

**B.Sc. DIALYSIS TECHNOLOGY**  
(New Syllabus 2014-2015)

**THIRD YEAR**

**PAPER II – RENAL DISEASE THERAPEUTICS**

*Q.P. Code: 801337*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Chronic kidney Disease (CKD) - Definition, stages, common causes and treatment option available for End Stage Renal Disease (ESRD).
2. Explain the difference between Nephritic and Nephrotic Syndromes.
3. Anaemia in a dialysis patient – Causes and management.

**II. Write notes on:**

**(8 x 5 = 40)**

1. What are the symptoms of Acute Kidney Injury?
2. Mention three causes each for Nephritic and Nephrotic Syndromes.
3. Obstructive nephropathy.
4. What is dysuria? What tests will be asked for a patient with dysuria?
5. Define and mention the causes of Polyuria.
6. What are the dietary restrictions for a patient with stage 5 Chronic Kidney Disease who is not on dialysis?
7. Urinalysis and its importance in diagnosis of kidney disease.
8. Why is ultrasound examination of kidneys very important in the evaluation of a patient suspected of having kidney disease?

**III. Short answers on:**

**(10 x 3 = 30)**

1. Mention Three Congenital kidney diseases.
2. What are the common symptoms in a patient with Renal stone?
3. Mention FOUR drugs used for Hypertension treatment.
4. What are the common causes of Acute Kidney Injury?
5. What are the dietary advises given to a patient with nephrotic syndrome?
6. Name three causes of Hematuria.
7. Name three common organisms associated with Urinary tract infection.
8. What is pregnancy induced hypertension (PIH)?
9. What are the diseases associated with uncontrolled hypertension?
10. How do you prevent recurrence of kidney stone in a patient?

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**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:** (3 x 10 = 30)

1. Define Acute Kidney Injury (AKI). What are the causes of AKI? Classification of AKI. Management of AKI.
2. Define Nephrotic Syndrome. Causes of Nephrotic Syndrome. What are the investigations to be done in a case of Nephrotic syndrome? Treatment of Nephrotic syndrome.
3. Define Urinary tract infection. Mention the risk factors of developing urinary tract infection. Management of urinary tract infection.

**II. Write notes on:** (8 x 5 = 40)

1. Mention the normal physiological changes related to kidney in pregnancy. What are the various renal disorders seen in pregnancy?
2. Etiology of Anaemia in chronic kidney disease.
3. Define Systemic Hypertension and classification of drugs used in hypertension.
4. Mention various complications seen in chronic renal failure.
5. Define Alports syndrome. How to diagnose.
6. Define Nephritic syndrome. What are the differences between Nephrotic syndrome and Nephritic syndrome?
7. Classification of Chronic kidney disease.
8. Draw and Label parts of Nephron.

**III. Short answers on:** (10 x 3 = 30)

1. Mention 3 types of renal calculi.
2. Give 3 causes of Congenital kidney disease.
3. Mention 3 causes of hyperkalemia.
4. Mention 3 indications of kidney biopsy.
5. Mention 3 Complications in Autosomal Dominant Polycystic Kidney Disease.
6. Give 3 causes of Obstructive nephropathy.
7. Mention 3 Causes of Asymptomatic Hematuria.
8. Mention 3 Causes of Proteinuria.
9. Mention 3 causes of Asymptomatic pyuria.
10. 3 Indications of Kidney Biopsy.

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**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:** (3 x 10 = 30)

1. Define Chronic Kidney Disease. What are the causes of CKD? Mention Staging of CKD. Management of CKD.
2. Define Urinary Tract Infection. What are the risk factors of developing urinary tract infection? Also write about management of urinary tract infection.
3. Define Nephrotic Syndrome. Causes of Nephrotic Syndrome. What are the investigations to be done in a case of Nephrotic syndrome? Treatment of Nephrotic syndrome.

