

Hall Ticket No.....

Code No. ECD KFM 1902 07 14 1 R



AMRITA
VISHWA VIDYAPEETHAM
UNIVERSITY

DM (NEPHROLOGY) DEGREE EXAMINATION – JULY 2014

Time: 3 hrs
Date: 01/07/2014

Max. Marks -100

PAPER I- BASIC SCIENCES AS APPLIED TO NEPHROLOGY

Instructions: -

- Draw labeled diagrams/flow chart wherever necessary.
- Do not write anything on the question paper other than your Hall Ticket No on Top left.

1. Discuss the role of kidney in acid base regulation

(20 Marks)

2. Discuss auto regulation of renal blood flow

(20 Marks)

3. Write short notes on:

A. Glomerular filtration barrier

B. FGF 23

C. Aquaporins

D. Renal handling of calcium

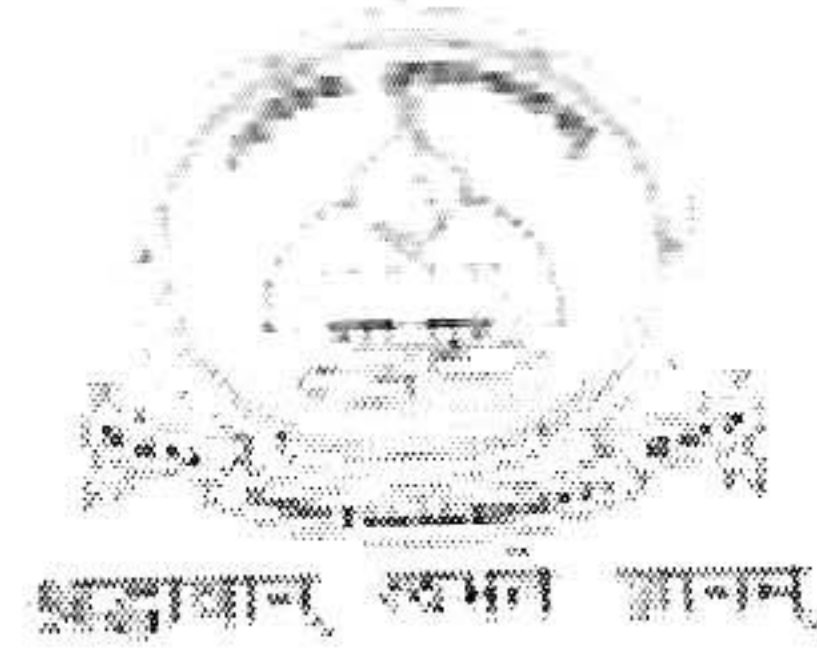
E. Toll like receptors

F. Physiological changes in kidney with aging

(10 marks each = 60 Marks)

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UNIVERSITY

DM (NEPHROLOGY) DEGREE EXAMINATION – JULY 2014

Time: 3 hrs
Date: 03/07/2014

Max. Marks -100

PAPER II- PRINCIPLES AND PRACTICE OF NEPHROLOGY

Instructions: -

- Draw labeled diagrams/flow chart wherever necessary.
- Do not write anything on the question paper other than your Hall Ticket No on Top left.

1. Describe the pathogenesis, classification and management of IgA nephropathy

(20 Marks)

2. Discuss the genetics, pathogenesis, clinical features and management of autosomal dominant polycystic kidney disease

(20 Marks)

