

# **RAJASTHAN PUBLIC SERVICE COMMISSION, AJMER**

## **SYLLABUS OF COMPETITIVE EXAMINATION FOR THE POST OF ASSISTANT PROFESSOR (Super Speciality) NEPHROLOGY MEDICAL EDUCATION DEPARTMENT**

### **Unit-I - Assessment of Patient with Renal Disease**

- (a) Epidemiology.
- (b) Signs & Symptoms of Renal Disease.
- (c) Urinalysis.
- (d) Assessment of Renal Function
- (e) Renal Radiology
- (f) Renal Biopsy
- (g) Interventional Nephrology

### **Unit-II - Fluid & Electrolytic Imbalance**

- (a) Acid-Base Balance
- (b) Water Homeostasis
- (c) Sodium Homeostasis
- (d) Potassium Homeostasis
- (e) Calcium & Phosphorus Homeostasis
- (f) Renal Tubular Acidosis
- (g) Clinical use of Diuretics

### **Unit-III - Glomerular Diseases**

- (a) Structure, Functions & Physiology of Glomerulus
- (b) Proteinuria
- (c) Idiopathic Nephrotic Syndrome
- (d) MCD, FSGS, C<sub>3</sub> Nephropathy
- (e) MPGN
- (f) Membranous Glomerulonephritis
- (g) IGA & HSP
- (h) Crescentic Glomerulonephritis
- (i) Anti GBM Disease
- (j) Fabry Disease
- (k) Diabetic Nephropathy
- (l) Amyloidosis

### **Unit-IV - Interstitial Diseases of Kidney**

- (a) Pathophysiology
- (b) Heavy Metals Nephropathy
- (c) Balkan Nephropathy
- (d) Uric Acid Nephropathy
- (e) Immune Mediated Tubulointerstitial nephropathy

## **Unit-V - Chronic Kidney Disease**

- (a) Definition, Classification & Epidemiology
- (b) Mechanism of Progression
- (c) Risk factors for CKD
- (d) Diet and nutritional management in CKD
- (e) Renal anemia and management
- (f) CKD-MBD and its management
- (g) Inflammatory markers in CKD
- (h) Uremic Toxins
- (i) Environment and CKD

## **Unit-VI - Acute Kidney Injury**

- (a) Etiology & classification
- (b) Patho-physiology
- (c) Novel biomarkers in AKI
- (d) Prevention of AKI- Non pharmacological management
- (e) Prevention of AKI- Pharmacological management
- (f) Contrast induced Nephropathy
- (g) AKI in cancer patients
- (h) AKI in heart failure
- (i) AKI in pregnancy

## **Unit-VII - Renal involvement in systemic diseases**

- (a) SLE & APLS
- (b) Multiple myeloma & LCDD
- (c). Systemic vasculitis
- (d) Hepatorenal syndrome
- (e) HUS/TTP

## **Unit-VIII - Infections & kidney diseases**

- (a) Malaria
- (b) Hepatitis B & C.
- (c) HIV & renal disease
- (d) Mycobacterium Tuberculosis & kidney disease
- (e) Schistosomiasis.

## **Unit-IX - Urinary tract infection**

- (a) Infections of upper urinary tract
- (b) Infections of lower urinary tract.
- (c) Complicated UTI
- (d) UTI in renal transplant
- (e) UTI in pediatric population

### **Unit-X - Renal stone disease**

- (a) Approach and patho-physiology
- (b) Oxalosis
- (c) Nephrocalcinosis
- (d) Medical management of renal stones

### **Unit-XI - Hypertension & kidney disease**

- (a) Renal auto-regulation and TGF
- (b) Kidney and control of BP
- (c) Hypertension and renal vasculature
- (d) Ischemic Nephropathy
- (e) Renal artery stenosis
- (f) Reno vascular Hypertension
- (g) Malignant hypertension
- (h) Hypertension in children

### **Unit-XII - Hemodialysis**

- (a) Principles of Hemodialysis
- (b) Vascular access
- (c) Adequacy of HD
- (d) HF & HDF
- (e) SLED & CRRT
- (f) Dialyzer reuse
- (g) Acute and chronic complications of HD
- (h) Drug dosing in HD and CRRT
- (i) Volume assessment in HD

### **Unit-XIII - Peritoneal dialysis (PD)**

- (a) Principles & physiology of PD
- (b) PD prescription & Adequacy
- (c) Modalities of PD
- (d) Peritonitis in CAPD
- (e) Non-infectious complications of CAPD
- (f) Nutritional management in dialysis patients.

### **Unit-XIV - Genetic diseases of kidney**

- (a) Molecular basis of ciliopathies
- (b) Cystic diseases of kidney
- (c) Alport's syndrome
- (d) Nephronophthisis & MCKD
- (e) Nail-patella & thin basement membrane disease

## **Unit-XV - Renal transplantation**

- (a) Transplant immunobiology
- (b) Pre transplant assessment
- (c) Immuno-suppression in renal transplant
- (d) Rejection and chronic allograft nephropathy
- (e) Recurrent diseases in renal transplantation
- (f) Infectious diseases in renal transplantation
- (g) Outcome of renal transplantation
- (h) Pediatric renal transplantation.

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### **Pattern of Question Papers:**

- 1. Objective Type Paper**
- 2. Maximum Marks: 150**
- 3. Number of Questions: 150**
- 4. Duration of Paper : 2.30 Hours**
- 5. All Questions carry equal marks**
- 6. There will be Negative Marking**  
(For every wrong answer one-third of the marks prescribed for that Particular question shall be deducted.)