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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(LJ 012) AUGUST 2016 **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. Current concepts on pathogenesis, pathophysiology and management of IRGN (Infection Related Glomerulonephritis).

2. What is 'Brain death'? Outline the schema of establishment of deceased donor renal transplant programme.

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

1. 'Steroid free' immunosuppressive protocol in renal transplantation.
2. IDEAL (Initiation of Dialysis Early And Late) trial – Essential features of the study and it's impact on clinical practice.
3. Icodextrin – role and advantages in CAPD.
4. Warfarin nephropathy – clinical picture and pathology.
5. Urinary biomarkers for diagnosis of acute rejection.
6. High flux haemodialysis – advantages and disadvantages.
7. Current status of renal sympathetic denervation for resistant hypertension. Quote the relevant trials.
8. Newer antiviral agents for hepatitis C infection.
9. What is eculizumab? Mention its indications.
10. Role of interventional treatment (stenting) in atherosclerotic renal artery stenosis. Quote the recent trials.

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(LL 012) AUGUST 2017 **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. Briefly describe the Renal Endothelin System and its role in the glomerulus, diabetic nephropathy and hypertension.

2. Briefly describe the current understanding of FGF-23, Klotho and Calcium-Sensing Receptor Activation in Chronic Kidney Disease – Bone and Mineral Disorders.

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

1. Accommodation in renal transplantation.
2. New diagnostic criteria for Hepatorenal syndrome.
3. Use of Metformin at varying estimated Glomerular Filtration Rates (eGFR).
4. Podocytopathies in children.
5. Lipid lowering therapy in CKD and dialysis patients.
6. Class IV-S versus Class IV-G lupus nephritis.
7. Probiotics.
8. Tolvaptan.
9. Ischemic brain injury in hemodialysis patients.
10. Role of serum and urinary light chain assays in screening and diagnosis of paraprotein-related kidney disease.

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(LM 012) FEBRUARY 2018 **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 are the strategies that can be implemented to prevent diabetic nephropathy? Discuss.

2. Hepatorenal syndrome – old and new classifications, newer understanding of pathogenesis and biomarkers.

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

1. Urinary proteomics in kidney transplantation.
2. Mitochondrial injury in Acute Kidney Injury.
3. Belatacept in renal transplantation.
4. Frequent Hemodialysis – discuss current evidence.
5. Dialysis dosing in Continuous Veno-venous hemodialfiltration.
6. Biomarkers in lupus nephritis.
7. Management of dyslipidemia in chronic kidney disease – newer recommendations.
8. HIF stabilizers.
9. Residual renal function estimation in dialysis without 24 hour urine collections.
10. Atypical anti-glomerular basement membrane nephritis.

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(LN 012) AUGUST 2018 **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. Pathogenesis and management of renal fibrosis.

2. What is role of Aldosterone blockade in conditions of resistant hypertension and Chronic Kidney Disease? Discuss.

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

1. Role of Urea in the treatment of hyponatremia.
2. Heparin-coated dialyzer membranes.
3. Sodium-glucose linked transporter-2 inhibitors.
4. Potential for renoprotection with incretin - based drugs.
5. Podocyte injury in pre-eclampsia.
6. Erythropoiesis-stimulating agents in chronic kidney disease patients with malignancies.
7. Lipid lowering therapy in patients with CKD G 5D.
8. Roles of SLC26 $Cl^-/HCO3^-$ exchangers.
9. Renal denervation.
10. Renal transplantation in HIV positive CKD patients.

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(LP 012) AUGUST 2019 **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. Infections and Autoimmune causes, pathology and Pathogenesis of Membranous Nephropathy. Detail the role of Rituximab in Membranous Nephropathy.

2. Describe in detail safety monitors in Haemodialysis Machines and procedures. Discuss Heparin free Hemodialysis.

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

1. C_3 glomerulopathy. How will you differentiate by LM, IFM, EM, the PIGN and C_3GN?
2. Review on CKD after AKI.
3. Safety and immunogenicity of recombinant hepatitis 'B' vaccine.
4. Dietary recommendation in Nephrotic syndrome. Benefits of reducing Proteinuria.
5. HALT-PKD-I and HALT-PKD II trials in relation to role of ACE inhibitors and ARB in ADPKD.
6. Biomarkers of acute kidney injury and its clinical relevance.
7. Short notes on home dialysis Benefits. Discuss an FREEDOM trial.
8. Cellular, Molecular Events in pathogenesis and Morphology of Crescent formation.
9. Radio contrast induced acute kidney injury recent insights.
10. Describe the role of Chemoprophylaxis and vaccination in preventing infection – Post-Renal Transplant.