**II. Write notes on:** (8 x 5 = 40)

1. Define hyperkalemia. Mention the causes of hyperkalemia. How do you correct hyperkalemia?
2. Define Obstructive Nephropathy. Mention the causes of Obstructive Nephropathy and Treatment.
3. Mention various causes of Acute Kidney Injury. Management of Acute Kidney Injury.
4. What is Acute Pyelonephritis? Explain the causes and Management.
5. Explain the long term complications of Chronic Kidney Disease.
6. Draw and Label Diagram of Nephron.
7. Explain Alports syndrome. How to diagnose?
8. Complications in Autosomal Dominant Polycystic Kidney Disease.

**III. Short answers on:** (10 x 3 = 30)

1. Mention Few Causes of Acute Kidney in Pregnancy.
2. What is Post Obstructive Diuresis?
3. Classification of Acute Kidney Injury.
4. Differences between Nephrotic Syndrome and Nephritic Syndrome.
5. Mention 3 Causes of Congenital Kidney Diseases.
6. Mention 3 Causes of Pyuria.
7. Mention 3 Causes of Proteinuria.
8. Mention 3 Causes of Asymptomatic Hematuria.
9. Causes of Renal Artery Stenosis.
10. Mention 3 indications of renal biopsy.

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**THIRD YEAR**

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**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:** (3 x 10 = 30)

1. Define Chronic Kidney Disease – Mineral Bone Disorder (CKD-MBD). Explain the pathogenesis and management of CKD-MBD.
2. Discuss the various causes of anaemia in Chronic Kidney Disease (CKD). How will you manage anaemia in a dialysis patient?
3. Discuss the differences between Acute Nephritic syndrome and Nephrotic syndrome.

**II. Write notes on:** (8 x 5 = 40)

1. How will you differentiate between Acute Kidney Injury and Chronic Kidney Disease?
2. How will you classify Acute Kidney Injury? Discuss about obstructive nephropathy?
3. Discuss the role of urinalysis in the diagnosis of kidney disease.
4. Define urinary tract infection. How will you evaluate a patient with urinary tract infection?
5. Discuss the risk factors for recurrent renal stone disease.
6. Secondary Hypertension.
7. What are the causes of Acute Kidney Injury in pregnancy?
8. Complications of Nephrotic Syndrome.

**III. Short answers on:** (10 x 3 = 30)

1. List out three causes for congenital kidney diseases.
2. What are the various formulae available for calculation of glomerular filtration rate?
3. Mention the various types of proteinuria.
4. What are the common organisms causing urinary tract infections?
5. Classify anti hypertensive agents. Give one example for each class.
6. List out diet which is high in potassium?
7. What are the symptoms of kidney stones?
8. What do you mean by pregnancy induced hypertension?
9. Complications of hypertension.
10. List out three causes for pyuria.

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**THIRD YEAR**

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*Q.P. Code: 801337*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:** **(3 x 10 = 30)**

1. Define Hypertension. What are the stages of hypertension? Discuss about the complications of hypertension and management.
2. Define Acute Kidney Injury. Classify Acute Kidney Injury and list out the various causes of AKI and its management.
3. Discuss in detail about the various complications of Chronic Kidney Disease.

**II. Write notes on:** **(8 x 5 = 40)**

1. How will you evaluate a patient with proteinuria?
2. How will you estimate glomerular filtration rate and discuss the stages of Chronic Kidney Disease?
3. Discuss the role of imaging modalities – Ultrasonogram, CT scan and MRI scan in the diagnosis of kidney disease.
4. What are the causes for recurrent kidney stones? Discuss the risk factors for kidney stones and dietary management.
5. What are the physiological changes related to kidney in pregnancy? How will you manage hypertension in pregnancy.
6. Role of Phosphate binders in management of Chronic Kidney Disease.
7. Complications of Autosomal Dominant Polycystic Kidney Disease.
8. Renal complications of Diabetes mellitus.

