April-2001

[KD 009] **Sub. Code : 1201**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

Branch III — Nephrology

(Revised Regulations)

Paper I — NEPHROLOGY — BASIC SCIENCES

Time : Three hours | Maximum : 100 marks

Answer ALL questions.

1. Classify diuretics according to their sites and mechanisms of action. Discuss the causes and management of diuretic resistance. (25)

2. Describe the determinants of the glomerular filtration rate. Discuss the advantages and disadvantages of the various methods used to determine the glomerular filtration rate. (25)

3. Write briefly on : (5 × 10 = 50)

(a) Management of hypercalcemia

(b) Medullary cystic disease

(c) Contrast medium induced acute renal failure

(d) Renal aquaporins

(e) Renal involvement in progressive systemic sclerosis.

November-2001

[KE 009] **Sub. Code : 1201**

D.M. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper I — NEPHROLOGY — BASIC SCIENCES

Time : Three hours **Maximum : 100 marks**

Answer ALL questions

1. Discuss the renal handling of potassium, causes and approach to treatment of hypokalemia. (25)

2. Discuss the utility of urine analysis in the diagnosis of renal diseases. (25)

3 Write short notes on : (5 × 10 = 50)

(a) Regulation of renal blood–flow

(b) Role of spiral CT in Nephrology

(c) Normal Anion gap acidosis

(d) Free–water clearance

(e) Diuretic braking phenomenon.

March-2002

[KG 009] **Sub. Code : 1201**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper I — NEPHROLOGY — BASIC SCIENCES

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Discuss the mechanisms of Sodium#Transport in the proximal tubule with special reference to membrane transporters. (25)

2. Discuss the pathologic classification of Acute Allograft Rejection and briefly offer a critique on the Banff '97 guidelines. (25)

3. Write briefly on : (5 × 10 = 50)

   (a) Renal Ammoniagenesis

   (b) Biocompatibility of Dialysis membranes

   (c) Chloride resistant metabolic alkalosis

   (d) Membrane attack complex

   (e) P. fimbriae.

[KK 009] **Sub. Code : 1201**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper I — NEPHROLOGY — BASIC SCIENCES

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

A. Essay questions : (2 × 15 = 30)

(1) Discuss the experimental models in acute renal failure and the future therapeutic options based on the outcome.

(2) Discuss the role of kidney in maintaining acid-base homeostasis.

B. Short notes on : (10 × 5 = 50)

(1) Role of transporters in kidney

(2) Renal prostaglandins

(3) Leptins in renal diseases

(4) Tubuloglomerular feedback

(5) Isotope studies for renovascular hypertension

(6) Apoptosis in renal diseases

(7) Cystatin C

(8) Juxtaglomerular apparatus

(9) Genetics of alports syndrome

(10) Counter current mechanism.

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[KM 009] **Sub. Code : 1201**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper I — NEPHROLOGY — BASIC SCIENCES

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay : (2 × 15 = 30)

(1) Discuss the role of the kidney in the regulation of Acid base balance.

(2) Discuss the Vasoactive hormones with particular reference to their role in renal diseases.

II. Write notes on : (10 × 5 = 50)

(a) Juxta-glomerular apparatus

(b) Counter-current exchange system

(c) Renal changes in Pregnancy

(d) Role of Nuclear imaging in Nephrology

(e) Pathogenesis of Edema

(f) Tubulo-glomerular balance

(g) Diuretic braking phenomenon

(h) Estimation of Renal Plasma flow

(i) Evaluation and Management of Hematuria

(j) Importance of Urine analysis in diagnosing renal diseases.

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[KO 009] **Sub. Code : 1201**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper I — NEPHROLOGY — BASIC SCIENCES

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay : (2 × 15 = 30)

(1) Discuss the Role of AT_1 and AT_2 Receptors in the kidney in Health and Disease.

(2) Discuss the Role of the kidney in maintenance of potassium balance.

II. Write notes on : (10 × 5 = 50)

(a) Renal Auto regulation.

(b) Mechanisms of Renal Acidification.

(c) Serum cystatin C.

(d) Clinical utility of Renal Biopsy in Renal disease.

(e) Role of Nephron in Renal Disease.

(f) Aquaporins.

(g) Urine protein measurement application in screening for Renal Disease.

(h) Organic Anion Transport by Renal Tubule.

(i) Transtubular potassium gradient.

(j) Handling of phosphate by the kidney.

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August-2006

[KP 009] **Sub. Code : 1201**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III – Nephrology

Paper I — NEPHROLOGY – BASIC SCIENCES

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

(1) Discuss uric acid handling by the kidney and its role in progression of renal failure. (20)

(2) Bartter Syndromes and related Salt-losing Tubulopathies. (15)

(3) Discuss biochemical changes in Brain in Uremia. (15)

II. Write short notes on : (6 × 5 = 30)

(a) Complement and the kidney

(b) Role of aldosterone in chromic kidney disease

(c) Hyperlipidemia in nephritic syndrome

(d) Renal biopsy in patients with type 2 diabetes mellitus

(e) Primary Hyperoxalurias

(f) Tubuloglomerular feedback (TGF).

[KQ 009] **Sub. Code : 1201**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper I — NEPHROLOGY – BASIC SCIENCES

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes — Theory : 80 marks

M.C.Q. : Twenty minutes — M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

1. Name the major membrane transporters in the nephron and consequences of their mutations. Discuss basic principles of tubular transport mechanisms. (20)

2. Outline renal handling of potassium. Discuss approach to Hypokalaemic patient. (15)

3. Discuss aetiology, pathogenesis, clinical features and management of hepatorenal syndrome. (15)

II. Write Short notes : (6 × 5 = 30)

1. Chloride resistant metabolic alkalosis
2. Management of Hypercalcaemia
3. Cerebral salt wasting
4. Cystinosis
5. Investigation of haematuria
6. Dent's disease.

[KR 009] **Sub. Code : 1201**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper I — NEPHROLOGY — BASIC SCIENCES

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

(1) Discuss Renal handling of calcium and management of acute hypercalcemia. (20)

(2) Describe the ultra structure of glomerulus and role of renal mesangium in health and diseases. (15)

(3) Discuss molecular basis and treatment of Good Pasture's syndrome. (15)

II. Write short notes : (6 × 5 = 30)

(a) Urinary proteomics

(b) Aquaporins

(c) Antifibrotic therapy in CKD

(d) Uremic acidosis

(e) New diagnostic markers of ARF

(f) Hyponatraemic encephalopathy.

August 2008

[KT 009] **Sub. Code: 1201**

D.M. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch III -Nephrology

Paper I– NEPHROLOGY – BASIC SCIENCES

Q.P. Code: 161201

Time: Three hours **Maximum: 100 Marks**

ANSWER ALL QUESTIONS
Draw suitable diagrams wherever necessary.

I. Essays: **2 x 20 = 40 Marks**

1. Regulation of glomerular filtration and methods of measuring GFR.
2. Renal and extrarenal regulation of potassium and INHERTED disorders of its metabolism.

II. Write short notes on: **10 x 6 = 60 Marks**

1. Complement and the kidney.
2. Renal fanconi syndrome.
3. Juxta-glomerular apparatus.
4. V^2 receptor antagonists in PKD.
5. Nephrogenic diabetes insipidus.
6. Counter-current multiplier mechanism.
7. Inherited disorders of hypophosphatemia.
8. HMG-COA reductase inhibitors and the kidney.
9. Cerebral salt wasting syndrome versus SIADH.
10. Biology and role of Tamm-horsfall glycoprotein.

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August 2009

[KV 009] **Sub. Code: 1201**

D.M. DEGREE EXAMINATION

(Higher Specialities)

Branch III – Nephrology

(Revised Regulations)

Paper I – NEPHROLOGY – BASIC SCIENCES

Q.P. Code: 161201

Time: Three hours **Maximum: 100 Marks**

Answer ALL questions

Draw suitable diagrams wherever necessary.

I. Essays: **2 x 20 = 40**

1. Pathophysiology of edema formation and management.
2. Mechanisms of renal acidification.

II. Write short notes on: **10 x 6 = 60**

1. Tubulo Glomerular feed back.
2. Slit diaphragm.
3. Medullary circulation.
4. Cystinuria.
5. TTKG (Trans tubular potassium gradient).
6. Uremic pruritus.
7. Emerging therapies for amyloidosis.
8. Mycophenolate mofetil (MMF) in renal transplantation.
9. Quotidian hemodialysis.
10. Pathogenesis of collapsing glomerulopathy.

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August 2011

[KZ 009] **Sub. Code: 1201**

DOCTORATE OF MEDICINE (D.M.) DEGREE EXAMINATION

(SUPER SPECIALITIES)

BRANCH III – NEPHROLOGY

NEPHROLOGY – BASIC SCIENCES

Q.P. Code: 161201

Time : 3 hours (180 Min) **Maximum : 100 marks**

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Discuss renal handling of sodium with emphasis on renal defense mechanisms against hyponatremia.	11	35	15
2. Enumerate the renal physiological changes occurring during pregnancy and discuss on evaluation of renal function during pregnancy.	11	35	15
II. Write notes on :			
1. Define strong ion difference and outline on its clinical application.	4	10	7
2. Define – 'Tubulo Glomerular feedback' and mention the factors mediating it.	4	10	7
3. Gestational diabetes insipidus – outline the cause and management.	4	10	7
4. Pathogenesis of hypercalcemia of malignancy.	4	10	7
5. Interpretation of water deprivation test.	4	10	7
6. Pathology of 'Cast nephropathy'.	4	10	7
7. Explain the mechanism of 'Aldosterone escape'.	4	10	7
8. Role of Tamm-Horsfall protein in health and disease.	4	10	7
9. Determinants of Glomerular filtration rate.	4	10	7
10. Enumerate urinary acidification mechanisms.	4	10	7

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[LB 009] **AUGUST 2012** **Sub. Code: 1201**

D.M – NEPHROLOGY

Paper – I NEPHROLOGY – BASIC SCIENCES

Q.P. Code: 161201

Time: 3 hours **Maximum: 100 marks**

(180 Min)

Answer ALL questions in the same order.

I. Elaborate on:	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. How do you investigate a patient suspected to have renal tubular acidosis, outline the management of type 1 renal tubular acidosis.	16	35	15
2. Role of protein restriction in dietary management of chronic kidney disease stage 4, write out the diet for a 55 year old male with stage 4 chronic kidney disease, who is not a diabetic.	16	35	15

II. Write notes on:

1. What is tubular maximum, define renal glycosuria and its clinical implications.	4	10	7
2. Factors affecting glomerular filtration rate, what are the methods available to estimate it.	4	10	7
3. Mode of action and indications for the use of Metalazone.	4	10	7
4. Genetics of polycystic kidney disease and the implications of this.	4	10	7
5. Indications for the combined use of angiotensin converting enzyme inhibitors and angiotensin receptor blockers advantage or not.	4	10	7
6. What are the prognostic factors in a case of IgA nephropathy.	4	10	7
7. Role of fish oil in management of renal diseases.	4	10	7
8. What is the fractional excretion of sodium , its diagnostic significance.	4	10	7
9. What is Cystatin C and what is its usefulness in clinical practice.	4	10	7
10. Use of diuretics in non oedematous states.	4	10	7

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FEBRUARY 2013

[LC 068] **Sub. Code: 1411**

D.M-NEUROLOGY
Paper – I BASIC SCIENCES
Q.P. Code:161411

Time: 3 hours (180 Min) **Maximum: 100 Marks**

I.Elaborate on: **(2x15 marks=30 marks)**

1. Anatomy and physiology of limbic system. Write in detail about various manifestations of dysfunctions of limbic System.

2. Write in detail about venous drainage of brain and brain stem, Pathophysiology of cerebral venous thrombosis and its clinical manifestations.

II Write short notes on: (10x 7 marks=70 marks)

1. Clinical manifestations of Vernet syndrome.
2. Biochemistry and clinical features of syndrome of inappropriate ADH.
3. Describe the clinical features of Superior orbital fissure syndrome.
4. Write about Myophosphorylase deficiency muscle diseases.
5. Embryology and clinical features of basilar invagination.
6. Biochemistry of arterial thrombus formation.
7. Neurological manifestations of Herpes Simplex Virus infection.
8. Describe about Plasmodium falciparum infestation of the nervous system.
9. Write about Genetically inherited epilepsies.
10. Usefulness of Sural nerve biopsy in diagnosis of various Peripheral neuropathies

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(LD 009) **AUGUST 2013** **Sub. Code:1201**

D.M. – NEPHROLOGY
Paper – I NEPHROLOGY – BASIC SCIENCES
Q.P.Code: 161201

Time: Three Hours **Maximum: 100 marks**

I. Elaborate on: **(2X15=30)**

1. Regulation of acid base balance by the kidney. Write about the various forms of renal tubular acidosis.
2. Anatomy of renal blood vessels and regulation of renal blood flow.

II. Write notes on: **(10X7=70)**

1. What is the normal role of calcium sensing receptor? Specify the regulation of PTH secretion through the CaSR. What conditions characterize mutations involving CaSR?
2. Explain the anatomy of the juxta glomerular apparatus. Define its role in volume regulation.
3. What are the hormones secreted by the kidney? What are their roles in homeostasis?
4. What are the various types of carbonic anhydrase inhibitors located in the kidney? Explain their role in renal physiology. Write briefly about the conditions associated with their deficiency.
5. What are the components of innate immune system? Mention their role in handling infections.
6. What is anion gap? Detail its role in identifying acidosis?
7. Write briefly on: Glomerulotubular balance and tubuloglomerular feedback.
8. Describe the structure of erythropoietin receptor. Mention the mechanism of action of different hematopoietic agents through the receptor.
9. What are the anatomical and physiological changes that happen in pregnancy with regard to the kidney?
10. What is Bartters syndrome? What are the electrolyte imbalances seen?