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(LR 012) NOVEMBER 2020 **Sub. Code: 1204**

(AUGUST 2020 SESSION)

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. Discuss the impact of COVID-19 pandemic in a nephrology unit.
2. Elaborate on clinical trials in ANCA-associated vasculitis.

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

1. Desensitization techniques in ABO-incompatible renal transplantation
2. Preservation solutions used in renal transplantation
3. Newer oral anticoagulants and kidney
4. Certification of brain death
5. Innovations in vascular access for hemodialysis
6. Advantages and limitations of testing for donor specific antibodies
7. Wearable artificial kidney
8. Renal transplantation WITH an abnormal bladder
9. Peritoneal equilibration test
10. Adverse effects of sodium-glucose linked transport-2 inhibitors

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(DM 0821) AUGUST 2021 **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. Recent clinical trials of glucose lowering agents in prevention of diabetic kidney disease.
2. Recent clinical trials in the management of membranous nephropathy.

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

1. Biomarkers for acute rejection in renal transplant.
2. Role of calcineurin inhibitors in lupus nephritis.
3. Mineralocorticoid antagonists in chronic kidney disease.
4. Management of diabetes in hemodialysis patients.
5. Glomerular diseases associated with malignancies.
6. Mineral bone disease in post-renal transplantation.
7. Genetics of Alport syndrome.
8. Newer peritoneal dialysis solutions.
9. Management of uremic pruritus.
10. SONAR trial in diabetic nephropathy.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[DM 0822] **AUGUST 2022** **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 are the types of hyperoxaluria? Explain the recent advances in the diagnosis and treatment of hyperoxaluria.

2. Discuss the role of rituximab in the management of lupus nephritis and update the newer drugs in the treatment of lupus nephritis.

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

1. Current role of Cell free DNA in diagnosis of transplant rejection.
2. Pathogenesis of cyst formation in ADPKD and role of V2 receptor antagonists.
3. Urinary proteomics.
4. Tomm horsfall protein in health and disease.
5. HIF stabilizers - mechanism of action and clinical implications.
6. Management of Membranous Nephropathy.
7. Urinary biomarkers in AKI and CKD.
8. Role of endothelin receptor antagonists in prevention of CKD progression.
9. Newer drugs in management of IgA nephropathy.
10. Obesity related glomerulopathy- pathogenesis and manifestations.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[DM 0223] **FEBRUARY 2023** **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. Enumerate newer induction agents for renal transplantation. Write about steroid avoidance and withdrawal immunosuppressant protocol in renal transplantation.

2. Write an essay about Gut–kidney axis in health and disease.

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

1. Plasma cell rich acute rejection.
2. Role of artificial intelligence in diagnosis and treatment of kidney disease.
3. Novel therapies in lupus nephritis.
4. Finerenone.
5. Pancreas and Kidney Transplantation in a CKD patient with Type I diabetes.
6. Treatment of Hepatitis C in dialysis and renal transplant patients.
7. Paired and Swap kidney transplantation.
8. Immunosuppressive therapy in patients with allograft failure.
9. Xeno-transplantation.
10. Pain management in patients with chronic kidney disease and end-stage kidney disease.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[DM 0823] AUGUST 2023 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. Discuss the recent updates in the management of Diabetic Kidney disease.
2. SGLT2 inhibitors for renal protection- Discuss the current insight.

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

1. Role of Vaptans in clinical nephrology.
2. Atypical anti-glomerular basement membrane disease.
3. Donor derived thrombotic microangiopathy in renal transplantation.
4. Prolyl Hydroxylase inhibitors for the treatment of renal anemia.
5. Obesity related Glomerulopathy.
6. Use of Mineralocorticoid receptor antagonists in chronic kidney diseases.
7. Discuss the current status of plasmapheresis in ANCA disease.
8. Management strategies of Type 1 Cardiorenal syndrome.
9. Nocturnal Haemodialysis.
10. POCUS (Point of care ultrasound) for nephrologists.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[DM 0124] JANUARY 2024 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. Discuss the renal physiological changes and their implication in ageing.
2. Pathomechanism and management of acute kidney injury in COVID-19.

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

1. Role of Hepcidin in Chronic Kidney disease.
2. Mention the mechanism of hypocalcaemia of Malignancy. Write a brief note on Parathormone related peptide.
3. Apol-1 gene risk alleles and kidney disease.
4. What is Sclerostin? What is its role in CKD MBD?
5. Immune check point inhibitor associated nephrotoxicity.
6. Management of Covid in Renal transplant recipient.
7. Acute Kidney Injury and chronic kidney disease are a continuum- Discuss
8. Epigenetics in Kidney diseases.
9. Recent advances in Pathophysiology and management of CKD MBD.
10. Discuss the putative pathophysiology and management strategies of CKDu (Chronic Kidney Disease of Undetermined etiology).

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