

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान, सेवाआयोग
प्राज्ञिक सेवा, शल्य चिकित्सा समूह, Urology उपसमूह, सहायक प्राध्यापक पद,
(९ख) तहको खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम
Paper II: Technical Subject
Section (A) - 45 Marks
(1 critical analysis Q -15 mark + 3 long Q- 30 marks)
General Surgery

1. **Basic&Applied**

1.1 **AppliedSurgicalAnatomy**

- 1.1.1 Required to have acknowledge of the structure and function of all system of the body (where applicable to common clinical conditions in surgery)
- 1.1.2 Knowledge of histology to understand the function to tissue and organs as well as growth, degeneration and repair
- 1.1.3 Embryological basis of common congenital anomalies

1.2 **System**

- 1.2.1 Nervous system
- 1.2.2 Respiratory system
- 1.2.3 Cardiovascular system
- 1.2.4 Digestive system
- 1.2.5 Endocrine system
- 1.2.6 Musculoskeletal system
- 1.2.7 General – e.g. Acid-base balance, fluid and electrolyte balance, nutrition, metabolic response to trauma and sepsis, etc.

2. **AppliedPhysiology**

3. **SurgicalPathology**

- 3.1 Knowledge of the surgical pathology and microbiology in the context of surgery including inflammation, infection, neoplasm, response on the tissues to injury, disturbance of growth, degeneration processes, repair and regulation
- 3.2 Immunology and Genetics
- 3.3 Neoplastic diseases
- 3.4 Gross and histopathology of common surgical conditions
- 3.5 Nervous system
- 3.6 Respiratory system
- 3.7 Cardiovascular system
- 3.8 Genito-urinary system
- 3.9 Gastrointestinal system
- 3.10 Musculoskeletal system

4. **CriticalCare**

- 4.1 Basics of pathophysiology, approach and management of critical surgical situation e.g. Trauma, shock, sepsis, organ failure
 - 4.1.1 Clinical pictures
 - 4.1.2 Investigation
 - 4.1.3 Diagnosis confirmation
 - 4.1.4 Management – use of equipments
 - 4.1.5 Monitoring – complications
 - 4.1.6 Counseling – communication
 - 4.1.7 Follow-up

5. **Recent advance**

- 5.1 Research-inside country
- 5.2 Recent advance – international
- 5.3 Not published research work
- 5.4 Future national vision

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6. **Surgical Management**

- 6.1 Principle of management of common general surgical conditions
 - 6.1.1 Clinical practice (History and examinations)
 - 6.1.2 Investigation
 - 6.1.3 Provisional Diagnosis and differentials
 - 6.1.4 Treatment-Conservative, operative, palliative
 - 6.1.5 Monitoring
 - 6.1.6 Follow-up of the patients with general surgical condition of following systems
 - 6.1.6.1 Nervous system
 - 6.1.6.2 Respiratory system
 - 6.1.6.3 Cardiovascular system
 - 6.1.6.4 Gastrointestinal system
 - 6.1.6.5 Genitourinary system
 - 6.1.6.6 Endocrine and breast
 - 6.1.6.7 Musculo-skeletal system and soft tissue
 - 6.1.6.8 Trauma/Polytrauma

7. **Principles of Surgery**

- 7.1 Knowledge of the General principle and practice of Surgery
 - 7.1.1 Imaging techniques/interventional Radiology
 - 7.1.2 Endoscopy/Laparoscopy
 - 7.1.3 Surgery at extremes of life
 - 7.1.4 Theatre techniques
 - 7.1.4.1 Aseptic techniques-sterilization
 - 7.1.4.2 Anaesthesia in general, maintenance of homeostasis
 - 7.1.4.3 Basic techniques-suturing material dressing plaster
 - 7.1.4.4 Diathermy and electrosurgical devices
 - 7.1.4.5 Tourniquet
 - 7.1.5 Wound healing, dehiscence, scar, contractures
 - 7.1.6 Post operative complication and management
 - 7.1.7 Sepsis's surgery
 - 7.1.7.1 Acute and Chronic, inflammation
 - 7.1.7.2 Wound infection and septicemia
 - 7.1.7.3 TB, Leprosy, AIDS, Bacterial infection
 - 7.1.7.4 Antiseptic, Antibiotic policies

8. **Operation Surgery**

- 8.1 **Nervous System**
 - 8.1.1 Exposure to extradural haematoma
 - 8.1.2 Skull traction
 - 8.1.3 Nerve repair and transplant
 - 8.1.4 Trauma-skull, spine
- 8.2 **Respiratory System**
 - 8.2.1 F.B. in respiratory tract
 - 8.2.2 Tracheostomy, cricothyroidotomy
 - 8.2.3 Chest Drainage
 - 8.2.4 Thoractomy
 - 8.2.5 Chest trauma (variety of injuries)
- 8.3 **Cardiovascular**
 - 8.3.1 Cardiac Tamponade
 - 8.3.2 Exposure to artery and vein, embolectomy
 - 8.3.3 Amputations
- 8.4 **Gastrointestinal System**