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(LE 009) **FEBRUARY 2014** **Sub. Code:1201**

D.M. – NEPHROLOGY
Paper – I NEPHROLOGY – BASIC SCIENCES
Q.P.Code: 161201

Time: Three Hours **Maximum: 100 marks**

I. Elaborate on: **(2X15=30)**

1. Methods of estimating Glomerular Filtration Rate – advantages and fallacies of each method.

2. Magnesium handling by the kidney. Enumerate the various causes of Hypomagnesemia.

II. Write notes on: **(10X7=70)**

1. Juxtaglomerular apparatus
2. Mechanisms of edema formation
3. Use of electron microscope in renal pathology
4. Basiliximab
5. Newer drugs in management of Hepatitis B.
6. Diagnostic work up in a patient having a fresh seroconversion to Hepatitis C.
7. Heyman's Nephritis.
8. Diagnosis of Genito urinary Tuberculosis
9. Transtubular potassium gradient
10. Genetics of Alports syndrome.

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[LF 009] **AUGUST 2014** **Sub. Code: 1201**

D.M. – NEPHROLOGY

Paper I – NEPHROLOGY – BASIC SCIENCES

Q. P. Code: 161201

Time: Three Hours **Maximum: 100 Marks**

Answer ALL questions in the same order.

I. Elaborate on: **(2 x 15 = 30)**

1. What are the different methods to assess GFR?
   What are the drawbacks of different formulas to calculate eGFR?
   What are the KDIGO Guidelines to assess GFR in different categories of patients ?

2. Discuss the role of Electron Microscopy in the diagnosis & evaluation of Kidney diseases.
   How will you prepare & transport the specimen for EM study?

II. Write notes on: **(10 x 7 = 70)**

1. What is Pressure Natriuresis? What is its role in normal physiology?
   What are the imply cations in the context of Essential Hypertension?
2. FGF 23.
3. T Cell activation.
4. Reverse Osmosis.
5. Renal Magnesium handling.
6. Anatomy & Physiology of Peritoneal water transport.
7. APOL-1 gene.
8. Neurogenic control of lower Urinary tract.
9. Alternate pathway of Complement activation & its importance in renal diseases.
10. Ammoniagenesis.

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[LH 009] **AUGUST 2015** **Sub. Code: 1201**

D.M. – NEPHROLOGY

PAPER I – BASIC SCIENCES

Q.P. Code : 161201

Time : Three Hours **Maximum : 100 marks**

Answer ALL questions

I. Elaborate on: **(2 x 15 = 30)**

1. Structure of glomerular filtration barrier.
   Describe the mechanism and determinants of Glomerular filtration rate.

2. How is sodium handled by the kidney? Mention the defences against hyponatremia.

II. Write notes on : **(10 x 7 = 70)**

1. Structure and function of diluting segment of nephron.

2. What is urine anion gap? Mention its clinical utility.

3. Pathogenesis of glomerular crescent.

4. Role of electron microscopy in renal pathology.

5. Transforming growth factor beta - its role in renal disease.

6. Distribution of MHC (Major Histocompatibility Complex) Class I & Class II antigens. What is MHC restriction?

7. Use of Radionuclide renography in clinical nephrology.

8. Potential role of “low birth weight” on kidney structure and function.

9. Hyperkalemic distal RTA (Renal Tubular acidosis) - causes and mechanisms.

10. Unique features of juxtamedullary nephrons.

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April-2001

[KD 010] **Sub. Code : 1202**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

Branch III — Nephrology

(Revised Regulations)

Paper II — CLINICAL NEPHROLOGY, DIALYSIS, TRANSPLANTATION

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Describe the clinical features, etiopathogenesis, management and prevention of peritonitis in patients on ambulatory peritoneal dialysis. (25)

2. Describe the clinical manifestations, pathogenesis, histology and management of IgA nephropathy. (25)

3. Write briefly on : (5 × 10 = 50)

(a) Interleukin — 2 receptor antagonists

(b) Hemostatic disturbances in chronic renal failure

(c) Value of ambulatory blood pressure monitoring

(d) Extrarenal manifestations of autosomal dominant polycystic kidney disease

(e) Renal involvement in lymphoma.

November-2001

[KE 010] **Sub. Code : 1202**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper II — CLINICAL NEPHROLOGY, DIALYSIS, TRANSPLANTATION

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Describe the pathogenesis, clinical presentation and management of pregnancy – induced hypertension. (25)

2. Discuss the implication and management of pre and post–transplant hepatic dysfunction. (25)

3. Write short notes : (5 x 10 = 50)

(a) Mal–nutrition in chronic renal failure

(b) Long–term complication of renal transplantation

(c) Glomerular collagens in ALPORT syndrome

(d) REDY system for dialysis

(e) Non–infectious complications of continuous ambulatory peritoneal dialysis.

March-2002

[KG 010] **Sub. Code : 1202**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper II — CLINICAL NEPHROLOGY DIALYSIS AND TRANSPLANTATION

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Discuss the current concepts in the aetiopathogenesis of pregnancy induced hypertension and the principles of managing a case of HELLP syndrome presenting in 34th week of gestation. (25)

2. Briefly describe the metabolic complications in patients on CAPD and outline the approach to their management. (25)

3. Write briefly on : (5 × 10 = 50)

(a) Steroid resistant Acute Rejection

(b) Iron therapy in CRF patients

(c) Nutrition in critically ill ARF patient

(d) Cyclosporin in glomerular disease

(e) Findings of the UKPD study and its relevance to the nephrologist.

[KK 010] **Sub. Code : 1202**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper II — CLINICAL NEPHROLOGY

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

A. Essay questions : (2 × 15 = 30)

(1) Discuss in detail about the long term management of Hepatitis *B* and Hepatitis *C* infected renal allograft recipient.

(2) Discuss the differential diagnosis, investigations and management of paediatric hypertension.

B. Short notes on : (10 × 5 = 50)

(1) Hepato renal syndrome

(2) Cerebral salt wasting syndrome

(3) Cast nephropathy

(4) Sterile peritonitis

(5) Organ preservation

(6) Obstetric Acute renal failure

(7) Cardio vascular risk intervention in End stage renal disease

(8) Medical management of Renal Stone disease

(9) Tertiary prevention of diabetic nephropathy

(10) Peritoneal equilibrium test.

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[KM 010] **Sub. Code : 1202**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper II — CLINICAL NEPHROLOGY

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay : (2 × 15 = 30)

(1) Discuss in detail the Renal involvement in HIV infection.

(2) Discuss the factors responsible for the progression of Renal disease.

II. Write notes on : (10 × 5 = 50)

(a) Etio-pathogenesis of Malignant Hypertension.

(b) Experimental models of Acute renal failure.

(c) Hepato-Renal syndrome.

(d) Current concepts of renal bone disease.

(e) Infection localisation tests in Urinary Tract Infection.

(f) Type-4 Renal Tubular Acidosis.

(g) Plant toxin induced Acute Renal Failure.

(h) Role of Anti Neutrophil Cytoplasmic Antibody (ANCA) in vasculitis.

(i) Steroid Resistant Nephrotic Syndrome.

(j) Endocrine abnormalities in Chronic Kidney Disease.

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[KO 010] **Sub. Code : 1202**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper II — CLINICAL NEPHROLOGY

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay : (2 × 15 = 30)

1. Discuss the specific pharmacological approaches to clinical Reno protection.

2. Discuss cardiovascular disease in chronic kidney disease.

II. Write short notes on : (10 × 5 = 50)

(a) Parenteral Iron therapy in Chronic Kidney disease.

(b) Acute Renal Failure in specific clinical settings.

(c) Contrast induced nephropathy.

(d) Fluid and Electrolyte disorders in the ICU.

(e) Microalbinuria – its role in kidney disease.

(f) Hypertension in chronic kidney disease.

(g) Renal involvement in multiple myeloma.

(h) Treatment of IgA nephropathy.

(i) Catheter associated urinary tract infection.

(j) Ischemic Nephropathy.

[KP 010] **Sub. Code : 1202**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper II — CLINICAL NEPHROLOGY

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

(1) Describe the clinical manifestations, pathogenesis, histology and management of IgA nephropathy. (20)

(2) Pathologic classification and management of FSGS. (15)

(3) Metabolic syndrome and its renal consequences. (15)

II. Write notes on : (6 × 5 = 30)

(a) Polycystic kidney disease and cilia.

(b) Tuberculosis and the Kidney.

(c) Thin basement membrane disease.

(d) Renal Failure Associated with Cancer.

(e) Obesity and the Kidney.

(f) Fungal infections of urinary tract.

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[KQ 010] **Sub. Code : 1202**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper II – CLINICAL NEPHROLOGY, DIALYSIS, TRANSPLANTATION

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

1. Discuss pathogenesis, clinical manifestations and management of hepatitis C associated glomerular disease. (20)

2. Discuss the factors responsible for the progression of Renal disease. (15)

3. Pathogenesis, diagonsis and treatment of thrombotic thrombocytopenic purpura. (15)

II. Short notes : (6 × 5 = 30)

1. Filarial nephropathy.
2. Obstructive nephropathy.
3. Post-transplant lymphoproliferative disease.
4. Refractory post-transplant hypertension.
5. Deafness and renal disease.
6. Renal epidemiology in India.

[KR 010] **Sub. Code : 1202**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper II — CLINICAL NEPHROLOGY, DIALYSIS, TRANSPLANTATION

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay questions :

(1) Discuss Etiopathogenesis, clinical spectrum and management of ANCA-associated vasculitis (AAV). (20)

(2) Discuss the management of Hypertension during pregnancy. (15)

(3) Describe renal diseases associated with dysproteinemia. (15)

II. Short notes : (6 × 5 = 30)

(a) Cholesterol embolism

(b) Chronic malarial nephropathy

(c) Calcimimetics agents

(d) Eractile dysfunction in chronic renal failure

(e) Post transplant proteinuria

(f) Renal papillary necrosis.

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August 2008

[KT 010] **Sub. Code: 1202**

D.M. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch III - Nephrology

Paper II– CLINICAL NEPHROLOGY, DIALYSIS, TRANSPLANTATION

Q.P. Code: 161202

Time: Three hours **Maximum: 100 Marks**

ANSWER ALL QUESTIONS
Draw suitable diagrams wherever necessary.

I. Essays: **2 x 20 = 40 Marks**

1. IgA nephropathy: Pathogenesis, histology, markers of progression and management.

2. Relationship between aldosterone blockade, ACE inhibition and PROTEINURIA.

II. Write short notes on: **10 x 6 = 60 Marks**

1. Cisplatin nephrotoxicity.
2. Role of podocyte in renal disease.
3. Acute kidney injury in pregnancy.
4. Adynamic bone in patients with CKD.
5. Early arteriovenous Fistula Failure.
6. Personal Dialysis Capacity test.
7. Screening for renovascular hypertension.
8. Pathogenesis and diagnosis of myeloma kidney.
9. Sustained low efficiency or extended daily dialysis.
10. Use of mycophenolic acid in non-transplant renal diseases.

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August 2009

[KV 010] **Sub. Code: 1202**

D.M. DEGREE EXAMINATION

(Higher Specialities)

Branch III – Nephrology

(Revised Regulations)

Paper II – CLINICAL NEPHROLOGY, DIALYSIS, TRANSPLANTATION

Q.P. Code: 161202

Time: Three hours **Maximum: 100 Marks**

Answer ALL questions

Draw suitable diagrams wherever necessary.

I. Essays: **2 x 20 = 40**

1. Discuss the pathogenesis of renal stone disease.
2. Discuss on biomarkers in acute and chronic kidney disease.

II. Write short notes on: **10 x 6 = 60**

1. Bartter syndrome.
2. Pathogenesis of Nephrotic hyperlipidemia.
3. RIFLE classification scheme for ARF.
4. Bone marrow transplantation nephropathy (BMTN).
5. Renal vein thrombosis.
6. Vascular access related steal syndrome.
7. No – Heparin hemodialysis.
8. First use syndrome.
9. Fungal peritonitis.
10. Peritoneal equilibration test (PET).

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August 2011

[KZ 010] **Sub. Code: 1202**

DOCTORATE OF MEDICINE (D.M.) DEGREE EXAMINATION

(SUPER SPECIALITIES)

BRANCH III – NEPHROLOGY

CLINICAL NEPHROLOGY, DIALYSIS, TRANSPLANTATION

Q.P. Code: 161202

Time : 3 hours **Maximum : 100 marks**
(180 Min)

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Discuss in detail the etiology, pathogenesis, experimental models, classification, clinical features, diagnosis and management of Renovascular hypertension.	11	35	15
2. Detail nutritional assessment in nephrology. Discuss dietary management in nephrotic syndrome, AK1 and CKD.	11	35	15
II. Write notes on :			
1. Renal failure indices.	4	10	7
2. Non proteinuric hypertension in pregnancy.	4	10	7
3. Nail Patella Syndrome.	4	10	7
4. Ethylene glycol poisoning.	4	10	7
5. Treatment of 19A Nephropathy.	4	10	7
6. Schistosomiasis and Renal Transplantation.	4	10	7
7. Cast Nephropathy.	4	10	7
8. Dialysis dosing in AK1.	4	10	7
9. Xeno transplantation.	4	10	7
10. Hepato renal syndrome.	4	10	7

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[LB 010] **AUGUST 2012** **Sub. Code: 1202**

D.M – NEPHROLOGY

Paper – II CLINICAL NEPHROLOGY, DIALYSIS, TRANSPLANTATION

Q.P. Code: 161202

Time: 3 hours **Maximum: 100 marks**

(180 Min)

Answer ALL questions in the same order.