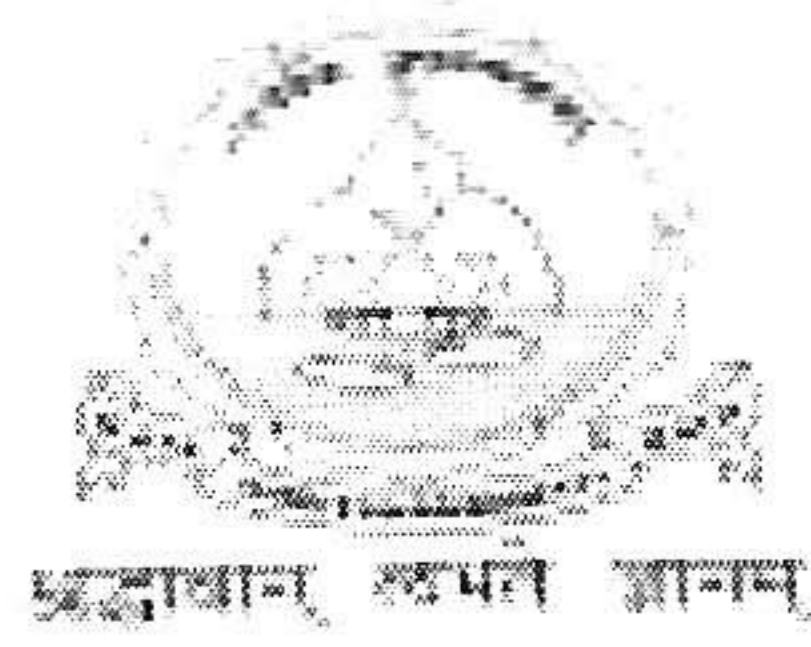
3. Write short notes on:

- A. Medullary sponge kidney
- B. Asymptomatic bacteruria
- C. Microalbuminuria
- D. DTPA renogram in diagnosis of renal diseases
- E. Nail patella syndrome
- F. Diagnosis of reflux Nephropathy

(10 marks each = 60 Marks)

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UNIVERSITY

DM (NEPHROLOGY) DEGREE EXAMINATION – JULY 2014

Time: 3 hrs
Date: 05/07/2014

Max. Marks -100

PAPER III –CLINICAL NEPHROLOGY AND DIALYSIS

Instructions: -

- Draw labeled diagrams/flow chart wherever necessary.
- Do not write anything on the question paper other than your Hall Ticket No on Top left.

1. Narrate the classification of vasculitis. Discuss the management of wegeners
granulomatosis.

(20 Marks)

2. Discuss the evaluation and management of euvolemic hyponatremia

(20 Marks)

3. Write short notes on:

- A. Peritoneal equilibration test
- B. Vit D analogues and calcimimetics
- C. Cardio renal syndrome
- D. Non traumatic rhabdomyolysis
- E. Distal renal tubular acidosis
- F. Pathophysiology of preeclamsia

(10 marks each = 60 Marks)

Hall Ticket No.

Code No. ECD KFM 1902 07 14 4 R



AMRITA
VISHWA VIDYAPEETHAM
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DM (NEPHROLOGY) DEGREE EXAMINATION – JULY 2014

Time: 3 hrs
Date: 07/07/2014

Max. Marks -100

PAPER IV-RENAL TRANSPLANTATION AND RECENT ADVANCES

Instructions: -

- Draw labeled diagrams/flow chart wherever necessary.
- Do not write anything on the question paper other than your Hall Ticket No on Top left.

1. Describe the recent advances in pathogenesis and management of lupus nephritis

(20 Marks)

2. Discuss the management of early and late antibody mediated rejection

(20 Marks)

3. Write short notes on:

- A. Bioartificial kidneys
- B. Banff classification
- C. Post renal transplant CMV infection
- D. Klotho gene
- E. Rituximab**
- F. Erythropoietin stimulating agents

(10 marks each = 60 Marks)

D.M. DEGREE EXAMINATION – JULY, 2014

SPECIALITY :: NEPHROLOGY

PAPER - I

BASIC SCIENCES AND APPLIED NEPHROLOGY

Time : 3 Hours

Max. Marks : 100

ANSWER ALL QUESTIONS

1) Discuss physiology of glomerular ultra filtration and newer equations for GFR estimations and their validation. 30

2) Discuss disorders of water balance with note on current therapies. 30

WRITE SHORT NOTES ON: 4x10=40

3) Molecular understanding of slit diaphragm.

4) Peritoneal membrane structure and function

5) Applications and limitations of ultrasounds in renal study.

