



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

**Guidelines for module 1<sup>st</sup> year**

**RIFAQ**  
RAWALPINDI MEDICAL UNIVERSITY

## PHYSIOLOGY

### Muscle Physiology

- Comparison of smooth and skeletal muscle contraction
- Latch mechanism
- Stress relaxation of smooth muscle
- Smooth muscle types
- Spike potentials vs. Slow waves
- Cause of spike potentials and slow waves
- Depolarization of multi-unit smooth muscle without action potentials
- Properties of cardiac muscle (to be done from Mushtaq)
- Intrinsic and extrinsic regulation of heart
- Intrinsic is Frank Starling law
- Extrinsic is parasympathetic and sympathetic stimulation of heart
- Ventricular action potential
- SA nodal action potential (written better in Sherwood)
- Funny channels
- Impulse transmission in heart
- AV Nodal delay (very important)
- Why Purkinje fibres cause rapid transmission?
- Ectopic pacemakers
- Why SA node is the dominant pacemaker of heart?
- Vagal tone (from Mushtaq)

- Chronotropy
- Inotropy
- Dromotropic
- Bathmotropic

### ECG and Circulation

- If you have notes from the lecture Sir Ilyas gave then do them, they are very comprehensive and to the point, very easy to understand
- Know how to draw an ECG with properly labelled waves and intervals, it is asked very frequently
- Current of injury
- Cardiac arrhythmias
- Sinus arrhythmia
- AV block and its types
- Stokes Adam – Ventricular escape syndrome
- Premature contractions
- Ventricular fibrillation
- Atrial flutter vs. Atrial fibrillation
- Definition of cardiac output and venous return
- Factors affecting cardiac output and venous return
- Hypo effective vs. hyper effective heart
- Mean circulatory filling pressure, its effect on venous return

### Books

Guyton

Selected topics from Mushtaq or Sherwood

## BIOCHEMISTRY

- Properties of amino acids, both physical & chemical, including color reactions of different amino acids.
- Secondary structure of proteins & its examples. Give a read to primary structure & bonds stabilizing tertiary structure as well(from Lippincott)
- Protein misfolding & related diseases i.e. Prions & amyloids(from lecture notes/Lippincott)
- Classification of proteins ;nutritional ,physiological & on the basis of physicochemical properties(table from satya)
- Definition of protein denaturation & names of the denaturing agents(from Satya)
- Structure & synthesis of Collagen & elastin(from Lippincott)
- Collagenopathies including Ehlers Danlos syndrome, Osteogenesis Imperfecta. Marfan syndrome & its genetic basis.

## ANATOMY

### GROSS

°fascia lata attachments

°iliotibial tract

°saphenous opening

° **femoral triangle**

° **development of femoral sheath, location of femoral nerve**

°femoral canal

- ° femoral hernias
- ° adductor canal
- ° structure under cover of gluteus maximus
- ° nerves of gluteal region
- ° **structures passing through greater and lesser sciatic foramen**
- ° foot drop
- ° **sciatic nerve**
- ° **anastomosis**
  - ☆ cruciate
  - ☆ trochanteric
  - ☆ around knee joint
  - ☆ back of thigh
- ° attachments of all retinacula (especially arrangement of tendons)
- ° deep peroneal nerve
- ° **dorsalis pedis artery**
- ° **hip joint ligaments**
- ° cox vara/cox valga
- ° knee joint ligaments and bursae
- ° knee joint movements plus locking unlocking mechanism
- ° unhappy triad
- ° genu valgum/genu varum
- ° hip joint stability (6 factors)
- ° learn all muscle tables thoroughly

## **HISTOLOGY**

- °practice diagrams of thick and thin skin
- °learn all the types of cells found in skin especially histological features and functions
- °layers of skin with differences
- °differences between eccrine and apocrine sweat glands

## **EMBRYOLOGY**

- °read the muscle and limb development chapters thoroughly as they are important from MCQ point of view
- °the development of integumentary system is very easy, do it from langman
- °vertebral column important for MCQs

## **GENERAL ANATOMY**

- °give the chapters a read, as such not important, but do learn the definitions of antagonists, synergists, etc with examples from the muscle chapter
- °differences between thin and thick skin

**Remember team RIFAO in your prayers.**

***REGARDS,***

***HUMNA ZAFAR***

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