Himachal Pradesh Public Service Commission

No. 3-41/2023-PSC (R-I) **Dated 22-04-2025**

Syllabus for the descriptive type Subject Aptitude Test (SAT) for the recruitment to post of Assistant Professor (Urology) (Super-Speciality), Class-I (on regular basis) in the Department of Medical Education & Research, H.P. The SAT shall be of 03 hours duration having 120 Marks. The SAT paper shall have two parts i.e. Part-I and Part-II and cover the following topics of M.Ch Urology 2/3 years course as recognized by M.C.I. after M.S. Surgery, or M.B.B.S. and 5 years direct course leading to M.Ch. Urology level.

PART-I (60 MARKS)

1. Basic science: Anatomy including embryology; Physiology; Biochemistry; Pathology; Microbiology, Immunology, Biophysics and Genetics as related to the practice of Urology
2. Principles of Nephrology, Radiology, Medical Oncology, Pharmacology and Nuclear Medicine as applied to Urology
3. Comprehensive clinical Urology encompassing all aspects of Urology
4. Recent advances in Urology
5. Biostatistics and Research Methodology
6. **Urolithiasis:**
   - Etiopathogenesis & Mineral Metabolism
   - Genetics, Molecular chemistry
   - Diagnosis and evaluation including various methods of stone analysis
   - Medial & Surgical management
   - Shock Wave Lithotripsy – Principles and practice.
7. **Urological Infections (bacterial, mycobacterium, fungal, viral & parasitic infestation):**
   - Definitions & classification
   - Etiology & epidemiology
   - Pathogenesis
   - Principles of antimicrobial therapy
   - Imaging techniques
   - Evaluation and management.

8. **Voiding function & Dysfunction:**
    - Physiology & pharmacology of bladder & urethra.
    - Neuro-urologic evaluation and management of neuromuscular dysfunction.
    - Urinary incontinence
    - Pathophysiology, diagnosis, evaluation and management
    - Urodynamic studies.
    - BPH
        - Molecular biology, endocrinology and physiology.
        - Etiology, pathophysiology.
        - Epidemiology & natural history.
        - Evaluation
        - Medical management.
        - Surgical modalities of treatment.

PART-II (60 MARKS)

1. **Genitourinary trauma and urological emergencies**
    - Etiology, evaluation and management of renal, ureteral, bladder, urethral, penile and genital trauma.
    - Evaluation and emergency management of urological sepsis including tuberculosis, acute renal failure and chronic kidney diseases, renal replacement therapy and other emergencies as depicted earlier.

2. **Endo-Urology & Laparoscopy**
    - Principles and practice (adult and pediatric)
    - Management of complications
        - **Lower Tract:**
            - Rigid and Flexible Cystoscopy
            - Visual Internal Urethrotomy
            - Bladder Neck Incision
            - Transurethral Resection of Bladder Tumor (TURBT)
            - Transurethral resection of Prostate (TURP)
            - Holmium LASER Enucleation of Prostate (HoLEP)
            - Ureterocele Incision.
        - **Upper Tract:**

- PCN (Percutaneous Nephrostomy)
- PCNL (Percutaneous Nephrolithotomy) Ureteroscopy
- RIRS (Retrograde intrarenal surgery)
- Nephrectomy
- Pyeloplasty
- Ureterolithotomy.

3. Uro-Oncology

- Molecular genetics, cancer biology and epidemiology
- Etiopathogenesis, evaluation and management of neoplasia of Kidney, Adrenal, Retroperitoneum, Urothelium, Testis, Prostate, Urethra and External Genitalia
- Surgical principles and procedures Principles and applications of Radiotherapy and systemic therapy
- Palliative care and support system
- Social issues.

4. Andrology

- Male reproductive physiology and axis.
- Male infertility Evaluation and Management
- Assisted Reproductive Techniques: Principles Hormonal assay (male &female)
  - IUI
  - Ovarian induction
  - IVF
  - ICSI
  - Sperm Retrieval Techniques
- Sexual function & dysfunction:
  - Physiology and pathology of penile erection
  - Evaluation and management of erectile dysfunction and priapism.
  - Male & female sexual health.

5. Female Urology

- Anatomy and physiology of pelvic floor
- Pathophysiology and Evaluation of incontinence
- Principles of management (conservative and operative) of stress urinary incontinence.

- Pelvic organ prolapses: pathophysiology, evaluation and principles of management
- Genitourinary fistulae (e.g. Vesicovaginal, urethrovaginal, ureterovaginal, vesicouterine, ureterouterine etc.) and urethral diverticulum
    - Etiopathogenesis
    - Evaluation
    - Treatment modalities
- Vaginal & abdominal procedures (Laparoscopic/ Robotic assisted)
- Intraoperative assessment of bladder and ureteral injury.

6. Pediatric Urology:

- Development of Urogenital system
- Perinatal physiology
- Antenatal evaluation of genitourinary abnormalities and management
- Paediatric urinary tract infections
- Evaluation of paediatric Urological patient
- Renal diseases
- Anomalies of upper urinary tract
- Renal Dysgenesis & cystic diseases
- Anomalies and surgery of the uretero-pelvic junction in children
- Vesico-ureteral reflux and megaureter, ureterocele
- Anomalies of lower urinary tract- Posterior urethral valves
- Hypospadias, Epispadias– Exstrophy complex
- Voiding dysfunction in children
- Evaluation and management of ambiguous genitalia
- Management of undescended testes
- Paediatric urologic oncology.

7. Renal transplantation

- Etiology and Pathogenesis of renal failure
- Management of acute renal failure
- Management of chronic renal failure including access for dialysis (CAPD and AV fistulae) and dialysis & dialysis equipments
- Basic principles of immunology
- Workup of donor and recipient for transplant
- Immuno suppression

- Renal allograft rejection
- Donor and recipient operation
- Management of post-transplant complications.