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PHYSIOLOGY

1.GENERAL PHYSIOLOGY

- Homeostasis
- Transport across cell membrane
- Cell junction
- Active transport & passive transport
- Apoptosis

2.BLOOD

- Immunoglobulin and its classification
- Stages of erythropoiesis
- Intrinsic mechanism of blood coagulation
- Complement system in immunity
- Anemia
- Fate of RBC
- Function of plasma protein
- Hemostasis
- Active immunity
- Rh incompatibility and erythroblastosis fetalis
- Hazards of mismatched blood transfusion
- Cell mediated immunity
- Leukopoiesis
- Classify immunity and autoimmune disease
- Anticoagulant in vitro and mechanism
- Natural anticoagulant

3.NERVE MUSCLE PHYSIOLOGY

- Excitation contraction coupling in skeletal muscle
- Refractory period & significance of long refractory period in cardiac muscle
- Myasthenia gravis
- Neuromuscular junction
- Action potential and ionic basis of various phase and draw and label phase
- Walk along theory
- Motor unit
- Saltatory conduction

4.GASTRO-INTESTINAL PHYSIOLOGY

- Swallowing reflex and achalasia cardia
- Composition and function of bile
- Defecation reflex

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- Local hormones of GIT
- Lipid absorption in small intestine
- Composition and function of saliva
- Composition of pf pancreatic and gastric juice
- HCL secretion in stomach and its regulation
- Liver function test and dietary fibers(biochem)
- Movements of small intestine
- Peptic ulcer

5.RENAL PHYSIOLOGY

- Renin-angiotensin aldosterone system
- Tubuloglomerular feedback
- Counter current mechanism
- Juxtaglomerular apparatus
- Renal function test(biochem)
- GFR & factors affecting GFR
- Automatic, atonic & hyperspastic bladder
- Micturition reflex

6.ENDOCRINE PHYSIOLOGY

- GH: action, regulation of secretion, disorder
- TH: action, regulation of secretion, anti-thyroid drug, synthesis
- Insulin: action, regulation
- Mechanism action of peptide
- Cushing syndrome
- Calcium homeostasis
- Other organ with endocrine function
- PTH: synthesis, action
- Oxytocin
  (milk ejection reflex)
- ADH
- Tetany
- Addisonian cortex hormone & Addisonian crisis

9.REPRODUCTIVE PHYSIOLOGY

- Spermatogenesis
- ovarian hormone & action
- menstrual cycle & ovarian changes
- semen analysis
- functions of placenta

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- temporary method of contraception
- ovulation indicator
- puberty onset, stages and describe delayed and precocious puberty
- physiological changes during pregnanacy

8.CARDIOVASCULAR PHYSIOLOGY

- Define shock, circulatory shock 1.stage 2.type and hypovolemic shock
- Coronary blood flow and peculiarities of coronary circulation
- Draw normal trace of ECG & importance of interval & change in ECG in myocardial infraction and ischemia
- Define heart rate, physiological variation, factors affecting it (Bainbridge reflex)
- Cardiovascular changes during exercise
- Bipolar limb lead
- Define cardiac output, various values, factors affecting it (venous return) (peripheral resistance)
- Define blood-pressure, various values, regulation (sino-aortic, short-term, long-term, baroreceptors)
- Cardiac cycle: phase, pressure & volume change (ventricular events)
- Causes and applied physiology of second heart sound

9.RESPITRATORY PHYSIOLOGY

- Respiratory regulation
- Mechanics of respiration (surfactant) (respiratory muscle)
- Transport of gases (o2-hb curve, Halden, Bohr, chloride shift)
- Draw respiratory membrane and diffusion of o2at pulmonary level
- Acclimatization to high altitude
- Hypoxia
- Periodic breathing
- Alveocapillary membrane
- Timed vital capacity
- Vital capacity
- Spirogram
- Factors affecting lung compliance
- Heat
    1. Heat losing mechanism'
    2. Regulation of body temperature
    3. Hypothermia

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10.SPECIAL SENSES

- Dark adaptation
- Visual pathway
- Pupillary reflex
  (accommodation reflex)
- Refractive error
  (myopia, presbyopia, astigmatism)
- Organ of corti
- Test of hearing
- Function of middle ear
- Type of deafness
- Taste buds
- Pathway of taste
- Olfactory receptor and pathway
- olfaction

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