6) Chloride responsive Metabolic Alkalosis

D.M. DEGREE EXAMINATION – JULY, 2014**SPECIALITY :: NEPHROLOGY****PAPER - II*****CLINICAL NEPHROLOGY, DIALYSIS AND KIDNEY TRANSPLANTATION-I*****Time : 3 Hours****Max. Marks : 100****ANSWER ALL QUESTIONS**

- 1) Discuss the spectrum and clinical picture of parasitic Nephropathies in tropics. 30
- 2) Discuss the pathogenesis of preeclampsia and management of acute kidney injury in pregnancy. 30

WRITE SHORT NOTES ON:**4x10=40**

- 3) Dialysis hypotension
- 4) Rescue therapy
- 5) 3 pore model of PD
- 6) Indian CKD - Registry

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D.M. DEGREE EXAMINATION – JULY, 2014**SPECIALITY :: NEPHROLOGY****PAPER - III*****CLINICAL NEPHROLOGY, DIALYSIS AND KIDNEY
TRANSPLANTATION-II*****Time : 3 Hours****Max. Marks : 100****ANSWER ALL QUESTIONS**

- 1) Discuss mechanism of transplant tolerance and strategies to induce tolerance in renal transplant recipient. 30
- 2) Discuss acute complications of HD (Hemodialysis) current concepts in dry weight assessment in dialysis and hypotension. 30

WRITE SHORT NOTES ON:**4x10=40**

- 3) Land marks in transplant history
- 4) Implantable artificial kidney
- 5) Deceased donor maintenance in ICU
- 6) Ultrafiltration failure in peritoneal dialysis

D.M. DEGREE EXAMINATION – JULY, 2014**SPECIALITY:: NEPHROLOGY****PAPER - IV*****ADVANCES IN NEPHROLOGY*****Time : 3 Hours****Max. Marks : 100****ANSWER ALL QUESTIONS**

1) Discuss syndromes of heart and kidney, management of refractory heart failure. **30**

2) Discuss structure, function and mechanism of peritoneal dialysis and enumerate non-infective complication of CAPD **30**

WRITE SHORT NOTES ON: **4x10=40**

- 3) Anti angiogenic therapy
- 4) Mineralocorticoid receptor blocking
- 5) Population studies in CKD in India
- 6) Renal Bio-engineering technology

21/7/2014

QP Code:101504

Reg.No.:.....

D.M. (Nephrology) Degree Examinations- July 2014

Paper I – Basic Sciences

Time: 3 hrs

Max marks:100

- *Answer all questions*
- *Draw diagrams wherever necessary*

Essay:

(20)

1. Discuss the renal handling of H^+ and explain how kidneys respond to chronic acid loading.

Short essays:

(8x10=80)

2. Tubulo glomerular balance
3. Role of urinary electrolytes in clinical nephrology
4. Hyperkalemic distal RTA (Renal Tubular Acidosis)
5. Pathogenesis of osmotic demyelination syndrome
6. Nephrologist's perspective of 'low birth weight'
7. Role of electron microscopy in renal pathology
8. Phosphatonins
9. Urinary anion gap

20/7/2014

QP Code:102504

Reg.No.:.....

D.M. (Nephrology) Degree Examinations- July 2014**Paper II – Clinical Nephrology**

Time: 3 hrs

Max marks:100

- *Answer all questions*
- *Draw diagrams wherever necessary*

Essay:

(20)

1. Discuss the pathogenesis of post transplant erythrocytosis

Short essays:

(8x10=80)

2. Anti thymocyte globulin (ATG) induction in renal transplantation
3. Dose of dialysis and hemodiafiltration in acute kidney injury
4. Treatment of membranous lupus nephritis
5. Role of plasmapheresis in renal transplantation
6. Treatment of steroid resistant minimal change disease
7. Grade IV vesico-uretric reflux - management
8. Ultra filtration failure in peritoneal dialysis
9. Altruistic organ donation and human organ transplantation act (HOTA)

25/7/2019

QP Code:103504

Reg.No.:.....

D.M. (Nephrology) Degree Examinations- July 2014

Paper III – Clinical Nephrology

Time: 3 hrs

Max marks:100

- *Answer all questions*
- *Draw diagrams wherever necessary*

Essay:

(20)

1. Discuss the etiology, pathogenesis investigations and management of a typical hemolytic uremic syndrome

Short essays:

(8x10=80)

2. Sleep disturbances in CKD
3. Vitamin D dependant renal rickets
4. Belatacept in renal transplantation
5. Collapsing glomerulopathy
6. Reno vascular hypertension in a young lady – causes and management
7. Lithium nephrotoxicity
8. Newer dialysis solutions in CAPD
9. Transplant glomerulopathy

30/7/2014

12

QP Code:104504

Reg.No.:.....

