



Research Topics for First Year

1- Urine concentration

- a) Types of nephrons
- b) GFR
- c) Functions of loop of Henle
- d) Functions of vasa recta

2- Glomerular filtration

- a) Afferent arterioles
- b) Efferent arterioles
- c) Glomerulus
- d) Factors affecting GFR

3- Essentiality of the kidney

- a) Homeostasis
- b) Hormonal
- c) Excretory
- d) Synthesis

4- Respiratory dead space

- a) Definition
- b) Components
- c) Functions
- d) Factors affecting

5- Oxygen – Hb dissociation curve

- a) Correlation of normal curve
- b) Comparative curves of different animals
- c) Factors shift to left
- d) Factors shift to right
- e) Significances

6- Physical properties affecting lung functions

- a) What are?
- b) Surfactant sites of secretions and functions
- c) Surfactant site functions
- d) Surfactant disorders
- e) Nervous Control of breathing

7- Blood coagulation

- a. Definition



- b. Types
- c. Mechanism
- d. Role of coagulation factors
- e. Clinically, in the lab. How to make predict the coagulation time
- f. Different diseases related to the coagulation process and treatment
- g. Importance of coagulation

8- Anemia

- a. Definition
- b. Types and Causes
- c. Signs and symptoms
- d. How to differentiate between different types of anemia
- e. Treatment

9- Blood plasma and body fluids

- a. Characters and constituents
- b. Types and function of plasma proteins
- c. Source of plasma proteins
- d. Types and function of body fluids
- e. Physiological significant of blood plasma and other body fluids.

10- Immunity

- a. Types of immunity
- b. Basic Physiology of immune system
- c. Mechanism of immune system
- d. Clinical aspect of immunity
- e. Importance