I. Elaborate on:	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. What is amyloid? How is it classified? Describe the renal lesions in amyloidosis.	16	35	15
2. Describe the renal lesions on systemic sclerosis. What is scleroderma crisis and how is it managed?	16	35	15
II. Write notes on:			
1. What is pseudohyperkalemia? What are the manifestations of acute hyperkalemia and how do you treat this?	4	10	7
2. How would you investigate a case suspected to have diabetes Insipidus? What is the differential diagnosis?	4	10	7
3. What is the current opinion on the role of Dopamine in acute kidney Injury?	4	10	7
4. What are the RIFLE and AKIN classification? What is the difference between the two and advantages of each?	4	10	7
5. Describe the kidney lesions seen with malarial infection.	4	10	7
6. What is the abnormal serology and pathology seen in the kidney in Wegners Granulomatosus? How is the condition treated?	4	10	7
7. What is Schols solution? What is its composition and indications for its use?	4	10	7
8. What are direct renin inhibitors? What is the advantage of using it over converting enzyme inhibitors or angiotensin receptor blockers?	4	10	7
9. What is e GFR? What is its importance? What are the common methods of estimating e GFR?	4	10	7
10. What is Masugis nephritis? How is it produced and what is the human equivalent?	4	10	7

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(LD 010) **AUGUST 2013** **Sub. Code:1202**

D.M. – NEPHROLOGY
Paper – II CLINICAL NEPHROLOGY, DIALYSIS, TRANSPLANTATION
Q.P.Code: 161202

Time: Three Hours **Maximum: 100 marks**

I. Elaborate on: **(2X15=30)**

1. Membranous Nephropathy---Pathogenesis, Pathology, Natural History, Management and Post transplant recurrence.

2. Describe Rubin's time table of infections post transplant. Describe in detail the etiopathogenesis, clinical features, risk factors, diagnostic modalities and management of CMV infection in the post renal transplant setting.

II. Write notes on: **(10X7=70)**

1. Types of Heparin induced thrombocytopenia and management strategies.
2. Dialysis prescription in a pregnant woman on maintenance HD program.
3. Post transplant lymphoproliferative disorder types, clinical features, diagnosis and management.
4. Banff 2007 updated working classification of renal allograft pathology
5. Indications and complications of therapeutic plasma exchange.
6. Discuss the non-uremic applications of extracorporeal blood purification.
7. How to manage steroid resistant nephritic syndrome in children.
8. Causes and Management of Metabolic Acidosis in ICU.
9. Acute Kidney Injury in HIV patients: Epidemiology, Etiology, Risk factors and management.
10. Emphysematous Pyelonephritis: Clinicoradiological Classification, Pathogenesis Current Management and Prognosis.

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[LF 010] **AUGUST 2014** **Sub. Code: 1202**

D.M. – NEPHROLOGY

Paper II – CLINICAL NEPHROLOGY, DIALYSIS, TRANSPLANTATION

Q. P. Code: 161202

Time: Three Hours **Maximum: 100 Marks**

Answer ALL questions in the same order.

I. Elaborate on: **(2 x 15 = 30)**

1. Discuss the Clinical features, Genetics, Histology & Management of Steroid Resistant Nephrotic Syndrome in a 6 year old boy.

2. Discuss the various changes in renal senescence.
   What are the risk factors of Acute Kidney Injury in elderly?
   How will you prognosticate & treat an elderly man with Acute Kidney Injury?

II. Write notes on: **(10 x 7 = 70)**

1. ACOG 2014 classification of Hypertensive Disorders of Pregnancy.
   Compare the current classification with the previous classification and write the explanations for the modification.

2. Role of Ambulatory Blood Pressure Monitoring (ABPM) in the management of Hypertension.

3. What are the Podocyte changes in Diabetes?
   How will you retard the progression of Diabetic Kidney Disease?

4. Current guidelines on management of Granulomatosis with Polyangitis?

5. What is resistant Lupus Nephritis? How will you treat a patient with resistant Lupus Nephritis?

6. How will you diagnose and treat HCV infection in a patient on Hemodialysis, awaiting Kidney transplantation?
   What are the guidelines to prevent spread of HCV infection in the Dialysis Unit?

7. Differential Diagnosis of Nodular glomerulosclerosis.

8. Explain ADPKD as a ciliopathy. What are the drugs used in the treatment of ADPKD?

9. What are the strategies to enhance the donor pool in Kidney Transplantation?

10. Pathophysiology of VUR and Reflux Nephropathy.

(LG 010) FEBRUARY 2015 Sub. Code:1202

D.M. – NEPHROLOGY

Paper II – CLINICAL NEPHROLOGY, DIALYSIS, TRANSPLANTATION

Q.P.Code: 161202

Time: Three Hours Maximum: 100 Marks

I. Elaborate on: (2 x 15 = 30)

1. Discuss the merits and demerits of different forms of Renal replacement therapy in a patient with diabetic kidney disease stage 5.
2. Discuss the pathophysiology of Edema formation in renal disease. Write a diuretic prescription for nephrotic syndrome. What is diuretic resistance and how will you tackle it?

II. Write notes on: (10 x 7 = 70)

1. Enumerate trials in the treatment of reflux nephropathy.
2. Chronic AMR as a cause of late graft dysfunction. How will you diagnose and treat it?
3. Pathophysiology of vascular calcification in CKD.
4. Pure red cell aplasia.
5. How will you assess the nutritional status of pediatric CKD patients? What are the current guidelines for nutritional supplementation in Pediatric CKD?
6. Pathogenesis of IgA Nephropathy.
7. Dialysis prescription for a pregnant lady with renal failure.
8. What is Resistant HTN? What are the newer interventional treatments for Resistant HTN?
9. Renal involvement in multiple myeloma. Critically analyse the Bortezomib based regimen in myeloma kidney.
10. Current KDIGO guidelines for management of a child with nephrotic syndrome.

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[LH 010] **AUGUST 2015** **Sub. Code: 1202**

D.M. – NEPHROLOGY

PAPER II – CLINICAL NEPHROLOGY, DIALYSIS, TRANSPLANTATION

Q.P.Code: 161202

Time : Three Hours **Maximum : 100 marks**

Answer ALL questions

I. Elaborate on: **(2 x 15 = 30)**

1. Pathogenesis, Pathology and Treatment of idiopathic FSGS (Focal segmental Glomerulosclerosis).

2. Enumerate renal lesions caused by systemic lupus erythematosus NOT included in ISN - RPS (International Society of Nephrology - Renal Pathology Society) classification. Describe the pathology and clinical presentation of each one of them.

II. Write notes on : **(10 x 7 = 70)**

1. Cerebral salt wasting syndrome - aetiology, pathomechanism and treatment.

2. Renal lesions associated with haematopoietic stem cell transplantation.

3. What are phosphatonins? How do they act?

4. Formulae for estimation of glomerular filtration rate – caveats and drawbacks. Highlight the formula validated in Asian population.

5. Enumerate causes, clinical features, histopathology of endemic nephropathies.

6. Emphysematous pyelonephritis - risk factors, grading and treatment.

7. Non traditional risk factors for cardiovascular disease in chronic kidney disease patients.

8. Exit site infection - diagnosis and treatment.

9. Arteriovenous fistula thrombosis - causes, early diagnostic clues and management.

10. Post renal transplant erythrocytois - causes, complications and management.

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[KK 011] **Sub. Code :1204**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper III — NEPHROLOGY — DIALYSIS AND TRANSPLANTATION

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

A. Essay : (2 × 15 = 30)

(1) Discuss about the planning and developing a transplant coordination model in your centre. Discuss the legal and ethical issues of cadaver organ donation in India.

(2) Discuss the history, principles, complications and recent advances in haemodialysis therapy.

B. Short notes on : (10 × 5 = 50)

(1) Phosphatonins

(2) Vasopeptidase inhibitors

(3) Glucose toxicity in CAPD

(4) Pure red cell aplasia

(5) NESP – Novel Erythropoietin Stimulatory Proteins

(6) Renal transplantation across blood group.

(7) Dialysis for inborn errors of metabolism

(8) X–linked renal related syndromes

(9) Adhesion molecules

(10) Transplantation tolerance.

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[KM 011] **Sub. Code : 120**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper III — NEPHROLOGY — DIALYSIS AND TRANSPLANTATION

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay : (2 × 15 = 30)

(1) Adequacy of Dialysis in Continuous Ambulatory Peritoneal Dialysis (CAPD).

(2) Cyto Megalo Virus infection (CMV) in renal transplantation.

II. Write notes on : (10 × 5 = 50)

(a) Erythropoietin resistance.

(b) Bio-incompatibility.

(c) Anti-coagulation in dialysis.

(d) Immune tolerance.

(e) Problems of paediatric renal transplantation.

(f) Management of steroid resistant acute rejection.

(g) Long term complications of renal transplantation.

(h) Renal preservation solutions.

(i) Reverse osmosis.

(j) REDY system for Dialysis.

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[KO 011] **Sub. Code : 1203**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper III — NEPHROLOGY – DIALYSIS AND TRANSPLANTATION

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay questions : (2 × 15 = 30)

(1) Polyoma BK Virus in Renal transplantation.

(2) Continuous Peritoneal dialysis associated Peritonitis – Current concepts.

II. Write notes on : (10 × 5 = 50)

(a) Antioxidant therapy in Uremia.

(b) Malnutrition in Dialysis patients.

(c) Ultrapure dialysate.

(d) Nocturnal Hemodialysis.

(e) Tacrolimus in renal transplantation.

(f) Acute Allograft dysfunction.

(g) ABO incompatible renal transplantation.

(h) Chronic Allograft nephropathy.

(i) Post transplant diabetes mellitus.

(j) Recurrence of disease after renal transplantation.

[KP 011] **Sub. Code : 1204**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper III — NEPHROLOGY — DIALYSIS AND TRANSPLANTATION

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

1. A 40 years old patient who had been on long term dialysis was admitted with problem of sensorial deterioration. Two days later he died. Discuss the pathophysiology of his condition and describe all. Possible pathological changes in vital organs. (20)

2. Discuss management of a patient of acute renal failure in the Intensive Care Unit setting. (15)

3. Discuss in detail Post-transplantation Lymphoproliferative disorders and their management. (15)

II. Write notes on : (6 × 5 = 30)

(a) Advantages and disadvantages of Dialyzer Reuse.

(b) Management of early Arteriovenous Fistula Failure.

(c) Post-transplant hemolytic uremic syndrome.

(d) Ultrafiltration failure in peritoneal dialysis.

(e) Protocol Transplant Biopsies : Arguments for and against

(f) Renal replacement therapy in HIV patients.

[KQ 011] **Sub. Code : 1203**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper III — NEPHROLOGY — DIALYSIS AND TRANSPLANTATION

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M. C. Q : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

1. Discuss complications of CAPD. (20)

2. Recurrent FSGS in renal allograft — current concepts of pathogenesis and management. (15)

3. Pathogenesis and treatment of dialysis hypotension. (15)

II. Write short notes : (6 × 5 = 30)

(1) Dyslipidaemia in chronic kidney disease.

(2) Xanthogranulomatous pyelonephritis.

(3) Calcineurin nephrotoxicity.

(4) Renal replacement therapy in ARF– indications and goals.

(5) Treatment of end stage renal disease in diabetes

(6) Polyomavirus nephropathy.

[KR 011] **Sub. Code : 1203**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper III — NEPHROLOGY — DIALYSIS AND TRANSPLANTATION

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

1. Discuss dialysis therapy in elderly patients with ESRD. (20)

2. Discuss causes, and management of post transplant hypertension. (15)

3. Outline the metabolic complications of peritoneal dialysis. (15)

II. Write short notes on : (6 × 5 = 30)

(a) Recurrent HUS in renal transplant recipients

(b) Oxidative stress in Chronic Renal Failure

(c) Podocytes

(d) Medullary cystic kidneys

(e) Wearable artificial kidney

(f) Immune tolerance.

August 2008

[KT 011] **Sub. Code: 1203**

D.M. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch III -Nephrology

Paper III– NEPHROLOGY – DIALYSIS AND TRANSPLANTATION

Q.P. Code: 161203

Time: Three hours **Maximum: 100 Marks**

ANSWER ALL QUESTIONS
Draw suitable diagrams wherever necessary.

I. Essays: **2 x 20 = 40 Marks**

1. Describe the viral infections following renal transplantation and describe in detail management of CMV and BKV infections.

2. Discuss the advances in pathogenesis, diagnosis and treatment of thrombotic thrombocytopenic purpura.

II. Write short notes on: **10 x 6 = 60 Marks**

1. Ultrafiltration failure in peritoneal dialysis.
2. Primary Hyperoxalurias.
3. Contrast induced nephropathy.
4. Snake-bite and renal injury.
5. Pathological classification of FSGS.
6. Malignancy after kidney transplantation.
7. Non-infectious complications of CAPD.
8. Management of intradialytic hypotension.
9. Tuberculosis in renal transplant recipients.
10. Endothelial Dysfunction in chronic kidney disease.

