can not detect



1 Na^+ = + 1mV

Localized Polarity Reversal

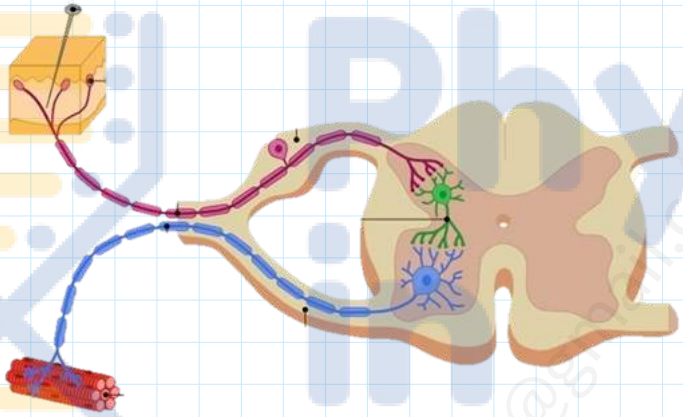
RMP

Pump
3 Na^+ (Outside)
2 K^+ (Inside)
5 cations movement

250 Impulses/sec

SYNAPSE

REFLEX ACTION



REFLEX ARC

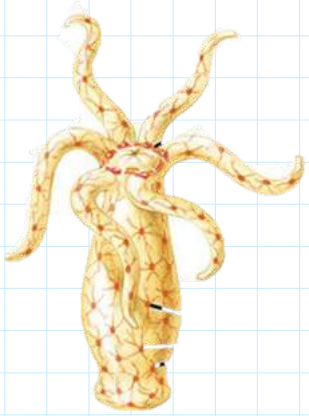
Pathway followed by reflex action is called reflex arc.

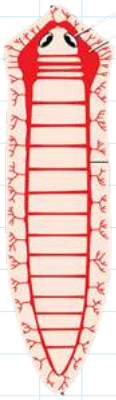
CLASSIFICATION OF SYNAPSES

EVOLUTION OF NERVOUS SYSTEM

DIFFUSED NERVOUS SYSTEM

CENTRALIZED NERVOUS SYSTEM





PAST PAPER QUESTIONS

The type of neuron that carries nerve impulse from tissue and organ to the spinal cord and brain:

ETEA – 2022.

A. Sensory neuron
B. Motor neuron
C. Intermediate neuron
D. Associative neuron

The reflex action is the phenomenon which only involves:

MDCAT – 2019 :.

A. Brain, Receptors, spinal cord
B. Receptors, Neurons, Brain
C. Receptors, Effectors and Spinal cord
D. Receptors and Effectors

An automatic, involuntary response to any change external or internal is called:

NUMS – 2022 .

A. Reflexes
B. Instincts
C. Taxis
D. Tropism

During an involuntary action, nerve impulse is passed through a pathway called:

BUMHS – 2022 ::

A. Reflex action of nerve impulse
B. Reflex action of glands
C. Reflex arc and reflex action
D. Reflex arc

The resting membrane potential of neuron is measured about:

ETEA – 2022 ...

A. -30 millivolts
B. 50 millivolts
C. -70 millivolts
D. 100 millivolts