

Subject Curriculum:-

· **History of Anesthesia**

· **Basic Sciences:**

1. Respiratory System:

- a) Anatomy of the upper airway – nose, pharynx, larynx, tracheo brachial segment.
- b) Mechanics of respiration.
- c) Physiology of respiration, ventilation/perfusion matching, lung volumes and capacities change with age.
- d) Lung function Tests – Bedside / Laboratory for obstructive and restrictive lung diseases.

2. Cardiovascular System:

- a) Heart and autonomic nervous system.
- b) Maintenance of blood pressure
- c) Microcirculation – starting forces/

3. Fluid and electrolyte Acid base balance/imbalance

4. Blood gases and acid – base balance

5. Hematology:- anemia leukemia coagulopathy an Haemoglobuniopathy

6. Immunology related to anesthesia.

7. Nervous System:-

- a) Cranial nerves / nerve plexuses anatomy, special column
- b) Physiology of sleep / Sleep disorders
- c) Physiology & Pharmacology of pain
- d) Physiology and pharmacology of neuromuscular junction.
- e) Molecular basis of anesthesia.
- f) Autonomic nervous system – sympathetic and parasympathic
- g) Thermo regulation.

8. Endocrinology as related to anesthesia:

- a) Function of anterior / posterior pituitary gland.
- b) Hyper/Hypothyroidism/Para thyroid.
- c) Diabetes mellitus-hypo / hyperglycemia, ketoacidosis, hyperosmolar honeketitic coma.
- d) Adrenal cortex / medulla functions/disturbance

9. Pathophysiology of renal failure, renal function tests.

10. Pathophysiology of hepatic failure, renal function tests.

11. Physiology of Vomiting:

12. Pharmacology of anesthesia drugs and adjuncts.

- a) Hypnotics, sedatives.
- b) Anesthetics, antiemetics, anticonvulsants.
- c) Inhabitional anesthetic agents.
- d) Intravenous anesthetic agents.
- e) Muscle relaxants and drug used for reversal.
- f) Drugs acting on autonomic nervous system.
- g) Local anesthetics
- h) Drugs used for respiratory, Cardiovascular and other diseases.

13. Physics – applied to anesthesia:

- a) Ventilators & Monitors, Gas laws
- b) Medical gas supply.
- c) Flow meters, vaporizers.
- d) Breathing systems, carbon-dioxide absorbers.
- e) Suction machines.
- f) Electrical fore & explosion hazards.
- h) Pollution in O.T.

14. Basic of research methodology and statistics.

(A.) GENERAL ANAESTHESIA

1. Operating rooms complex, ICU design

2. Preanaesthetic preparation, concurrent drug, therapy and premedication.

3. Monitoring during anesthesia.

4. Anesthesia administration, endotracheal intubation.

5. Anesthesia For:-

- a) Cardiothoracic surgery ‘
- b) Neurosurgery
- c) Pediatric surgery
- d) E.N.T. and Ophthalmic surgery,
- e) Dental Surgery
- f) Outpatient / Daycare surgery
- g) Orthopedic and Plastic Surgery,
- h) Obstetric and Gynaecological surgery³

i) Urosurgery

6. Emergency anesthesia.

7. Anesthesia for patients with:

- a) Diabetes mellitus
- b) Thyroid diseases
- c) Inherited metabolic diseases
- d) Obesity
- e) Respiratory diseases
- f) Cardiac disease
- g) Renal disease
- h) Geriatric problems

8. Complications of general anesthesia morbidity and mortality medicolegal aspects

(B.) Regional anesthesia

- a.) Subarachnoid and epidural anesthesia, analgesia.
- b.) Plexus and nerve blocks for upper limb.
- c.) Plexus and nerve block for lower limb.
- d.) Nerve blocks for head and neck.
- e.) Regional anesthesia for thorax abdomen
- f.) Surface anesthesia, infiltration, field blocks.

9. Anesthesia for Endoscopic Surgery & Laser Surgery

10. Management of Acute / Chronic Pain

- a.) Assessment of pain
- b.) Peri-operative pain
- c.) Chronic pain syndrome-detection and prevention
- d.) WHO regime for Cancer pain
- e.) Acupuncture, TENS, behavioural therapy.
- f.) Ablative nerve block-desirable know

11. Intensive care

- a.) Principles of intensive care
- b.) Special needs of critically ill patients
- c.) Nosocomial infections prevention⁴
- d.) Nutrition
- e.) Psychological needs of personal

f.) Psychological needs of patient family

g.) Trauma care management

h.) Basic and Advanced Life support