D.M. (Nephrology) Degree Examinations- July 2014

Paper IV – Recent Advances in Nephrology

Time: 3 hrs

Max marks:100

- *Answer all questions*
- *Draw diagrams wherever necessary*

Essay:

(20)

1. Discuss the pathogenesis and management of ANCA positive crescentic glomerulonephritis

Short essays:

(8x10=80)

2. Obesity and kidney disease
3. Acute kidney injury in liver diseases
4. Optimizing the dialysis dose in end stage renal failure
5. Stem cell transplantation in acute kidney injury
6. Glomerular disease associated with malignancy
7. Renal replacement therapy for elderly end stage renal disease patients
8. Recurrence of glomerular disease after kidney transplantation
9. Tuberculosis after kidney transplantation

(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

I. Elaborate on:

(2X15=30)

1. Discuss the Clinical features, Genetics, Histology & Management of Steroid Resistant Nephrotic Syndrome in a 6 year old boy. 1
2. Discuss the various changes in renal senescence.
What are the risk factors of Acute Kidney Injury in elderly? 2
How will you prognosticate & treat an elderly man with Acute Kidney Injury? 2

II. Write notes on:

(10X7=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 7
2. Role of Ambulatory Blood Pressure Monitoring (ABPM) in the management of Hypertension 10
3. What are the Podocyte changes in Diabetes? How will you retard the progression of Diabetic Kidney Disease? 8
4. Current guidelines on management of Granulomatosis with Polyangitis? 1
5. What is resistant Lupus Nephritis? How will you treat a patient with resistant Lupus Nephritis? 2
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? 3
7. Differential Diagnosis of Nodular glomerulosclerosis. 4
8. Explain ADPKD as a ciliopathy. What are the drugs used in the treatment of ADPKD? 5
9. What are the strategies to enhance the donor pool in Kidney Transplantation? 9
10. Pathophysiology of VUR and Reflux Nephropathy. 1

(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

I. Elaborate on:

(2X15=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:

(10X7=70)

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

(LF 012)

AUGUST 2014

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. 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:

(10X7=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. C₄d 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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NIZAM'S INSTITUTE OF MEDICAL SCIENCES

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PUNJAGUTTA, HYDERABAD - 500 082. A.P. INDIA

BASIC MEDICAL SCIENCES PERTAINS TO NEPHROLOGY

Paper- I

Time 10.00 AM to 1.00 PM

Max.Marks: 100

DATE:

I Answer all questions

1. Discuss renal auto regulation and assessment methods of GFR ? 20 marks

II. Write short notes on:

8x10= 80 marks

- SIADH versus cerebral salt wasting syndrome
- Juxtaglomerular apparatus
- Inherited disorders of potassium metabolism
- Podocytopathy and renal disease
- IgG-4 related glomerular disease
- Role of biomarkers in AKI
- Tubuloglomerular feedback in Health and disease
- Role of complement in renal disease



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PUNJAGUTTA, HYDERABAD - 500 082. A.P.

CLINICAL NEPHROLOGY

Paper- II

Time 10.00 AM to 1.00 PM

Max.Marks: 100

DATE:

I Answer all questions

1. Discuss the classification of lupus nephritis and its diagnosis and management in the current perspective? 20 marks

II. Write short notes on:

8x10= 80 marks

- a) C3 Glomerulopathy: What is new?
- b) Viral glomerulonephritis
- c) Scleroderma renal crisis
- d) Atypical hemolytic uremic syndrome.
- e) Kidney Disease in the Setting of Liver Failure
- f) Renal manifestations of plasma cell disorders
- g) Fabry's disease and its management
- h) Resistant nephrotic syndrome.



