

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान सेवाआयोग  
प्राज्ञिक सेवा, बालचिकित्सा समूह, **Nephrology** उपसमूह, सहायकप्राध्यापक पद, (नौ ख) (९ख) तहको खुला र  
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**Paper II: Technical Subject**

**Section (A) General Pediatric- 45 Marks**

**1. Growth development and behavior**

- 1.1 Physical and psychosocial growth and development of normal child
- 1.2 Disorders of growth
- 1.3 Delay and deviations of development
- 1.4 Assessment of growth and development
- 1.5 Disorders of psychological development
- 1.6 Common behavioral problems of preschool children
- 1.7 Common speech disorders
- 1.8 Common Paediatric Behavioural and Psychiatric disorders

**2. Nutrition, Fluid and Electrolytes**

- 2.1 Normal nutrition in infancy and childhood
- 2.2 Common nutritional disorders in childhood
- 2.3 Nutrition supplementation programs
- 2.4 Acid base balance
- 2.5 Maintenance and replacement therapy of fluid and electrolytes

**3. Preventive pediatrics**

- 3.1 Immunizations
- 3.2 Prevention and management of common disorders of childhood
- 3.3 Prevention and management of poisonings and accidents

**4. Social pediatrics**

- 4.1 School health services
- 4.2 National health programmes related to maternal and child health
- 4.3 Community health services for the maternal and childhood
- 4.4 Organizing health care delivery and referral systems for children

**5. Genetics**

- 5.1 Genetic and chromosomal disorders
- 5.2 Inborn errors of metabolism
- 5.3 Genetic counseling including antenatal diagnosis
- 5.4 Gene therapy

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**6. Neonatology**

- 6.1 Management of normal, high risk and sick neonates
- 6.2 Monitoring and ventilatory support of the sick neonates
- 6.3 Foetal disorders
- 6.4 Perinatology
- 6.5 Preventive neonatology

**7. Adolescent Medicine**

- 7.1 Adolescent development
- 7.2 Adolescent health problems

**8. Infectious diseases**

- 8.1 Diagnosis and management of common infectious diseases (bacterial, viral, parasitic, fungal) in the pediatric age group and their management principles

**9. Immunity, allergy and rheumatic disorders of Paediatric age group**

**10. System based pediatrics**

- 10.1 Diagnosis and management of common diseases/ disorders affecting Gastro intestinal, hepatobiliary, cardiovascular, respiratory, endocrine, blood and lymphoreticular, genitourinary, nervous and musculoskeletal systems

**11. Eye, ear, nose and throat**

- 11.1 Diagnosis and management of common disorders of eye, ear, nose and throat in the pediatric age group

**12. Paediatric Dermatology**

- 12.1 Common dermatological problems in Children
- 12.2 Sexually transmitted diseases, AIDS

**13. Paediatric Surgery**

- 13.1 Diagnosis and supportive management of common surgical disorders of neonates, infants and children and appropriate referral

**14. Pediatric Emergencies**

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14.1 Diagnosis and management of common pediatric emergencies such as coma, convulsions, shock, acute severe asthma, cyanotic spells, poisonings, accidents etc. Pediatric advance life support skills, cardiovascular support and stabilization

**15. Neoplastic disorders and tumors**

**12.1.1 Epidemiology, principles of diagnosis and treatment of common Paediatric neoplastic disorders (leukaemias, lymphomas, neuroblastoma, soft tissue sarcoma, retinoblastoma) and benign tumors**

**Section (B) Pediatric Nephrology - 55 Marks**

**1. Renal anatomy and physiology**

- Nephron
- Renal function
- Urinary acidification

**2. Diagnostic evaluation**

- Clinical feature of renal disease
- Urine examination
- Blood investigations
- Imaging studies
- Renal biopsy

**3. Radionucleotide studies**

- DTPA renogram
- DMSA renogram

**4. Congenital anomalies of the kidney and urinary tract**

- Renal agenesis
- Renal dysplasia
- Ectopic kidney
- Crossed renal ectopia
- Horseshoe kidney

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- Duplex kidney
- Hypospadias
- Phimosis

**5. Fluid, electrolyte and acid base disorder**

- Sodium and water homeostasis
- Disorder of potassium homeostasis
- Disorder of calcium homeostasis
- Disorder of phosphate metabolism
- Metabolic acidosis and alkalosis

**6. Acute and rapidly progressive glomerulonephritis**

- Post-streptococcal acute glomerulonephritis
- Acute nephritic syndrome
- Acute interstitial nephritis
- Immunoglobulin A nephropathy
- Crescentic glomerulonephritis

**7. Systemic vasculitis and lupus nephritis**

- Small vessels vasculitis
- ANCA associated small vessel vasculitis
- Medium vessels vasculitis
- Large vessels vasculitis
- Systemic lupus erythematosus

**8. Cystic kidney disease**

- Simple cyst
- Polycystic kidney disease

**9. Asymptomatic proteinuria and hematuria**

- Hematuria

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- Persistent microscopic hematuria
- Proteinuria

**10. Nephrotic syndrome**

- Evaluation of patient with nephrotic syndrome
- Frequent relapse and steroid dependent nephrotic syndrome
- Steroid resistant nephrotic syndrome
- Complication in nephrotic syndrome
- Focal segmental glomerulosclerosis
- Messangial proliferative glomerulonephritis
- Membranoproliferative glomerulonephritis
- Membranous nephropathy
- Outcome in nephrotic syndrome
- Congenital nephrotic syndrome

**11. Acute kidney disease**

- Definition and classification
- Epidemiology
- Etiology
- Detection and diagnosis
- Investigation
- Management
- Outcome

**12. Hemolytic uremic syndrome**

- Etiology and clinical features
- Diagnosis
- Management

**13. Urinary tract infection**

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- Epidemiology
- Clinical features
- Diagnosis
- Treatment
- Imaging studies
- Asymptomptomaticbacteriuria
- Risk factor and prevention of UTI
- Vesicoureteric reflux
- Reflux nephropathy

**14. Tubular disorder**

- Renal tubular acidosis
- Condition with fanconi syndrome
- Disorder with renal magnesium wasting

**15. Vitamin D refractory rickets**

- Vitamin D metabolism
- Vitamin D refractory rickets
- Refractory rickets with primary calcium deficiency and high PTH
- Refractory rickets with phosphate deficiency and high FGF23

**16. Hypertension**

- Measurement of blood pressure
- Hypertension and prehypertension
- Management
- Hypertensive emergency
- Essential (primary) hypertension

**17. Chronic kidney disease**

- Epidemiology
- Diagnostic evaluation and follow-up

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- Renal response to nephron loss
- Systemic features
- Management

**18. Hemodialysis**

- Indication
- Advantage and disadvantage
- Vascular access
- Hemodialysis prescription
- Complications

**19. Peritoneal dialysis**

- Indication
- Advantages
- Contraindication
- Peritoneal dialysis prescription
- Complication

**20. Obstructive uropathy**

- Pathophysiology
- Clinical features
- Investigation
- Complication of obstruction

**21. Urolithiasis**

- Renal calculi
- Endemic vesical calculi
- Nephrocalcinosis

**22. Disorder of micturition**

- Voiding disorder

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- Enuresis
- Lower urinary tract symptoms
- Incontinence

**23. Malignant disorder**

- Wilms' tumor

**24. Disorder of the newborn**

- Normal renal function
- Assessment of renal function
- Acute kidney injury
- Hypertension
- Hematuria
- Urinary tract infection
- Antenatal diagnosis of renal and urinary tract anomalies

**27. Prevention of renal diseases**

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