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- 8.4.1 All type of GI Surgery of all magnitude and types
- 8.4.2 Different combination of operation
- 8.4.3 Except-transplantation
- 8.5 **Genitourinary system**
 - 8.5.1 Suprapubic bladder drainage
 - 8.5.2 Cystoscopy
 - 8.5.3 Exposure of kidney, calculus, obstructive uropathy
 - 8.5.4 Perinephric abscess
 - 8.5.5 Scrotal/testicular operation
 - 8.5.6 Ectopic pregnancy/other pelvic surgery
- 8.6 **Endocrine and breast**
 - 8.6.1 Thyroid/parathyroid
 - 8.6.2 Breast surgery (no reconstruction)
- 8.7 **Musculoskeletal and soft tissue**
 - 8.7.1 Simple skeletal traction
 - 8.7.2 Compartmental syndrome
 - 8.7.3 Bone infection
- 8.8 **Plastic**
 - 8.8.1 Simple cleft lip repair
 - 8.8.2 Skin grafting/flaps
 - 8.8.3 Skin lesion
 - 8.8.4 Lymph node and biopsy
- 8.9 **Other**
 - 8.9.1 Venesection central line
 - 8.9.2 Laryngoscope, ET intubation
 - 8.9.3 FNAC/tru-cut needle biopsy
 - 8.9.4 Defibrillation

Section (B) - 55 Marks
(1 critical analysis Q -15 marks + 4 long Q -40 marks)

Urology

1. Embryology of kidney, ureter, adrenal gland, lower urinary tract, male genitalia and reproductive organs
2. Surgical anatomy of retroperitoneum, kidney, ureter, adrenal gland, lower urinary tract, male genitalia and reproductive organs
3. Congenital defects/ diseases of kidney, ureter, adrenal glands, lower urinary tract, male genitalia and reproductive organs
4. Renal physiology and pathophysiology
5. Basic principles of immunology in urology
6. Physiology and pharmacology of urinary bladder and urethra
7. Laboratory investigations pertinent to urological diseases
8. Radiological investigations pertinent to urological diseases
9. Nuclear imaging in urological conditions
10. Symptoms and signs of disorders of genitourinary tract
11. Workup and management of haematuria
12. Renovascular hypertension and ischemic nephropathy
13. Acute kidney injury and chronic kidney disease
14. Kidney transplantation
15. Pathophysiology and management of urinary tract obstruction/ obstructive uropathy
16. Infection and inflammation of urinary tract
17. Genitourinary trauma: investigations and management
18. Normal voiding function and voiding dysfunction
19. Neuromuscular dysfunction of lower urinary tract, and neurourological evaluation including urodynamics
20. Reproductive function and dysfunction
21. Male infertility, erectile dysfunction, priapism, Peyronie's disease, disorders of ejaculation and orgasm

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22. Normal physiology and pathophysiology of adrenal glands
23. Evaluation and management of disease of adrenal glands
24. Aetogenesis, presentation, investigation and management of the following urological cancers
 - a. Kidney cancers
 - b. Upper tract urothelial cancer
 - c. Urinary bladder cancer
 - d. Prostate cancer
 - e. Penile cancer
 - f. Testicular cancer
 - g. Adrenocortical cancer
25. Urethral trauma and urethral stricture diseases
26. Pathophysiology and management of bladder outlet obstruction, including benign enlargement of prostate
27. Disorders of testis, scrotum, spermatic cord and external genitalia
28. Principles of laparoscopy and robotics as applied to urology
29. Urolithiasis: aetogenesis, evaluation and management
30. Lasers in urology
31. Use of intestinal segments in urinary tract/ urinary diversions

Following pattern will be used for formation of paper I & II as far as possible.

Paper I				
Part	Section	Weightage	No. Questions & Weightage	
			Objective Multiple Choice	Subjective
I	A	20		2 Questions x 10 Mark = 20
	B	30		3 Questions x 10 Mark = 30
II	C	25	25 Questions x 1 Mark = 25	
	D	25	25 Questions x 1 Mark = 25	
Paper II				
Section		Weightage	No. Questions & Weightage	
			Long answer	Critical Analysis
A		45	3 Questions x 10 Mark = 30	1 Questions x 15 Mark = 15
B		55	4 Questions x 10 Mark = 40	1 Questions x 15 Mark = 15

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