



**RASHIDA IQBAL FINANCIAL AID**  
**ORGANIZATION**

**MSK - 1**

**PHYSIOLOGY GUIDELINES**

**FOR 1<sup>ST</sup> YEAR**

**RIFAQ**  
RAWALPINDI MEDICAL UNIVERSITY

This includes Nerve physiology for which the following study material is recommended:

Chapter 5 and 7 from Guyton, lecture notes, nerve physiology chapter from Mushtaq.

### Important Stuff:

- Nernst Potential and Equation. Values of Nernst potential for Sodium & Potassium ions.\*\*\* (from Guyton ch no 5, pg no 62)
- Goldman's equation.\*\*(imp for seq, to be done from Guyton ch no 5 pg no 62)
- Values of diffusion potential for each ion. (Potassium, sodium, chlorine.) □  
Resting Membrane potential, its definition & value for a large nerve fibre. \*\*\*
- Action membrane potential. Its graph. States of depolarization, repolarization, after depolarization, after hyperpolarization and their physiological basis. \*\*\*
- Plateau in some action potentials and its physiological basis. \*\*\*
- Saltatory impulse conduction.
- Difference between myelinated and unmyelinated fibres.
- Types of stimuli. Threshold, sub-threshold and suprathreshold.\*
- Refractory period, difference between absolute and relative refractory periods and their physiological bases. \*\*
- Strength duration curve, definitions of rheobase, utilization time, chronaxie and their graph.(from Mushtaq physiology)\*\*\*
- Compound action potential, its physiological basis and its graph.\*\*\*(from Mushtaq physiology)
- Trend of increasing or decreasing diameter, conduction, myelination, resistance to flow of nerve impulse, susceptibility to fatigue and hypoxia from type A to type C nerve fibres.(table given in Mushtaq's physiology)\*\*\*
- Synapse and its types. Difference between electrical and chemical synapses.\*\*(from Mushtaq)
- Properties of chemical synapse. \*\*(imp for seq. To be done from Mushtaq)
- Difference between excitatory and inhibitory postsynaptic potentials.
- Difference between graded potential and action potential. (most important)\*\*\*\*
- Wallerian degeneration.\*\*\*(from Mushtaq)
- Effects of changes in the concentration of Calcium, Sodium and Potassium ions on excitability of nerve fibres.\*\*(from Guyton, ch no 5)

- Drugs that block sodium pump, potassium pump, sodium potassium ATPase pump.
- For neuromuscular junction, motor end plate, its anatomy, diagram, how its potential is generated. \*\*\* (From Guyton)
- Drugs that stimulate and inhibit NMJ. \*\*\*\* (imp for mcq, seq as well as viva. To be done from Guyton ch no 7, Page no 92, 13<sup>th</sup> edition)
- Myasthenia Gravis \*\*\*\*\* (Imp for mcq, seq & viva. To be done from Guyton, ch no 7, Page no 93)

**REMEMBER RIFAO TEAM IN YOUR PRAYERS.**

**All the best! Regards,**

**Laraib Fatima**

**Publications Representative RIFAO,**

**Batch 46.**

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