

# प्रदेश लोक सेवा आयोग

## गण्डकी प्रदेश

नेपाल स्वास्थ्य सेवा, एनेस्थेसियोलोजी समूह, नवौं (९) तहको खुला तथा आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

### Paper II: Technical Subject

#### A. Clinical Practice of Anaesthesia (Including relevant basic sciences)

1. History of Anaesthesia. From open to modern anaesthesia, balanced anaesthesia, dissociative anaesthesia and total intravenous anaesthesia . Evolution of anaesthesia in Nepal
2. Anaesthesia machines and circuits. Physics related to anesthesia: flow, viscosity, density, pressure measurement, manometers and strain gauges.
3. Medical gases: storage, central pipeline and distribution
4. Airway anatomy
5. Neonatal, Pediatric, Obstetric anatomy and physiology: Placental transfer of drugs
6. Physiology of lung mechanics, compliance, resistance, surfactant. Physics of flow, laminar and turbulent, viscosity and density.
7. Respiratory, Cardiovascular, CNS, Renal, Endocrine, Hepato-biliary: Anatomy and Physiology
8. Preoperative assessment, ASA grading, Premedication, Monitoring in Anaesthesia. Post anesthesia care.
9. Principles and Pharmacology of drugs used in anaesthesia: Regional anaesthesia, Intravenous agents, analgesics, sedative, narcotics, muscle relaxants, reversal agents, volatile agents, N2O, newer agents
10. Drugs and autonomic nervous system, inotropes, vasopressors, vasodilators
11. Fluid and electrolytes: Physiology and pathology. Blood and blood products, transfusion medicine and massive transfusion
12. Oxygen therapy and toxicity, Oxygen delivery devices. Acid base balance: disorders and ABG analysis.
13. Resuscitation Medicine: BLS, ACLS
14. Clinical trials. Basics of Medical Statistics and Research Methodology
15. Medical ethics. Communication skills
16. Audit, Record keeping, Documentation: CRIS in Anaesthesia 17. Glycolysis, protein binding, fat utilization, Stress, Nutrition

#### B. Clinical practice of Anaesthesia

1. Anaesthesia for emergency surgeries
2. Complications in Anaesthesia: Recognition, Management
3. Anaesthesia for general surgery, urosurgery, burn plastic and reconstructive surgeries.
4. Anaesthesia for obstetric and gynaecology
5. Anaesthesia for pediatrics and geriatrics
6. Anaesthesia for obese patients, bariatric surgery

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7. Anaesthesia for patients with cardiac, respiratory, renal, neurological, hepatobiliary, musculoskeletal, hematological and endocrine disorders
8. Anaesthesia for trauma and Orthopedic surgery
9. Anaesthesia for head and neck surgery
10. Anaesthesia for neurosurgery, vascular surgery, thoracic surgery.
11. Basics of ICU management:
  - Evaluation and transport of critically ill patients
  - Routine care in ICU
  - Procedures in ICU: CVP line, chest tube, tracheostomy care.
  - Scoring systems in ICU. Protocols in ICU: Bundles of care.
  - Mechanical Ventilation: Indication, Initiation, Weaning: SAT, SBT
  - Non-invasive ventilation: Indication, Contraindication, CPAP, BiPAP, HFNC
  - Sedation and delirium management in ICU
  - ARDS
  - Sepsis
12. Acute and chronic pain management: physiology, pathways, principle of management
13. Transplant Anaesthesia: Criteria for live, deceased donors. Manage Anaesthesia for Renal transplant
14. Non-operating room Anaesthesia

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