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PUNJAGUTTA, HYDERABAD - 500 082. A.P. INDIA

DIALYSIS AND TRANSPLANTATION

Paper- III

Time 10.00 AM to 1.00 PM

Max.Marks: 100

DATE:

I Answer all questions

1. What is the current understanding of antibody mediated rejection of renal allograft and its ideal management? 20 marks

II. Write short notes on:

8x10= 80 marks

- a. Novel erythropoiesis stimulating agents in CKD-anemia
- b. Recurrence of Primary Glomerulonephritis
- c. Role of peritoneal dialysis in critically ill patients in ICU>
- d. Ultrafiltration failure
- e. A-V fistula failure: Prevention and management
- f. Prevention of catheter-related infection in HD patient
- g. Vaccination in the transplant recipients
- h. Post-transplant tuberculosis: incidence and management?



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NIZAM'S INSTITUTE OF MEDICAL SCIENCES

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PUNJAGUTTA, HYDERABAD - 500 082. A.P. INDIA

RECENT ADVANCES IN NEPHROLOGY

Paper- IV

Time 10.00 AM to 1.00 PM

Max.Marks: 100

DATE:

I Answer all questions

1. What is the current understanding of antibody mediated rejection of renal allograft and its ideal management? 20 marks

II. Write short notes on:

8x10= 80 marks

- a. FGF-23 in phosphorous metabolism in CKD.
- b. Use of vaaptans in renal disease
- c. Lithium induced renal disease
- d. Eighth Joint National Committee (JNC-8) guidelines
- e. AKI and CKD: Discuss relationship.
- f. Belatacept in Kidney transplantation
- g. Scleroderma renal crisis versus malignant hypertension
- h. ANCA-associated vasculitis: What is new?

Rajiv Gandhi University of Health Sciences

D.M. Degree Examination - July 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 role of Klotho-FGF 23 complex in health and chronic kidney disease.
2. Discuss in detail patho mechanism of renal tubular acidosis.

SHORT ESSAY

6 X 10 = 60 Marks

3. Toll receptors and their role in renal disease.
4. Discuss special stains used in nephro-pathology and their applications.
5. Urine analysis in the diagnosis of renal disease.
6. Renal tubular handling of uric acid and uric acid nephropathy.
7. Structure of parathyroid hormone and various assays available with clinical relevance.
8. Renal tubular handling of calcium and phosphates.

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Rajiv Gandhi University of Health Sciences

D.M. Degree Examination - July 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 the pathophysiology and management of sepsis related acute kidney injury.
2. Discuss in detail differential diagnosis, management and outcome of adult nephrotic syndrome. ✓

SHORT ESSAY

6 X 10 = 60 Marks

3. Discuss amyloid nephropathy.
4. Discuss utility of renal biopsy in clinical management of renal disease.
5. Define rapidly progressive renal failure, differential diagnosis and management.
6. Discuss in detail hyponatraemia and its management.
7. Approach to a young patient with recurrent renal stones.
8. Discuss pregnancy induced hypertension and management.

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Rajiv Gandhi University of Health Sciences

D.M. Degree Examination - July 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 in detail structure and membrane characteristics of peritoneal membrane. Discuss its role in chronic peritoneal dialysis.
2. Discuss post-transplant infective complications. Describe in detail diagnosis and management of CMV and BK virus infection.

SHORT ESSAY

6 X 10 = 60 Marks

3. Noninvasive markers in diagnosis of acute allograft rejection.
4. Role of induction immunosuppression in renal transplant.
5. Discuss various membranes used in haemodialyzers.
6. Discuss anemia in CKD and EPO resistance and management.
7. Discuss in detail early diagnosis of hepatitis B and C in dialysis patients. What are the modalities of treatment and discuss outcome of transplant in hepatitis B and C positive patients.
8. Discuss an approach to a sensitized transplant recipient.

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Rajiv Gandhi University of Health Sciences

D.M. Degree Examination – July 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. Role of Rituximab in Glomerular Diseases.
2. ABO-Incompatible Transplantation.

SHORT ESSAY

6 X 10 = 60 Marks

3. Newer Concepts in pathogenesis of Pre-Eclampsia.
4. LUMINEX.
5. Peginesatide.
6. Immunohistochemistry.
7. Transplantation tolerance.
8. Aliskerin.

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