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August 2009

[KV 011] **Sub. Code: 1203**

D.M. DEGREE EXAMINATION

(Higher Specialities)

Branch III – Nephrology

(Revised Regulations)

Paper III – NEPHROLOGY - DIALYSIS AND TRANSPLANTATION

Q.P. Code: 161203

Time: Three hours **Maximum: 100 Marks**

Answer ALL questions

Draw suitable diagrams wherever necessary.

I. Essays: **2 x 20 = 40**

1. Inherited disorders of podocyte function – Discuss.
2. Discuss the aetiopathogenesis and management of chronic allograft nephropathy.

II. Write short notes on: **10 x 6 = 60**

1. Parasitic infections in transplant recipients.
2. How to overcome ABO incompatibility in renal transplantation.
3. Sexual dysfunction in ESRD.
4. Restless legs syndrome.
5. Management of uremic pericarditis.
6. Bio compatible fluids in CAPD.
7. ADEMEX study.
8. Heparin induced thrombocytopenia.
9. Medullary sponge kidney.
10. Emphysematous pyelonephritis.

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August 2011

[KZ 014] **Sub. Code: 1203**

DOCTORATE OF MEDICINE (D.M.) DEGREE EXAMINATION

(SUPER SPECIALITIES)

BRANCH III – NEPHROLOGY

NEPHROLOGY - DIALYSIS AND TRANSPLANTATION

Q.P. Code: 161203

Time : 3 hours (180 Min) **Maximum : 100 marks**

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Discuss the diagnosis and management of CAPD Peritonitis.	11	35	15
2. Discuss the evaluation and management of Renal transplantation in a pre-sensitized recipient.	11	35	15
II. Write notes on :			
1. Dyslipidemia.	4	10	7
2. New onset diabetes after transplantation.	4	10	7
3. Transplantation in a HIV positive recipient.	4	10	7
4. Adynamic bone diseases.	4	10	7
5. Assessment of Nutritional status in dialysis patients.	4	10	7
6. Dialysis dysequilibrium.	4	10	7
7. Heparin induced Thrombocytopenia.	4	10	7
8. Tuberculosis in a Renal allograft recipient.	4	10	7
9. Nocturnal daily haemodialysis.	4	10	7
10. Immunisation in Renal allograft recipient and candidates.	4	10	7

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[LB 011] **AUGUST 2012** **Sub. Code: 1203**

D.M – NEPHROLOGY

Paper – III NEPHROLOGY - DIALYSIS AND TRANSPLANTATION

Q.P. Code: 161203

Time: 3 hours **Maximum: 100 marks**

(180 Min)

Answer ALL questions in the same order.

I. Elaborate on:	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. What are the pulmonary renal syndromes? How do you investigate these? Mention the management of any of the conditions.	16	35	15
2. Hepatitis C virus infection associated kidney disease. Add a brief note on pre kidney transplant management of a case with this infection.	16	35	15

II. Write notes on:

1. Use of citrate for hemodialyis. What are the indications and precautions? How is it done?	4	10	7
2. Wilheim Kolff and his contributions to care of patients with kidney disease.	4	10	7
3. Use of plasma exchange in nephrology.	4	10	7
4. Hanta virus and renal lesions associated with this infection.	4	10	7
5. Renal lesions seen with Mycobacterium leprae infection.	4	10	7
6. What are the variants of focal segmental glomerulosclerosis? Discuss the prognosis after kidney transplant in a patient with this condition.	4	10	7
7. Use of Tacrolimus for non organ transplant situations and efficacy.	4	10	7
8. What predisposing factors, clinical features, histology, treatment and Outcome of Atheroembolic renal disease?	4	10	7
9. Classification of vasculitis. What are the Clinical features, laboratory investigations and treatment of Churg Strauss disease.	4	10	7
10. How do you evaluate a highly sensitized recipient for a kidney Transplant? Add a note on pre surgery treatment and post operative follow up.	4	10	7

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(LD 011) **AUGUST 2013** **Sub. Code:1203**

D.M. – NEPHROLOGY
Paper – III NEPHROLOGY – DIALYSIS AND TRANSPLANTATION
Q.P.Code: 161203

Time: Three Hours **Maximum: 100 marks**

I. Elaborate on: **(2X15=30)**

1. Describe the complications in patients on CAPD and outline the approach to their management.
2. Describe the viral infections following renal transplantation and describe in detail management of CMV and BKV infection.

II. Write notes on: **(10X7=70)**

1. What are the Hurdles to Xenotransplantation?
2. Management of post transplant diabetes mellitus.
3. What are the problems of Post renal transplant Bone disease?
4. What are the advantages and disadvantages of Dialyzer Reuse.
5. How to manage of Malnutrition in Dialysis patients.
6. What are the advantages of Nocturnal hemodialysis.
7. How to manage early Arteriovenous Fistula failure.
8. What are the contraindications to living kidney donation?
9. What are the types of Ultrafiltration failure and management?
10. What are the Determinants of post transplant growth in pediatric transplant?

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[LF 011] **AUGUST 2014** **Sub. Code: 1203**

D.M. – NEPHROLOGY

Paper III – NEPHROLOGY – DIALYSIS AND TRANSPLANTATION

Q. P. Code: 161203

Time: Three Hours **Maximum: 100 Marks**

Answer ALL questions in the same order.

I. Elaborate on: **(2 x 15 = 30)**

1. What is Hemodiafiltration (HDF)?
   What is the physiology of water and solute transport in HDF?
   How will you setup a Hemodialysis Unit in your hospital?

2. What are the problems of ABO incompatible Kidney Transplantation?
   How will you prepare the recipient for ABO incompatible Kidney Transplantation?
   How will you manage the delayed graft function in the post transplant period in ABO incompatible Kidney Transplantation?

II. Write notes on: **(10 x 7 = 70)**

1. Definition, Diagnosis and management of Access Failure.
2. Culture Negative Peritonitis in CAPD.
3. Experimental models of Hypertension.
4. Cryptococcal infection in a Post Kidney Transplant Patient.
5. THOA Act and its latest amendments.
6. TREG Cells in Kidney Transplantation.
7. Sorbents in Dialysis Therapy.
8. Donor Specific Antibody (DSA).
9. Merits and demerits of Nocturnal daily Hemodialysis.
10. Pancreas and Kidney Transplantation in a patient with Type I diabetes with diabetic kidney disease – discuss.

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(LG 011) **FEBRUARY 2015** **Sub. Code:1203**

D.M. – NEPHROLOGY

Paper III – NEPHROLOGY – DIALYSIS AND TRANSPLANTATION

Q.P.Code: 161203

Time: Three Hours **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. How will you evaluate the cardiovascular status in a patient with diabetic Kidney disease who is on dialysis, awaiting kidney transplantation? What are the current guidelines on evaluation and management of CVD in a CKD patient?
2. Define Catheter Related Blood Stream Infection. Discuss the microbiology and diagnosis of CRBSI. What are the current guidelines for prevention and treatment of catheter related blood stream infections?

II. Write notes on: **(10 x 7 = 70)**

1. Management of acute complications of AVF.
2. Importance of residual renal function in dialysis patients and how to preserve it?
3. Costimulatory blockers in Kidney Transplantation.
4. What are the different types of ultrafiltration failure in CAPD and how will you manage it?
5. Non renal failure indications for haemodialysis
6. What are the challenges of Xeno Transplant? What is the current state of xeno Transplantation in clinical medicine?
7. Polyoma virus nephropathy.
8. What are the guidelines on diagnosis and treatment of Hepatitis C infection (HCV) in a patient on MHD? What are the recommendations to prevent HCV infection in a dialysis unit?
9. Organ preservation fluid- types , composition, advantages and disadvantages.
10. What is ‘PD Plus’? What are the advantages over CAPD?

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[LH 011] **AUGUST 2015** **Sub. Code: 1203**

D.M. – NEPHROLOGY

PAPER III – NEPHROLOGY – DIALYSIS AND TRANSPLANTATION

Q.P. Code: 161203

Time : Three Hours **Maximum : 100 marks**

Answer ALL questions

I. Elaborate on: **(2 x 15 = 30)**

1. A 11 year old boy presents with chronic kidney disease. What are the potential causes for CKD in him? Discuss the plan, timing, risks, advantages and special features of paediatric renal transplantation.

2. Dialysis of a critically ill, hypotensive patient - enumerate the options, their advantages and disadvantages.

II. Write notes on : **(10 x 7 = 70)**

1. CRBSI (Catheter related Blood stream Infection) - diagnosis and management. Comment on the role of 'Biofilm'.

2. Lymphocyte depleting induction immunosuppressives.

3. Diagnosis and management of BK virus nephropathy.

4. Culture negative peritonitis in a patient on CAPD (Continuous Ambulatory Peritoneal Dialysis) - How will you evaluate?

5. Transplant Glomerulopathy - Causes and pathology.

6. Enumerate mechanisms of 'Graft Tolerance'. Explain 'Chimerism'.

7. Management of cytomegalovirus disease in a renal transplant recipient.

8. Define 'ultrafiltration failure' in CAPD? How will you evaluate and manage?

9. Pregnancy in a renal transplant recipient lady - highlight on unique management issues.

10. Pregnancy in a lady with chronic kidney disease - When will you initiate haemodialysis? Mention the ideal haemodialysis prescription.

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April-2001

[KD 012] **Sub. Code : 1204**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

Branch III — Nephrology

(Revised Regulations)

Paper IV — ESSAY QUESTIONS

Time : Three hours Maximum : 100 marks

1. (a) Describe the etiology, pathogenesis, manifestations, laboratory diagnosis and management of tubulo–interstitial nephritis.

Or

(b) Describe the clinical manifestations, pathogenesis, radiologic findings, pathology, management and prevention of the various forms of bone disease seen in patients with chronic renal failure.

November-2001

[KE 012] **Sub. Code : 1204**

D.M. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper IV — ESSAY QUESTIONS

Time : Three hours Maximum 100 marks

1. Discuss in detail the various causes, pathophysiology and management of Anaemia of chronic renal failure.

Or

2. Describe in detail the ideal water treatment for dialysis.

March-2002

[KG 012] **Sub. Code : 1204**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper IV — ESSAY QUESTION

Time : Three hours Maximum : 100 marks

Answer any ONE question.

1. Discuss the treatment options in a 50 year old diabetic patient with nephropathy and advanced CRF. How will you choose the best option and briefly describe the work up required for this patient for kidney transplantation. (100)

Or

2. What is Evidence Based Medicine? How will you assess the strength of evidence for a treatment option in renal therapeutics? Describe the various treatment options and the quality of evidence of available therapy in primary FSGS in Children. (100)

April-2001

[KD 011] **Sub. Code : 1203**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

Branch III — Nephrology

(Revised Regulations)

Paper III — RECENT ADVANCES

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Describe the Banff 1997 working classification of renal allograft pathology and discuss the differences between this and previous Banff classifications. (25)

2. Describe the clinical manifestations, pathogenesis, pathology and management of human immuno deficiency virus associated nephropathy. (25)

3. Write briefly on : (5 × 10 = 50)

(a) Transplant renal artery stenosis.

(b) Role of transforming growth factor–β (TGF–β) in diabetic nephropathy.

(c) Assessment of dry weight in patients on dialysis.

(d) Genetic determinants of hemolytic uremic syndrome.

(e) Iron therapy in patients with chronic renal failure.

November-2001

[KE 011] **Sub. Code : 1203**

D.M. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper III — RECENT ADVANCES

Time : Three hours Maximum 100 marks

Answer ALL questions

1. Discuss the mechanism of chronic allograft dysfunction. (25)

2 Discuss the role of lipids in various renal diseases. (25)

3. Write briefly on : (5 × 10 = 50)

(a) Intradialytic hypertension

(b) IL – II receptor blockers

(c) Homocysteine metabolism in chronic renal–failure.

(d) Gene therapy in renal diseases

(e) Treatment of Steroid–resistant nephrotic syndrome.

March-2002

[KG 011] **Sub. Code : 1203**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper III — RECENT ADVANCES

Time : Three hours Maximum : 100 marks

All questions are compulsory.

1. Discuss the mechanism of Systemic Inflammatory Response (SIRs) and its possible role in MOF in the tropical setting. Briefly outline the principles of management in a case of Viperine snake envenomation and MOF. (25)

2. Describe the newer methods of maintenance haemodialysis therapy in chronic renal failure patients and discuss their merits and demerits. (25)

3. Write briefly on : (5 × 10 = 50)

(a) PHEX gene and familial hypophosphatemic rickets

(b) MR Angiography in diagnosis of Renovascular disease

(c) Aldosterone action

(d) Organ preservation in Cadaver kidney transplantation

(e) Mycophenolate Mofetil.

[KK 012] **Sub. Code : 1203**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper IV — RECENT ADVANCES

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

(A) Essay questions : (2 × 15 = 30)

(1) Discuss in detail of recent advances in the pathogenesis and management of Lupus Nephritis.

(2) Discuss the recent advances in the phathogenesis and management of Renal Osteodystrophy.

(B) Short notes on : (10 × 5 = 50)

(1) Polyoma virus Nephropathy.

(2) Newer immunosuppressive agents.

(3) Tissue Engineering a kidney.

(4) HIV Nephropathy.

(5) Cyber nephrology.

(6) Mars Dialysis Therapy.

(7) Renal nutritional management in Chronic Renal Failure.

(8) Recent advances in chronic Peritoneal Dialysis Therapy.

