

Syllabus for the post of

(1) Professor, Anaesthesiology, Class-I

(Advt. No.: 37/2019-20)

(2) Associate Professor, Anaesthesiology, Class-I

(Advt. No.: 69/2019-20)

(3) Assistant Professor, Anaesthesiology, Class-I

(Advt.No.: 98/2019-20)

Medium: English

Questions: 200

Marks: 200

1. Anatomy:

Diaphragm, upper and lower airway, regional anaesthesia, field block, central neuraxial, blockade, block for acute pain states, Intramuscular injections, arterial and venous cannulations and positioning, Anatomy related to blocks for chronic pain, chemical neurolysis and different organ systems.

2. Physics:

Anaesthesia machine - assembly of necessary items, Airway equipment including laryngoscopes, airway devices, Breathing systems, Monitoring in anaesthesia with concepts of minimum monitoring, Gas laws, medical gas supply system, Fluidics, Electricity and diathermy, Oxygen therapy, Equipment used in anaesthesia monitors, ventilators, vaporizers, fibroptics, Laser, Pacemaker and defibrillator Monitoring equipment used for assessment of cardiac functions, temperature, respiratory functions, blood gases, intracranial pressure, depth of anaesthesia and neuromuscular block, Sterilization of equipment, Computers in anaesthesia

3. **Physiology :**

Theories of anaesthesia, Respiratory, cardiovascular, hepatobiliary, renal and endocrine system, pregnancy, blood, muscle and N-M junction, Nerve impulse transmission, ECG, regulation of temperature and metabolism, stress response, cerebral blood flow and ICP, Central, autonomic and peripheral nervous systems, Metabolic response to stress and trauma.

4. **Pharmacology:**

General principles, concepts of pharmacokinetics and pharmacodynamics, Drug interactions in anaesthesiology, anaphylactoid reactions, Drugs used for premedication, induction of anaesthesia, general anaesthetics intravenous and inhalational, neuromuscular block and reversal of muscle relaxants, Pharmacology of drugs used in cardiovascular, respiratory, endocrine, renal diseases and CNS disorders.

5. **Biochemistry:**

Fluid balance and blood transfusion, perioperative fluid therapy, acid base homeostasis in health and diseases.

6. **Anaesthesiology**

- Anaesthetic techniques of general and regional anaesthesia, general principles of pre-anesthetic assessment and medication, recovery from anaesthesia and post-operative care, effects of positioning during anaesthesia.
- Introduction to the operation theatre, post-anaesthesia care rooms
- Introduction to acute, chronic pain and pain management.
- Documentation and medico-legal aspects of anaesthesia. Defensive anaesthesia, Concept of informed consent.
- Resuscitation - basic and advanced life support (cardiac and trauma life support), Neonatal resuscitation.

- Intensive care of critical patients with introduction to artificial ventilation, management of unconscious patients, oxygen therapy, shock - pathophysiology and management.
- Basics of biostatistics.
- Interpretation of blood gases and other relevant biochemical values, various unction tests and basics of measurement techniques, ECG.
- Blood coagulation mechanism, disturbances and blood components.
- Special anaesthetic techniques as relevant to – Outpatient anaesthesia, hypotensive anaesthesia, anaesthesia in abnormal environments including rural area and calamitous situations, Associated medical disorders in surgical patients.
- Geriatric and pediatric anaesthesia
- Emergency, ENT, orthopedic, ophthalmology, obstetrics, dental, radio-diagnosis and radiotherapy.
- Medical statistics relevant to data collection, analysis, record keeping in anaesthesia, comparison and estimation of significance.
- Care of terminally ill, Hospices management. Do not resuscitate orders.
- Postures and anaesthesia.
- Induced hypothermia, incidental, and environmental safety of patient.
- Malignant hyperthermia, myasthenia gravis, GB syndrome and other neuromuscular diseases, obesity, COPD, Diabetes mellitus, bronchial asthma and hypertensive crises..
- Third world anaesthesia.
- Inherited metabolic diseases and anaesthesia.
- Principles of anaesthetic management of neuro/ cardiac/ thoracic/ vascular/ transplantation/ burns and plastic surgery.
- Anaesthesia for patients with severe cardiac, respiratory, renal and hepatobiliary disorder posted for unrelated surgery
- Shock, types, pathogenesis and management of patients in shock, renal failure, critically ill and/or on ventilator.
- Multiple organ failure
- Infection control, cross contamination in OT and ICU.

- Immune response and anaesthesia.
- Concept of cytokines, and other enzymes.
- Selection, maintenance and sterilization of anaesthesia and related equipment
- Chronic pain therapy and therapeutic nerve blocks.
- Acupuncture, acupressure and other non-conventional methods of treatment.
- Principles of neonatal resuscitation, ventilation and critical care.
- Principles of human resources and material management.

7. RESEARCH METHODOLOGY.

8. MEDICO LEGAL ASPECTS RELEVANT TO THE DISCIPLINE.

9. INDIAN MEDICAL COUNCIL (PROFESSIONAL CONDUCT, ETIQUETTE AND ETHICS) REGULATIONS, 2002.

10. CURRENT TRENDS AND RECENT ADVANCEMENTS IN ANAESTHESIOLOGY.