

पाटन स्वास्थ्य बिज्ञान प्रतिष्ठान, सेवा आयोग  
प्राज्ञिक सेवा, शल्य चिकित्सा समूह, प्राध्यापक पद (११ औं) तहको  
खुल्ला र अन्तरिक प्रतियोगिता प्रतियोगितात्मक परीक्षाको पाठ्यक्रम  
**Paper II: Technical Subject**  
**Section (A) – 45 Marks**

1. **Basic Sciences as applicable for General Surgery**
  - 1.1 **Applied Surgical Anatomy**
    - 1.1.1 Knowledge of structure and function of all systems of body as applicable to common clinical conditions
    - 1.1.2 Histology of important organs
    - 1.1.3 Embryological basis of common congenital anomalies
  - 1.2 **Systems**
    - 1.2.1 Nervous system
    - 1.2.2 Respiratory system
    - 1.2.3 Cardiovascular system
    - 1.2.4 Endocrine system
    - 1.2.5 Musculoskeletal system
    - 1.2.6 Digestive
    - 1.2.7 Genitourinary
  - 1.3 **Applied physiology**, including acid-base balance, fluid and electrolyte balance, nutrition, metabolic response to trauma and sepsis
2. **Surgical pathology**
  - 2.1 Principles of pathology and microbiology in the context of surgery, including inflammation, infection, neoplasm, tissue response to injury, disturbances of growth, degeneration, repair and regulation
3. **Immunology and genetics as applied to surgical disorders**
4. **Surgical critical care:** pathophysiology and management of conditions such as trauma, shock, sepsis, organ failure
  - 4.1 Pathophysiology
  - 4.2 Clinical features
  - 4.3 Investigations
  - 4.4 Management, including invasive monitoring and management of complications, ventilator settings
  - 4.5 Counseling/ communication

**Section (B) –55 Marks**

5. **Surgical management:** broad knowledge of principles of management including investigation, diagnosis, treatment, monitoring and follow-up of the surgical diseases involving following systems, organs and conditions:
  - 5.1 Nervous system
  - 5.2 Respiratory system
  - 5.3 Cardiovascular system
  - 5.4 Gastrointestinal
  - 5.5 Genitourinary
  - 5.6 Endocrine and breast
  - 5.7 Musculoskeletal and soft tissue
  - 5.8 Trauma

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6. **Principles of Surgery:** knowledge of general principles and practices of surgery including
  - 6.1 Imaging techniques
  - 6.2 Interventional radiology
  - 6.3 Endoscopy / laparoscopy
  - 6.4 Surgery at extremes of life
  - 6.5 Theatre techniques
    - 6.5.1 Aseptic techniques/ sterilization
    - 6.5.2 General knowledge of anesthesia
    - 6.5.3 Basic techniques including sutures, staplers, dressings, plasters
    - 6.5.4 Diathermy and new energy sources
    - 6.5.5 Tourniquet
    - 6.5.6 Theatre etiquette and management of OR time
    - 6.5.7 Operation theatre setup
  - 6.6 Post-operative complications and management
  - 6.7 Infection (including TB, HIV and other viral infections), inflammation and sepsis in surgery, rational use of antibiotics and antibiotic stewardship
  - 6.8 Telesurgery
    - 6.8.1 Non-technical skills in surgery
7. **Operative surgery**
  - 7.1 Nervous system
    - 7.1.1 Craniotomy for extradural hematoma/ burr-hole for chronic subdural hematoma
    - 7.1.2 Skull traction
    - 7.1.3 Nerve repair
    - 7.1.4 Emergency management of cranial and spinal trauma
  - 7.2 Respiratory system
    - 7.2.1 Foreign body in respiratory tract
    - 7.2.2 Tracheostomy, cricothyroidotomy
    - 7.2.3 Tube thoracostomy
    - 7.2.4 Thoracotomy
    - 7.2.5 Management of chest injuries
  - 7.3 Cardiovascular system
    - 7.3.1 Treatment of cardiac tamponade
    - 7.3.2 Exposure and repair of arterial and venous injuries
    - 7.3.3 Embolectomy
    - 7.3.4 Varicose vein surgery
    - 7.3.5 Amputations
    - 7.3.6 Arterial and venous anastomosis
  - 7.4 Gastrointestinal system
    - 7.4.1 Gastrointestinal surgery of all magnitude and types
    - 7.4.2 Different combination of operations (except transplantation)
    - 7.4.3 Bariatric surgery
    - 7.4.4 Abdominal trauma surgery
  - 7.5 Genitourinary system
    - 7.5.1 Suprapubic cystostomy
    - 7.5.2 Cystoscopy and ureteric catheterization

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- 7.5.3 Open surgery of kidney, ureter, bladder for calculus, infection
- 7.5.4 Surgery for benign and malignant conditions of scrotum and testis
- 7.5.5 Surgery for benign and malignant conditions of penis
- 7.5.6 Surgery for genitourinary trauma
- 7.6 Breast and endocrine
  - 7.6.1 Surgery for benign and malignant disease of breast
- 7.7 Musculoskeletal system
  - 7.7.1 Management of compartment syndrome
- 7.8 Plastic
  - 7.8.1 Simple cleft lip repair
  - 7.8.2 Skin grafting, Basics of flaps
  - 7.8.3 Surgery for common skin lesions
  - 7.8.4 Lymph node biopsies
- 7.9 Others
  - 7.9.1 Vascular access
  - 7.9.2 Laryngoscopy, and endotracheal intubation
  - 7.9.3 Biopsy techniques
  - 7.9.4 Defibrillation
- 7.10 Pediatric surgery for General surgeons
  - 7.10.1 Pediatric hernia and hydrocele
  - 7.10.2 Appendectomy/ laparotomy
  - 7.10.3 Intussusception reduction
  - 7.10.4 Orchidopexy/ circumcision
  - 7.10.5 Pyloromyotomy
- 8. **Recent advances**
  - 8.1 Research inside and outside country
  - 8.2 Landmark trials
  - 8.3 Robotics
  - 8.4 Artificial intelligence in surgery
  - 8.5 Theranostics in surgery
  - 8.6 Liquid biopsy