(9) Interventional managements in Nephrology.

(10) Newer concepts in the prevention of contrast Nephropathy.

[KM 012] **Sub. Code : 120**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper IV — RECENT ADVANCES

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay : (2 × 15 = 30)

(1) Discuss the recent advances in the pathogenesis of Diabetic Nephropathy.

(2) Continuous Renal replacement therapy in critically ill patients.

II. Write notes on : (10 × 5 = 50)

(a) Recent advances in the diagnosis of Acute renal failure.

(b) Inherited podocytopathies.

(c) Phosphatonin.

(d) Epithelial Sodium Channel.

(e) Monogenic Hypertension.

(f) Newer concepts in the pathogenesis of ADPKD.

(g) Torsemide.

(h) Xeno-transplantation.

(i) Human organ transplantation act (HOTA).

(j) Calcimimetic agents.

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[KO 012] **Sub. Code : 1204**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper IV — RECENT ADVANCES

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay : (2 × 15 = 30)

(1) Discuss the Therapeutic application of stem cell therapy in Renal disease.

(2) Discuss the Extra corporeal techniques for drug removal in Acute poisoning.

II. Write notes on : (10 × 5 = 50)

(a) Advances in the management of Lupus Nephritis.

(b) The value of vaccination in chronic kidney disease.

(c) Icodextrins in peritoneal dialysis.

(d) Anemia and cardiovascular disease in chronic kidney disease.

(e) Newer immunosuppressive agents.

(f) Extended Daily dialysis.

(g) Angiotensin I receptor blockers.

(h) New phosphate binders.

(i) Role of apoptosis in hypoxic ischaemic damage to the kidney.

(j) Bone disease after kidney transplantation.

[KP 012] **Sub. Code : 1203**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper IV — RECENT ADVANCES

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

(1) New aspects of Pathogenesis of Pre-eclampsia. (20)

(2) Current and future immunosuppressive strategies in renal transplantation. (15)

(3) Discuss the role of lipids in various renal diseases. (15)

II. Write notes on : (6 × 5 = 30)

(a) Bone morphogenic protein-7 and the kidney.

(b) C4d Immunostaining in Renal Allograft Biopsies.

(c) Omega-3 Supplementation in Dialysis.

(d) Non-calcium based phosphate binders in CKD.

(e) Combined angiotensin blockade in hypertension.

(f) Bioartificial kidney.

[KQ 012] **Sub. Code : 1204**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper IV — RECENT ADVANCES

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

1. Current concepts in pathogenesis of polycystic kidney disease and future therapeutic options. (20)

2. Renal TOLL like receptors in health and disease. (15)

3. Newer erythropoietic agents for future use in renal anemia. (15)

II. Short notes : (6 × 5 = 30)

1. Stem cells in nephrology.

2. Advances in dialysis catheters.

3. DEXA scan and bio-impedance assay in ESRD.

4. CYTOKINES.

5. Peritoneal membrane preservation for CAPD.

6. Co-stimulatory signal blockers.

[KR 012] **Sub. Code : 1204**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch III — Nephrology

Paper IV — RECENT ADVANCES

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

I. Essay :

1. Discuss recent advances in the treatment of idiopathic Glomerulonephritis (20)

2. Discuss genetic basis, clinical feature and treatment of fabry diseases (15)

3. Discuss non-dialytic therapy of acute kidney injury. (AKI) (15)

II. Short notes : (6 × 5 = 30)

(a) Biocompatible fluid in CAPD

(b) Uremic xerosis

(c) Renal cortical necrosis

(d) Marginal Renal donors

(e) Emphysematous pyelonephritis

(f) Nephrogenic systemic fibrosis (NSF).

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August 2008

[KT 012] **Sub. Code: 1204**

D.M. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch III -Nephrology

Paper IV– RECENT ADVANCES

Q.P. Code: 161204

Time: Three hours **Maximum: 100 Marks**

ANSWER ALL QUESTIONS
Draw suitable diagrams wherever necessary.

I. Essays: **2 x 20 = 40 Marks**

1. Recent classification and molecular mechanisms of renal allograft rejection and its current management.

2. Overview of secondary hyperparathyroidism in CKD and its control with various vitamin D analogs and calcimimetics.

II. Write short notes on: **10 x 6 = 60 Marks**

1. Herbal Nephropathy.
2. Nephrogenic systemic fibrosis.
3. Post-transplant bone disease.
4. Stem cell therapy in renal disease.
5. Renal transplantations across ABO barrier.
6. Update on peritoneal dialysis solutions.
7. Continuous erythropoietin receptor activator.
8. Anti-endothelial cell antibodies in vasculitis.
9. Management of dense deposit disease.
10. Epidemiology and screening of CKD in India.

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August 2009

[KV 012] **Sub. Code: 1204**

D.M. DEGREE EXAMINATION

(Higher Specialities)

Branch III – Nephrology

(Revised Regulations)

Paper IV – RECENT ADVANCES

Q.P. Code: 161204

Time: Three hours **Maximum: 100 Marks**

Answer ALL questions

Draw suitable diagrams wherever necessary.

I. Essays: **2 x 20 = 40**

1. Viral Nephropathy.
2. Contrast induced Nephrotoxicity, Prevention – Recent advances.

II. Write short notes on: **10 x 6 = 60**

1. Renal proteonics.
2. Low renin Hypertension.
3. Adreno medullion.
4. Cerebral salt wasting.
5. Icodextrin.
6. Erythropoietic stimulating agents.
7. Exercise training in dialysis.
8. Hemo study.
9. Revised Banff classification on rejection.
10. Ultra filtration failure.

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August 2011

[KZ 012] **Sub. Code: 1204**

DOCTORATE OF MEDICINE (D.M.) DEGREE EXAMINATION

(SUPER SPECIALITIES)

BRANCH III – NEPHROLOGY

RECENT ADVANCES

Q.P. Code: 161204

Time : 3 hours (180 Min) **Maximum : 100 marks**

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Recent advances in the pathogenesis and management of Diabetic Nephropathy.	11	35	15
2. Recent advances in the pathogenesis of small vessel vasculitis of the Kidney.	11	35	15
II. Write notes on :			
1. Donor Swap Transplantation.	4	10	7
2. Recent advances in the pathophysiology of peritoneal membrane.	4	10	7
3. Rituximub in the treatment of Glomerulonephritis.	4	10	7
4. RIFLE versus AKIN criteria of AK1.	4	10	7
5. Pathologic classification of diabetic nephropathy.	4	10	7
6. Haufen.	4	10	7
7. Hemophagocytic syndrome in renal transplantation.	4	10	7
8. Continuous Ambulatory blood pressure monitoring.	4	10	7
9. Vasopressin antagonists in the treatment of hyponatremia.	4	10	7
10. Endothelial dysfunction.	4	10	7

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[LB 012] **AUGUST 2012** **Sub. Code: 1204**

D.M – NEPHROLOGY

Paper – IV RECENT ADVANCES

Q.P. Code: 161204

Time: 3 hours **Maximum: 100 marks**

(180 Min)

Answer ALL questions in the same order.

I. Elaborate on:	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. What is a marginal kidney donor? How do you manage the recipient of a kidney from such a donor?	16	35	15
2. Indications for the use of mTOR inhibitors post kidney transplant, side effects and management of a patient on mTOR.	16	35	15
II. Write notes on:			
1. Use of stem cell therapy in Nephrology.	4	10	7
2. Usefulness of allograft biopsy in the management of a kidney transplant recipient.	4	10	7
3. Indications, procedure, advantages and disadvantages of automated Peritoneal Dialysis.	4	10	7
4. What is Microinflammation? What is the evidence for its role in chronic kidney disease?	4	10	7
5. Use of Bortezumib in Nephrology.	4	10	7
6. Renal involvement with snake envenomation, lesions, treatment and outcome.	4	10	7
7. Variants of minimal change nephropathy, management of a steroid dependent child with this condition.	4	10	7
8. Enumerate podocyte disorders and write briefly on the Finnish type of congenital nephritic syndrome.	4	10	7
9. The role of therapeutic drug monitoring in the management of a kidney transplant recipient.	4	10	7
10. Indications for combined kidney pancreas transplantation and the monitoring of such a recipient.	4	10	7

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(LD 012) **AUGUST 2013** **Sub. Code:1204**

D.M. – NEPHROLOGY
Paper – IV RECENT ADVANCES
Q.P.Code: 161204

Time: Three Hours **Maximum: 100 marks**

I. Elaborate on: **(2X15=30)**

1. List the causes of erythropoietin resistance / ineffectiveness in management of anemia of chronic kidney disease. Write about the recent advances in the management of anemia in chronic kidney disease, including the debate on ideal Hemoglobin targets and the emerging erythropoiesis stimulating agents.
2. Discuss the recent advances in Screening, Prevention, Diagnosis and Management of BK virus Nephropathy in renal allograft recipients.

II. Write notes on: **(10X7=70)**

1. Write the new histologic classification of glomerular lesions in renal small vessel vasculitis and its clinical implication.
2. List the newer fluids for peritoneal dialysis and briefly mention their uses, advantages and disadvantages.
3. Write briefly on the recent breakthroughs in wearable artificial kidney.
4. Write briefly on the newer agents in the treatment of antibody mediated acute renal allograft rejection.
5. Write the AKIN criteria. Describe the differences of AKIN criteria from RIFLE criteria for acute kidney injury.
6. Briefly describe the role of Hepcidin in anemia of chronic kidney disease.
7. Write briefly on the recent advances in renal transplantation in HIV infections recipients.
8. Describe briefly on measures of endothelial dysfunction and their clinical applications.
9. Describe briefly the cardio-renal syndromes.
10. Write briefly on the mechanism of action, indications, side effects and drug interactions of febuxostat.

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[LF 012] **AUGUST 2014** **Sub. Code: 1204**

D.M. – NEPHROLOGY

Paper IV – RECENT ADVANCES

Q. P. Code: 161204

Time: Three Hours **Maximum: 100 Marks**

Answer ALL questions in the same order.

I. Elaborate on: **(2 x 15 = 30)**

1. Define Renal Glycosuria. Discuss in detail the renal handling of Glucose
   What are SGLT2 inhibitors? Write its pharmacology and pharmacodynamics.
   What is the current status of SGLT2 inhibitors in clinical medicine?

2. Define Class I HLA system.
   Discuss the structure of Class I HLA molecule.
   Write the clinical significance of Class I HLA in Nephrology.
   What are the current concepts about Pathogenesis of late allograft dysfunction?

II. Write notes on: **(10 x 7 = 70)**

1. Newer potential approaches to reverse or repair renal fibrosis.
2. What is 'High cut off dialysis'? What is its difference from high flux dialysis?
3. Obesity and Kidney Disease.
4. What is 'Ischemic – Preconditioning'?
5. C_4d negative AMR.
6. Karyomegalic interstitial nephritis.
7. TEMPO Trial.
8. Wearable PD devices.
9. Micro RNAs in diagnosis and management of Renal diseases.
10. Role of Bio-impedance Spectroscopy in Hemodialysis population.

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(LG 012) **FEBRUARY 2015** **Sub. Code:1204**

D.M. – NEPHROLOGY

Paper IV – RECENT ADVANCES

Q.P.Code: 161204

Time: Three Hours **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. What is the current definition and classification of Antiphospholipid syndrome? What is "APS nephropathy"? How will you diagnose and treat APS nephropathy?
2. What are Stem cells? What are the types of stem cells and how will you separate them? What is the current status of stem cell therapies in renal diseases?

II. Write notes on: **(10 x 7 = 70)**

1. Clinical trials in class IV and V Lupus nephritis.
2. Adiponectin.
3. What are the newer molecules /methods under trial for treatment and prevention of Acute Kidney Injury (AKI)?
4. Modalities of dialysis in hepatorenal syndrome
5. IgG4 related kidney disease-How will you diagnose and treat this condition?
6. Antidiabetic agents in Chronic kidney disease.
7. Role of Metabolic acidosis in CKD progression. Current guidelines on treatment of metabolic acidosis in CKD patients.
8. GWAS meta-analysis report in T_2DM.
9. What is Transcriptomics in renal disease?
10. Current recommendation on ABPM in CKD patients.

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[LH 012] **AUGUST 2015** **Sub. Code: 1204**

D.M. – NEPHROLOGY

PAPER IV – RECENT ADVANCES

Q.P. Code : 161204

Time : Three Hours **Maximum : 100 marks**

Answer ALL questions

I. Elaborate on: **(2 x 15 = 30)**

1. ABO incompatible renal transplantation- plan, pre transplant preparation, complications and post transplant monitoring.

2. Acute Kidney Injury (AKI) in a medical oncology unit – Discuss the causes, management and outcome.

II. Write notes on : **(10 x 7 = 70)**

1. Bile cast nephropathy – cause, pathology and treatment.

2. What is C 4 DDD (Complement 4 Dense Deposit Disease)? – Highlight on the pathomechanism and investigation.

3. Medical management of calcium oxalate stones.

4. 'Apol 1' gene polymorphism in renal diseases.

5. Role of endothelin antagonists in renal diseases.

6. Bortezomib – mechanism of action and indications in nephrology.

7. Investigation and treatment of atypical hemolytic uremic syndrome.

8. Phospholipase A2 receptor antibody.

9. Diagnosis of acute coronary syndrome in a patient with Chronic Kidney Disease.

10. Recent insights in the treatment of autosomal dominant polycystic kidney disease.

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ALL INDIA INSTITUTE OF MEDICAL SCIENCES

DM Nephrology
May 2015 Examination

Paper - III

Time : 3 Hours
Max. Marks : 100

All questions are to be answered.

		Marks
1.	Discuss cross match techniques and their clinical relevance	25
2.	**Write short note on:**	
	a) Sodium sieving	15
	b) Protein energy wasting in a CKD patient – his management	15
	c) Renal outcomes in AKI management	15
	d) Paired kidney transplant	15
	e) Etiopathogenesis and management of Intradialytic hypertension	15

ALL INDIA INSTITUTE OF MEDICAL SCIENCES

DM Nephrology
May 2015 Examination

Paper - II

Time : 3 Hours
Max. Marks : 100

All questions are to be answered. **Mark**

1. Give etiopathogenesis clinical features evaluation management and outcome of MPGN pattern injury 2

2. **Write short note on:**

   a) Oxford classification of IgA Nephropathy 1

   b) Uric acid as target for progression of CKD 1

   c) Hepcidin in CKD 1

   d) Extraosseous calcification in ESRD 1

   e) Access cannulation techneques in Hemodialysis 1

ALL INDIA INSTITUTE OF MEDICAL SCIENCES

DM Nephrology
May 2015 Examination

Paper - I

Time : 3 Hours
Max. Marks : 100

All questions are to be answered. **Marks**

1. Describe determinant of GFR compare and contrast the different methods of measurement of GFR 25

2. **Write short note on:**

   a) Urinary osmolality 15

   b) Atypical HUS evaluation and management 15

   c) Ischemia – Reperfusion inury 15

   d) Mixed chimerism 15

   e) Endemic nephropathies 15

DNB FINAL EXAM
DECEMBER 2014

NATIONAL BOARD OF EXAMINATIONS

NEPHROLOGY

PAPER – I

NEPH/D/14/20/I

Time : 3 hours
Max. Marks : 100

Important instructions:

- *Attempt all questions in order.*
- *Each question carries 10 marks.*
- *Read the question carefully and answer to the point neatly and legibly.*
- *Do not leave any blank pages between two answers.*
- *Indicate the question number correctly for the answer in the margin space.*
- *Answer all the parts of a single question together.*
- *Start the answer to a question on a fresh page or leave adequate space between two answers.*
- *Draw table/diagrams/flowcharts wherever appropriate.*

Write short notes on:

1. a) Structure of glomerular basement membrane. 5+5
   b) Juxta glomerular apparatus.

2. a) Tubulo-glomerular feed back. 5+5
   b) Pharmacological influences on renal haemodynamics.

3. a) Counter current mechanisms. 6+4
   b) Carbonic anhydrase and kidney.

4. a) Enumerate the markers for measuring glomerular filtration rate (GFR). 2+2+6
   b) Mention the limitations of serum creatinine as a marker of GFR.
   c) Mention the estimated GFR equations & bring out their limitations.

5. a) Enumerate the various transport proteins present in the renal tubules. 2+8
   b) Mention the diseases associated with genetic mutation in these transport proteins.

6. Role of urinalysis in the diagnosis of various renal disorders. 10

7. a) Diagnostic approach to a patient with hypernatremia. 5+5
   b) Outline approach to correction of hypernatremia.

8. a) Transtubular Potassium Gradients. 4+4+2
   b) Urinary anion gap.
   c) Mixed acid base disorders with two examples.

9. a) T Cell activation in renal transplant. 6+4
   b) MHC class I and class II molecules.

10. a) Membrane biocompatibility. 3+3+4
    b) Ultra pure water for dialysis.
    c) Peritoneal equilibration test and its utility.

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DNB FINAL EXAM
DECEMBER 2014

NATIONAL BOARD OF EXAMINATIONS

NEPHROLOGY

PAPER – II

NEPH/D/14/2011

Time : 3 hours
Max. Marks : 100

Important instructions:

- *Attempt all questions in order.*
- *Each question carries 10 marks.*
- *Read the question carefully and answer to the point neatly and legibly.*
- *Do not leave any blank pages between two answers.*
- *Indicate the question number correctly for the answer in the margin space.*
- *Answer all the parts of a single question together.*
- *Start the answer to a question on a fresh page or leave adequate space between two answers.*
- *Draw table/diagrams/flowcharts wherever appropriate.*

Write short notes on:

1. Discuss thrombotic microangiopathy (TMA) under following heads: 3+2+5
   a) Classical histology and laboratory abnormalities.
   b) Precipitants of atypical HUS.
   c) ADAMTS-13 deficiency.

2. Discuss small vessel pauci immune vasculitis under following heads: 2+2+6
   a) The clinicopathological variants grouped under this entity.
   b) Pathogenetic pathway causing vasculitis.
   c) Treatment option for managing pauci immune vasculitis.

3. Discuss C3 glomerulopathy under following heads: 4+2+4
   a) Pathogenesis.
   b) Clinical manifestations.
   c) Laboratory findings and renal histology.

4. Discuss the pathophysiology of cardio-renal syndromes and outline the treatment strategies. 5+5

5. a) Erythropoietin resistance. 3+3+4
   b) Calcimimetics.
   c) Management of uremic pruritus.

6. a) Enumerate the various classifications used for acute kidney injury (AKI). 4+6
   b) Outline the role of Biomarkers in AKI.

7. a) Discuss the pathophysiology of Hepatorenal syndrome. 4+4+2
   b) Outline the general principles in its prevention and approach to therapy.
   c) Role of extra corporeal support therapy.

P.T.O.

NEPHROLOGY

PAPER – II

8. Discuss hypertension in pregnancy under following heads: 4+3+3
   a) Hypertensive disorders related to pregnancy.
   b) Renal abnormalities associated with pre-eclampsia.
   c) Control of hypertension during pre-eclampsia.

9. a) Nephro calcinosis. 5+5
   b) Hyperoxaluria.

10. Discuss lupus nephritis under following heads: 2+5+3
    a) ISN/RPS classification of lupus nephritis.
    b) Management of proliferative lupus nephritis.
    c) Renal Transplant in ESRD due to lupus nephritis.

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DNB FINAL EXAM
DECEMBER 2014

NATIONAL BOARD OF EXAMINATIONS

NEPHROLOGY

PAPER – III

NEPH/D/14/20/III

Time : 3 hours
Max Marks : 100

Important instructions:

- *Attempt all questions in order*
- *Each question carries 10 marks*
- *Read the question carefully and answer to the point neatly and legibly*
- *Do not leave any blank pages between two answers*
- *Indicate the question number correctly for the answer in the margin space*
- *Answer all the parts of a single question together*
- *Start the answer to a question on a fresh page or leave adequate space between two answers*
- *Draw table/diagrams/flowcharts wherever appropriate*

Write short notes on:

1. Discuss the cross match test used in renal transplant under following heads: 3+4+3
   a) Techniques used for cross match.
   b) Interpretation of a cross match test.
   c) Agents used for desensitization.

2. a) Outline the CMV prophylaxis protocol in post renal transplant. 4+6
   b) Diagnosis and management of B K virus infection in post renal transplant.

3. Pathogenesis, diagnosis and management of chronic allograft injury. 3+3+4

4. a) Diagnosis and management of CAPD peritonitis. 6+4
   b) Intradialytic hypertension during hemodialysis.

5. Briefly outline management of: 4+6
   a) Tunneled central haemodialysis catheter malfunction.
   b) Nephrogenic systemic fibrosis.

6. Pathogenesis, diagnosis and management of High Turnover Bone Disease in CKD. 4+2+4

7. a) Management of uremic bleeds. 3+3+4
   b) Prevention of contrast induced nephropathy.
   c) Dialysis related amyloidosis.

8. Discuss primary vesico-ureteric reflux under following heads: 3+2+5
   a) Classification and clinical presentation.
   b) Diagnosis.
   c) Management.

P.T.O.

NEPHROLOGY

PAPER – III

9. a) Renin Angiotensin Aldosterone system blockade in diabetic nephropathy. 5+5
   b) Adult onset minimal change disease.

10. Write short notes on the following aspects of 'The Transplantation of Human Organs and Tissues Act, 1994 as amended in 2011. 2+3+5
    a) Constitution of the Board to certify Brain Stem Death.
    b) Procedure for donation of organ or tissue in medico legal cases.
    c) Documents and tests necessary to establish a genetic relationship between the donor and recipient.

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FINAL EXAM
DECEMBER 2015

NATIONAL BOARD OF EXAMINATIONS

NEPHROLOGY
PAPER – II

Time : 3 hours
Max. Marks : 100

NEPH/D/15/20/II

Important instructions:

- *Attempt all questions in order.*
- *Each question carries 10 marks.*
- *Read the question carefully and answer to the point neatly and legibly.*
- *Do not leave any blank pages between two answers.*
- *Indicate the question number correctly for the answer in the margin space.*
- *Answer all the parts of a single question together.*
- *Start the answer to a question on a fresh page or leave adequate space between two answers.*
- *Draw table/diagrams/flowcharts wherever appropriate.*

Write short notes on:

1. a) What are the clinical syndromes associated with atherosclerotic renal disease? 2
   b) Tabulate the methods used to assess the renal vasculature and specifically mention its ability to image the renal vessels and tissue perfusion. 4
   c) Percutaneous transluminal angioplasty: Complications and long term outcomes. 4

2. a) Pathophysiology of HELLP syndrome in pregnancy. 3
   b) Pathology of HELLP syndrome. 3
   c) Current concepts of management of HELLP. 4

3. Active renal stone formers under the following headings:
   a) Define active stone former. 1
   b) Causes of active stone formation. 2
   c) Investigations required for active stone formers. 4
   d) Management of active stone formers. 3

4. a) Anti PLA2 receptor antibodies. 2
   b) Secondary causes for membranous nephropathy. 3
   c) Algorithm for treatment of membranous nephropathy. 5

5. a) The acceptable renal criteria for pregnancy in a post renal transplant patient. 3
   b) Immunosuppressives in pregnancy with renal transplant. 3
   c) The effect of pregnancy on lupus nephritis and vice versa. 4

6. a) Define diabetic nephropathy. 2
   b) Indications for renal biopsy in a diabetic with renal disease. 4
   c) Prognostic significance of microalbuminuria. 4

150 x 200 / 30000

P.T.O.

NEPHROLOGY
PAPER – II

7. a) Pathogenesis of heparin induced thrombocytopenia (HIT). 4
   b) Alternative anticoagulants in HIT. 3
   c) Dialysis catheter lock solutions. 3

8. a) Enumerate the clinical presentations of Genitourinary Tuberculosis (GUTB). 4
   b) Abnormalities seen in excretory urogram. 3
   c) Indications for surgery in GUTB. 3

9. Protein Energy Wasting in CKD under the following headings:
   a) Causes. 2
   b) Diagnostic criteria. 5
   c) Principles of treatment. 3

10. a) What are Heat shock Proteins? 3
    b) What is its relation to ischemic Acute Kidney Injury (AKI)? 4
    c) Outcomes of septic AKI. 3

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FINAL EXAM
DECEMBER 2015

NATIONAL BOARD OF EXAMINATIONS

NEPHROLOGY
PAPER – III

NEPH/D/15/20/III

Time : 3 hours
Max. Marks : 100

Important instructions:

- *Attempt all questions in order.*
- *Each question carries 10 marks.*
- *Read the question carefully and answer to the point neatly and legibly.*
- *Do not leave any blank pages between two answers.*
- *Indicate the question number correctly for the answer in the margin space.*
- *Answer all the parts of a single question together.*
- *Start the answer to a question on a fresh page or leave adequate space between two answers.*
- *Draw table/diagrams/flowcharts wherever appropriate.*

Write short notes on:

1. Acquired renal cystic disease under the following heads:
   a) Diagnosis — 2
   b) Prevalence — 2
   c) Complications — 3
   d) Management — 3

2. Registries (National and International) as research tool. — 10

3. a) Steroid avoidance in renal transplant - pros and cons. — 5
   b) Clinical usage of mTOR inhibitors in renal transplant patients. — 5

4. Hemodialfiltration in maintenance dialysis patients under the following headings:
   a) Technical requirements. — 5
   b) Global usage pattern. — 2
   c) Clinical outcomes. — 3

5. ABO incompatible renal transplants under the following headings:
   a) Historical perspective. — 2
   b) Current clinical protocols. — 6
   c) Outcomes as compared to compatible renal transplantation. — 2

6. Vaccinations under the following headings:
   a) Chronic kidney disease – predialysis and dialysis patients. — 6
   b) Vaccinations to be avoided in post renal transplant patients. — 4

7. a) Revised Chapel-Hill classification of vasculitis. — 7
   b) Mention the important differences from the previous classification. — 3

8. a) Enumerate the markers of iron status in CKD with their normal values. — 3
   b) Diagnosis and treatment of iron overload. — (2+2)
   c) Newer erythropoiesis stimulating agents. — 3

P.T.O.

FINAL EXAM
DECEMBER 2015

NATIONAL BOARD OF EXAMINATIONS

NEPHROLOGY

PAPER – I

NEPH/D/15/20/I

Time : 3 hours
Max. Marks : 100

Important instructions:

- *Attempt all questions in order.*
- *Each question carries 10 marks.*
- *Read the question carefully and answer to the point neatly and legibly.*
- *Do not leave any blank pages between two answers.*
- *Indicate the question number correctly for the answer in the margin space.*
- *Answer all the parts of a single question together.*
- *Start the answer to a question on a fresh page or leave adequate space between two answers.*
- *Draw table/diagrams/flowcharts wherever appropriate.*

Write short notes on:

1. Class - I HLA system under the following headings:
   a) Define class - I HLA system. 2
   b) Structure of class - I HLA. 2
   c) Clinical significance of class - I HLA in health and disease. 6

2. Hyperkalemia under the following headings:
   a) Pathophysiology of complications of hyperkalemia. 4
   b) Immediate management. 2
   c) Newer antihyperkalemic agents. 4

3. Renal diseases with their prevalence in:
   a) Rheumatoid arthritis 3
   b) Sarcoidosis. 3
   c) Scleroderma. 4

4. Vascular calcification in chronic kidney disease under the following heads:
   a) Pathology. 3
   b) Pathophysiology. 5
   c) Diagnosis. 2

5. Management of chronic asymptomatic hyponatremia . 10

6. a) Structure of the peritoneal membrane. 5
   b) Steps to preserve ultrafiltration capacity. 5

7. Role of urine dipstick testing:
   a) Parameters tested. 6
   b) False positivity and negativity. 4

8. a) Radionuclides used in Nephrology for imaging: Clinical usage and limitations. 7
   b) Role of PET scan in renal patients. 3

9. a) Thin basement disease – diagnosis and outcome 5
   b) Renal transplantation in Alport's disease 5

10. a) Type IV RTA. 3
    b) Secondary causes of renal tubular acidosis. 4
    c) Management of distal RTA. 3

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NEPHROLOGY
PAPER – III

9. a) Current classification of plasma cell dyscrasias. 5
   b) Diagnosis and treatment of myeloma kidney. (2+3)

10. The Transplantation of Human Organs and Tissues Act, 2011 under the following heads:
    a) Important differences from THOA, 1994 5
    b) Salient requirements of a centre to be recognized for transplantation. 5

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(LH 012) AUGUST 2015 Sub. Code:1204

D.M. – NEPHROLOGY

Paper IV – RECENT ADVANCES

Q.P.Code: 161204

Time: Three Hours **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. ABO incompatible renal transplantation- plan, pre transplant preparation, complications and post transplant monitoring.

2. Acute Kidney Injury (AKI) in a medical oncology unit – Discuss the causes, management and outcome.

II. Write notes on: **(10 x 7 = 70)**

1. Bile cast nephropathy –cause, pathology and treatment.
2. What is C 4 DDD (Complement 4 Dense Deposit Disease)? – Highlight on the pathomechanism and investigation.
3. Medical management of calcium oxalate stones.
4. 'Apol 1'gene polymorphism in renal diseases.
5. Role of endothelin antagonists in renal diseases.
6. Bortezomib – mechanism of action and indications in nephrology.
7. Investigation and treatment of atypical hemolytic uremic syndrome.
8. Phospholipase A2 receptor antibody.
9. Diagnosis of acute coronary syndrome in a patient with Chronic Kidney Disease.
10. Recent insights in the treatment of autosomal dominant polycystic kidney disease.

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(LH 009) AUGUST 2015 Sub. code:1201

D.M. – NEPHROLOGY

Paper I – NEPHROLOGY – BASIC SCIENCES

Q.P.Code: 161201

Time: Three Hours **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Structure of glomerular filtration barrier. Describe the mechanism and determinants of Glomerular filtration rate.

2. How is sodium handled by the kidney? Mention the defences against hyponatremia.

II. Write notes on: **(10 x 7 = 70)**

1. Structure and function of diluting segment of nephron.
2. What is urine anion gap? Mention its clinical utility.
3. Pathogenesis of glomerular crescent.
4. Role of electron microscopy in renal pathology.
5. Transforming growth factor beta - its role in renal disease.
6. Distribution of MHC (Major Histocompatibility Complex) Class I and Class II antigens. What is MHC restriction?
7. Use of Radionuclide renography in clinical nephrology.
8. Potential role of "low birth weight" on kidney structure and function.
9. Hyperkalemic distal RTA (Renal Tubular acidosis) - causes and mechanisms.
10. Unique features of juxtamedullary nephrons.

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(LH 010) AUGUST 2015 Sub. Code:1202

D.M. – NEPHROLOGY

Paper II – CLINICAL NEPHROLOGY, DIALYSIS, TRANSPLANTATION

Q.P.Code: 161202

Time: Three Hours **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Pathogenesis, Pathology and Treatment of idiopathic FSGS (Focal segmental Glomerulosclerosis).

2. Enumerate renal lesions caused by systemic lupus erythematosus NOT included in ISN - RPS (International Society of Nephrology - Renal Pathology Society) classification. Describe the pathology and clinical presentation of each one of them.

II. Write notes on: **(10 x 7 = 70)**

1. Cerebral salt wasting syndrome - aetiology, pathomechanism and treatment.
2. Renal lesions associated with haematopoietic stem cell transplantation.
3. What are phosphatonins? How do they act?
4. Formulae for estimation of glomerular filtration rate – caveats and drawbacks. Highlight the formula validated in Asian population.
5. Enumerate causes, clinical features, histopathology of endemic nephropathies.
6. Emphysematous pyelonephritis - risk factors, grading and treatment.
7. Non traditional risk factors for cardiovascular disease in chronic kidney disease patients.
8. Exit site infection - diagnosis and treatment.
9. Arteriovenous fistula thrombosis - causes, early diagnostic clues and management.
10. Post renal transplant erythrocytois - causes, complications and management.

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(LH 011) AUGUST 2015 Sub. Code:1203

D.M. – NEPHROLOGY

Paper III – NEPHROLOGY – DIALYSIS AND TRANSPLANTATION

Q.P.Code: 161203

Time: Three Hours **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. A 11 year old boy presents with chronic kidney disease. What are the potential causes for CKD in him? Discuss the plan, timing, risks, advantages and special features of paediatric renal transplantation.

2. Dialysis of a critically ill, hypotensive patient - enumerate the options, their advantages and disadvantages.

II. Write notes on: **(10 x 7 = 70)**

1. CRBSI (Catheter related Blood stream Infection) - diagnosis and management. Comment on the role of 'Biofilm'.
2. Lymphocyte depleting induction immunosuppressives.
3. Diagnosis and management of BK virus nephropathy.
4. Culture negative peritonitis in a patient on CAPD (Continuous Ambulatory Peritoneal Dialysis) - How will you evaluate?
5. Transplant Glomerulopathy - Causes and pathology.
6. Enumerate mechanisms of 'Graft Tolerance'. Explain 'Chimerism'.
7. Management of cytomegalovirus disease in a renal transplant recipient.
8. Define 'ultrafiltration failure' in CAPD? How will you evaluate and manage?
9. Pregnancy in a renal transplant recipient lady - highlight on unique management issues.
10. Pregnancy in a lady with chronic kidney disease - When will you initiate haemodialysis? Mention the ideal haemodialysis prescription.

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DR NTR UNIVERSITY OF HEALTH SCIENCES :: VIJAYAWADA :: AP

D.M. DEGREE EXAMINATION – JULY, 2015

SPECIALITY :: NEPHROLOGY

PAPER - I

BASIC SCIENCES AND APPLIED NEPHROLOGY

Time : 3 Hours | Max. Marks : 100

ANSWER ALL QUESTIONS

1) Discuss the handling of uric acid by kidney and its role in kidney disease and progression — 30

2) Discuss in detail Renal circulation and regulation of Renal haemodynamics. — 30

WRITE SHORT NOTES ON: — 4x10=4

3) Genetics of polycystic kidney disease and its implication

4) Diuretic resistance and ways to overcome it

5) Major Histo compatibility antigens

6) Approach to a case of hematuria

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D.M. DEGREE EXAMINATION – JULY, 20[illegible]

SPECIALITY :: NEPHROLOGY

PAPER - II

CLINICAL NEPHROLOGY, DIALYSIS AND KIDNEY TRANSPLANTATION-I

Time : 3 Hours

Max. Marks : 100

ANSWER ALL QUESTIONS

1) Discuss in detail different types of FSGS – pathological classification and management of FSGS 30

2) Discuss in detail about plasmapheresis – principles of plasmapheresis indication, treatment, Pharmacokinetics, different types of plasmapheresis and its advantages and disadvantages, different types of replacement solutions with advantages and disadvantages. 30

WRITE SHORT NOTES ON: 4x10=40

3) Bimodal peritoneal dialysis solutions

4) Contrast induced nephropathy

5) RIFLE and AKIN classification in AKI (Acute Kidney Injury), their differences, advantages and disadvantages.

6) Steroid resistant acute rejection.

DR. NTR UNIVERSITY OF HEALTH SCIENCES :: VIJAYAWADA :: AP

D.M. DEGREE EXAMINATION – JULY, 2015

SPECIALITY :: NEPHROLOGY

PAPER - III

CLINICAL NEPHROLOGY, DIALYSIS AND KIDNEY TRANSPLANTATION-II

Time : 3 Hours Max. Marks : 100

ANSWER ALL QUESTIONS

1) Describe different viral infections in renal transplant and discuss CMV (Cytomegalovirus) infection, management prophylaxis and treatment. 30

2) Discuss in detail CAPD (Continuous Ambulatory Peritoneal Dialysis) peritonitis and its management along with recent guidelines 30

WRITE SHORT NOTES ON: 4×10=40

3) Dialyzer reuse

4) Management of steroid resistant nephrotic syndrome in adults

5) Chronic malarial nephropathy

6) Cerebral salt wasting syndrome

DR NTR UNIVERSITY OF HEALTH SCIENCES :: VIJAYAWADA :: AP

D.M. DEGREE EXAMINATION – JULY, 2015

SPECIALITY:: NEPHROLOGY

PAPER - IV

ADVANCES IN NEPHROLOGY

Time : 3 Hours Max. Marks : 100

ANSWER ALL QUESTIONS

1) Discuss in detail about renal denervation and implications in chronic kidney disease 30

2) Membranous nephropathy etiology, pathogenesis, diagnosis and treatment with recent advances in its diagnosis and treatment 30

4x10=40

WRITE SHORT NOTES ON:

3) Newer fluids for peritoneal dialysis with brief mention on their uses, advantages and disadvantages.

4) Statin and CKD

5) Pathogenesis and management of post transplant hyperglycemia

6) KDIGO (Kidney Disease improving global outcomes) clinical practice guidelines for anaemia management in CKD

Reg. No.										

MANIPAL UNIVERSITY

DM (NEPHROLOGY) DEGREE EXAMINATION – JULY 2015

SUBJECT: PAPER I: BASIC SCIENCE

Tuesday, July 14, 2015

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

Long Questions:

1. Discuss pathogenesis, clinical features, evaluation, diagnosis and medical treatment of nephrolithiasis.

(20 marks)

2. Discuss pathogenesis of autosomal dominant polycystic kidney disease, diagnostic criteria and management of the same.

(20 marks)

3. **Write short notes on:**

3A. Physiology of immune recognition
3B. Complement system
3C. Bleeding diathesis in chronic kidney disease
3D. Renal hemodynamics in pregnancy
3E. Phosphorous homeostasis
3F. Pathogenesis of urinary tract infection

(10 marks × 6 = 60 marks)

Reg. No.										

MANIPAL UNIVERSITY

DM (NEPHROLOGY) DEGREE EXAMINATION – JULY 2015

SUBJECT: PAPER II: CLINICAL NEPHROLOGY

Wednesday, July 15, 2015

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

Long Questions:

1. Discuss the pathogenesis, pathophysiology, clinical and laboratory features and management of chronic kidney disease mineral bone disorders.

(20 marks)

2. Discuss the physiologic changes relevant to the kidney in pregnancy and evaluation and management of renal failure during pregnancy.

(20 marks)

3. **Write short notes on:**

3A. Atheroembolic acute kidney injury
3B. Isolated hematuria
3C. Analgesic nephropathy
3D. Radiocontrast nephropathy
3E. Treatment of rapidly progressive glomerulonephritis
3F. Scleroderma renal crisis

(10 marks × 6 = 60 marks)

Reg. No.										

MANIPAL UNIVERSITY

DM (NEPHROLOGY) DEGREE EXAMINATION – JULY 2015

SUBJECT: PAPER III: RENAL REPLACEMENT THERAPY

Thursday, July 16, 2015

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

Long Question:

1. Discuss structure, function and mechanisms of peritoneal dialysis with emphasis on the 3 pore model and describe its noninfective complications.

(20 marks)

2. Discuss the mechanisms of transplant tolerance and strategies to induce the same.

(20 marks)

3. **Write short notes on:**

3A. Deceased donor maintenance in ICU.
3B. Rescue therapy
3C. Tidal peritoneal dialysis
3D. Hemodialyser reuse
3E. Short daily dialysis
3F. Estimation of dry weight in hemodialysis

(10 marks × 6 = 60 marks)

Reg. No.										

MANIPAL UNIVERSITY

DM (NEPHROLOGY) DEGREE EXAMINATION – JULY 2015

SUBJECT: PAPER IV: RECENT ADVANCES

Friday, July 17, 2015

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

Long Questions:

1. Discuss the pathophysiology and management of cardiorenal syndrome.

(20 marks)

2. Describe the mechanisms, pathogenesis of antineutrophil cytoplasmic antibody induced renal vasculitis and recent advances in management of crescentic glomerulonephritis.

(20 marks)

3. **Write short notes on:**

3A. Obesity related glomerulopathy
3B. Mechanism of epithelial repair and regeneration in acute kidney injury
3C. Uremic toxicity
3D. Pathogenesis of IgA Nephropathy
3E. Klotho and chronic kidney disease
3F. Classification of Membranoproliferative glomerulonephritis

(10 marks × 6 = 60 marks)

NIZAM'S INSTITUTE OF MEDICAL SCIENCES

(University established under the State Act)
Panjagutta, Hyderabad – 500082

DM (NEPHROLOGY)
FINAL EXAMINATIONS JULY 2015
PAPER I
BASIC MEDICAL SCIENCES PERTAINING TO NEPHROLOGY

Answer all questions Time: 3 Hrs Total Marks : 100 (10X10)

Write short notes on :

1. Evaluation of urinary acidification
2. Pathogenesis of hypertension in chronic kidney disease
3. Barterr's syndrome
4. Mechanism of recovery in acute kidney injury
5. Diuretic induced hyponatremia
6. Estimated glomerular filtration rate
7. Physiology of allograft immune response
8. Renin Angiotensin Aldosterone System blockade
9. Hypophosphatemic Rickets
10. Urinary casts

NIZAM'S INSTITUTE OF MEDICAL SCIENCES

(University established under the State Act)

Panjagutta, Hyderabad – 500082

DM (NEPHROLOGY)

FINAL EXAMINATION JULY 2015

PAPER II

CLINICAL NEPHROLOGY

Answer all questions Time: 3 Hrs Total Marks : 100 (10X10)

Write short notes on :

1. Renal cortical necrosis
2. Management of primary focal segmental glomerulosclerosis
3. Role of plasma exchange in rapidly progressive glomerulonephritis
4. Acute kidney injury due to rhabdomyolysis
5. Pathogenesis and treatment of diabetic nephropathy
6. Thrombotic microangiopathy
7. Outcome predictors in membranous nephropathy
8. Management of Immunoglobulin A (IgA) Nephropathy
9. Diagnosis and treatment of Hepatorenal syndrome
10. Erythropoietin hypo responsiveness in chronic kidney disease

Rajiv Gandhi University of Health Sciences

D.M Degree Examination – JULY 2015

Time: Three Hours **Max. Marks: 100 Marks**

NEPHROLOGY - PAPER –II

QP Code: 7272

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary. Answer all questions

LONG ESSAY (These questions carry 10 marks each) **10 x 10 = 100 Marks**

1. A 30 year old female presents to you with complaints of arthralgia of small joints of hands, facial rash and lower extremity edema. She has prior history of miscarriages. Laboratory examination reveals renaly dysfunction and hematuria. Describe your approach towards this patient including differential diagnosis, evaluation and management

2. Discuss in brief your approach towards a 28 year old primigravida who is 36 weeks pregnant with a blood pressure of 160/110 mmHg with new onset lower extremity oedema and renal dysfunction

3. Approach to a patient with resistant hypertension

4. IgG4 Glomerulonephritis

5. Tertiary hyperparathyroidism

6. Ambulatory blood pressure monitoring

7. Cystic kidney diseases

8. Differential diagnosis of fibrilliary deposits in electron microscopy

9. Relapsing MCNS management

10. Hepatorenal syndrome

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Rajiv Gandhi University of Health Sciences

D.M Degree Examination – JULY 2015

Time: Three Hours **Max. Marks: 100 Marks**

NEPHROLOGY - PAPER –I

QP Code: 7271

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary. Answer all questions.

LONG ESSAY (These questions carry 10 marks each) **10 x 10 = 100 Marks**

1. Describe in brief how kidney maintains acid base homeostasis and clinical disorders related to defects in renal acidification
2. Describe in brief the structure and function of each part of nephron. Describe the counter current mechanism and tubule glomerular feedback
3. CAKUT (congenital anomalies of kidney and urinary tract)
4. Nephron endowment
5. Imaging in nephrology
6. Urinalysis
7. Renal handling of uric acid
8. Role of RAAS in renal disease
9. Complement system
10. Determinations of glomerular filtration rate

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Rajiv Gandhi University of Health Sciences

D.M Degree Examination – JULY 2015

Time: Three Hours **Max. Marks: 100 Marks**

NEPHROLOGY - PAPER –III

QP Code: 7273

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary. Answer all questions

LONG ESSAY (These questions carry 10 marks each) **10 x 10 = 100 Marks**

1. What is delayed graft function? Write in brief about the definition, risk factors and management of a renal transplant recipient with delayed graft function
2. Describe your approach towards a patient on CAPD who presents with abdominal pain and cloudy peritoneal fluid
3. Pediatric renal transplantation
4. Medical complication of living kidney donation with focus on pregnancy after kidney donation
5. Intradialytic hypertension
6. Vascular access in hemodialysis patients, Do's and do not's
7. Water treatment in hemodialysis
8. Approach to a patient with vesicular eruptions, altered sensorium in post renal transplantation
9. Principles of plasmapheresis indications and complications
10. Clinical prediction tools for 5 years kidney transplant outcome

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Rajiv Gandhi University of Health Sciences

D.M Degree Examination – JULY 2015

Time: Three Hours **Max. Marks: 100 Marks**

NEPHROLOGY - PAPER –IV

QP Code: 7274

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary. Answer all questions

LONG ESSAY (These questions carry 10 marks each) **10 x 10 = 100 Marks**

1. Recent advances in pathogensis and management of ADPKD
2. Role of rituximab in glomerular diseases and renal transplantation
3. Bioimpedance techniques in assessment of volume status in dialysis
4. Ciliopathies and renal diseases
5. Costimulation blockade and novel drugs in renal transplantation
6. Updates (recent trials) in management of resistant hypertension
7. 'Multi-target regimen' in treatment of lupus nephritis
8. Newer classification of MPGN
9. Pathogenesis of preeclampsia recent concepts
10. Role of ACEI and ARB in maintaining residual renal function

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Rajiv Gandhi University of Health Sciences

D.M. Degree Examination - December 2014

[Time: 3 Hours] [Max. Marks: 100]

NEPHROLOGY - PAPER-II
Clinical Nephrology

Q.P. CODE: 7272

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAY **2 X 20 = 40 Marks**

1. Discuss etiology, pathophysiology and recent advances in the management of hyponatraemia.
2. Discuss renal involvement in multiple myeloma, diagnosis and management.

SHORT ESSAY **6 X 10 = 60 Marks**

3. Classify lupus nephritis and various strategies for management.
4. Discuss cardio renal syndrome.
5. IgG4 related renal disease.
6. Biomarkers in acute kidney injury.
7. Evaluation of HIV/AIDS with nephrotic syndrome.
8. Discuss pregnancy induced hypertension and management

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Std2

Rajiv Gandhi University of Health Sciences

D.M. Degree Examination - Dec-2014

[Time: 3 Hours] [Max. Marks: 100]

NEPHROLOGY - PAPER-III
Dialysis and Transplantation
Q.P. CODE: 7273

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAY **2 X 20 = 40 Marks**

1. Discuss post-transplant infective complications. Describe in detail diagnosis and management of CMV and BK virus infection.
2. Discuss in detail various uremic toxins and their role in various uremic complications.

SHORT ESSAY **6 X 10 = 60 Marks**

3. Discuss an approach to a sensitized transplant recipient.
4. Discuss renal histopathology in acute vascular rejection.
5. Discuss acute and chronic complications in hemodialysis.
6. Salient points in transplantation of human organ and tissue rule 2014.
7. Noninvasive markers in diagnosis of acute allograft rejection.
8. Discuss infections in chronic PD and management.

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Std2

Rajiv Gandhi University of Health Sciences

D.M. Degree Examination - DEC-2014

[Time: 3 Hours] [Max. Marks: 100]

NEPHROLOGY - PAPER-IV

Recent Advances In Nephrology

Q.P. CODE: 7274

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAY **2 X 20 = 40 Marks**

1. Discuss plan, procedure, protocols and challenges in ABO incompatible kidney transplants.
2. Newer insight in to pathogenesis of ANCA vasculites.

SHORT ESSAY **6 X 10 = 60 Marks**

3. Novel biomarkers in glomerular diseases.
4. Nephrotoxicity of recent anticancer drugs.
5. Renal denervation in treatment of hypertension.
6. M tor inhibitors in ADPKD.
7. Imaging mass spectrometry imaging in kidney disease.
8. Nrf2 pathway in the progression of renal disease.

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Std2

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Rajiv Gandhi University of Health Sciences

D.M. Degree Examination - December 2014

[Time: 3 Hours] [Max. Marks: 100]

NEPHROLOGY - PAPER-I
Basic Sciences Pertaining To Nephrology
Q.P. CODE: 7271

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAY **2 X 20 = 40 Marks**

1. Discuss in detail host – pathogen defense mechanisms in UTI.
2. Draw a descriptive diagram and discuss in detail counter current multiplier system and tubulo glomerular feedback and glomerulo tubular balance.

SHORT ESSAY **6 X 10 = 60 Marks**

3. Renal tubular handling of calcium and phosphates.
4. Toll receptors and their role in renal disease.
5. Discuss structure and glomerular filtration barrier. Note on factors that influence GFR.
6. Structure of parathyroid hormone and various assays available with clinical relevance.
7. What are primary and secondary active transporters in renal tubules, explain with examples.
8. Discuss mechanism of crescent formation.

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Std2

SRI VE[illegible]TESWARA INSTITUTE OF MEDICAL SCIEN[illegible]S, TIRUPATI

D.M NE[illegible]ROLOGY FINAL UNIVERSITY EXAMINATIONS – 2015

Paper 1: Basic Medical Sciences | Date: 13.7.2015

Time: 3 hours | Maximum marks: 100

Instructions to Doctors: 1) Answer all questions and all questions carry equal marks
2) Draw neat and labeled diagrams wherever necessary.

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1) What are phosphatonins and discuss their role in mineral bone disease of CKD St III & IV

2) Causes of hyper chloremic metabolic acidosis and pathophysiology of Fanconi's syndrome – Briefly discuss

3) Hyperruricemia (primary) and chronic renal disease – Insights into pathophysiology

4) Newer erythropoeitic stimulating agents (ESA) and their relative merits and demerits

5) Hypernatremia in children – Causes, manifestations and treatment

6) Chinese herbal nephropathy

7) Immune mechanism of acute humoral rejection and treatment

8) On line hemodiafiltration

9) T – Reg cells in long surviging allografts

10) Risk factors for eclampsia and pathophysiology

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SRI VEN[illegible]TESWARA INSTITUTE OF MEDICAL SCIEN[illegible]S, TIRUPATI

D.M NEPHROLOGY FINAL UNIVERSITY EXAMINATIONS – 2015

Paper 2: Clinical Nephrology – I

Date: 15.7.2015

Time: 3 hours

Maximum marks: 100

Instructions to Doctors: 1) Answer all questions and all questions carry equal marks
2) Draw neat and labeled diagrams wherever necessary.

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1) Discuss the pathogenesis of calcium oxatate stone disease and enumerate the important causes of metabolic CaOx stones

2) Venous hypertension in vascular access for dialysis

3) Infections in steroid resistant nephrotic syndrome

4) RIFLE and AKIN classification for AKI critically appraise its value in present day AKI

5) Management of low ultrafiltration on PET in CAPD

6) Citrate haemodialysis

7) Fabry's disease – Pathophysiology and management

8) Management of a sensitized recipient in renal transplantation

9) Belatacept in renal transplant immune suppression

10) Enumerate the common fungal infections (systemic) in renal transplant patients, their prognosis and management

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SRI VE[illegible]WARA INSTITUTE OF MEDICAL SCIE[illegible]ES, TIRUPATI

D.M NEPHROLOGY FINAL UNIVERSITY EXAMINATIONS – 2015

Paper 3: Clinical Nephrology – II

Date: 17.7.2015

Time: 3 hours

Maximum marks: 100

Instructions to Doctors: 1) Answer all questions and all questions carry equal marks
2) Draw neat and labeled diagrams wherever necessary.

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1) Interstitial fibrosis and tubular atrophy (IFTA) – Aetiopathogenesis and management

2) Inherited (genetic) basis of nephrotic syndrome in children

3) Myeloma kidney – Clinical manifestations and management

4) Tubercular Peritonitis in CAPD

5) Hybrid dialysis – Types and indications

6) Recurrent FSGS in renal allografts – Predictions, prevention and management

7) Restless leg syndrome in CKD

8) Adynamic bone disease – Causes, manifestations and management

9) Home hemodialysis – Dynamics of dialysis, merits and demerits

10) Causes and pathophysiology of acute cortical necrosis. Discuss briefly the outcome and management

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SRI VENKATESWARA INSTITUTE OF MEDICAL SCIENCES, TIRUPATI

D.M NEPHROLOGY FINAL UNIVERSITY EXAMINATIONS – 2015

Paper 4: Recent advances

Date: 20.7.2015

Time: 3 hours

Maximum marks: 100

Instructions to Doctors: 1) Answer all questions and all questions carry equal marks
2) Draw neat and labeled diagrams wherever necessary.

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1) What is dry weight and what are the methods of assessing dry weight

2) Uromodulin in renal disease

3) Growing kidneys from cell cultures/suspension – Discuss the potentials

4) Role of calcium sensing receptors in Ca, PTH metabolism

5) Discuss the outcomes of major clinical trials comparing CAPD and Hemodialysis in CKDV patients

6) Exercise training in dialysis – Methods and benefits

7) Salient features in symphony trial on immunosuppressive combinations in Renal allograft recipients and present day recommendations

8) Sudden cardiac death in hemodialysis patients

9) High volume hemo filtration

10) Dense deposit disease – Pathophysiology and prognosis

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