**III. Short answers on:** **(10 x 3 = 30)**

1. Diet advice for a patient with nephrotic syndrome.
2. Causes of Renal Artery Stenosis.
3. Define Nephrotic Syndrome.
4. List out three congenital anomalies of kidney.
5. Vaccination in dialysis patients.
6. List out three causes for secondary nephrotic syndrome.
7. How will you manage hyperkalemia in non dialysis patient?
8. What are the parts of a nephron?
9. List out three complications of diuretic therapy.
10. Name three common microorganisms associated with urinary tract infection.

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**THIRD YEAR**

**PAPER II – RENAL DISEASE THERAPEUTICS**

*Q.P. Code: 801337*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Define hypertension. Mention its stages. What are the causes of secondary hypertension? How do you manage hypertension?
2. Define - acute kidney injury. What are the stages of acute kidney injury? Write down its cause and complication.
3. What are the physiological changes and causes related to kidney during pregnancy? How do you do dialysis in a pregnant lady.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Write a note on cystic kidney disease.
2. Urinalysis and its importance in diagnosis of kidney disease.
3. Causes and evaluation of obstructive nephropathy.
4. Role of renal biopsy in diagnosing renal diseases. What are the contraindications and complications of renal biopsy?
5. Mineral bone disease in chronic kidney disease.
6. Discuss the risk factors for recurrent renal stone disease.
7. Electrolyte abnormalities in chronic kidney disease.
8. Role of ultrasound in diagnosis of kidney disease.

**III. Short answers on:**

**(10 x 3 = 30)**

1. What is estimated glomerular filtration rate? Formulae for calculation of glomerular filtration rate.
2. Define nephrotic syndrome.
3. Define – acute kidney disease.
4. Name few causes of chronic kidney disease in indian population.
5. Name various preparations of iron for parenteral administration.
6. Sterile pyuria and its causes.
7. Name few causes of nephrocalcinosis.
8. Mention few conditions with asymptomatic urinary abnormalities.
9. What is post obstructive diuresis?
10. Erythropoietin.

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

**[LR 1220]**

**DECEMBER 2020  
(AUGUST 2020 EXAM SESSION)**

**Sub. Code: 1337**

**BACHELOR IN DIALYSIS TECHNOLOGY  
THIRD YEAR – (Regulation from 2014-2015)  
PAPER II – RENAL DISEASE THERAPEUTICS  
*Q.P. Code: 801337***

**Time: Three Hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Define Urinary Tract Infection. What are the risk factors of developing Urinary Tract infection? Write about management of Urinary Tract infection.
2. Define Anaemia. What are causes of Anaemia in Chronic Kidney Disease? How do you manage Anaemia in Dialysis patients?
3. How do you diagnose Diabetes Mellitus? What are long term complications of Type 2 Diabetes Mellitus? How do you manage Diabetic Nephropathy?

**II. Write notes on:**

**(8 x 5 = 40)**

1. Causes of Resistant Hypertension.
2. Renal replacement therapies for Acute Kidney Injury.
3. Complications in Autosomal dominant Polycystic kidney disease.
4. Causes of Tropical Acute kidney Injury.
5. What are the dietary restrictions for a patient with stage 5 Chronic Kidney Disease who is not undergoing Dialysis?
6. What are the types of Renal Stones? Name some causes of Nephrocalcinosis.
7. Complications of Nephrotic Syndrome.
8. Role of Phosphate binders in management of Chronic Kidney Disease.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Causes of Renal artery Stenosis.
2. Diet advice for a patient with Nephrotic Syndrome.
3. Stages of Acute Kidney injury.
4. What is Pre-Eclampsia?
5. List out three Congenital anomalies of kidney.
6. Define Anuria and few causes of Anuria.
7. Indications of Renal Biopsy.
8. Mention few causes of Acute kidney injury in Pregnancy.
9. Define Chronic kidney disease.
10. Define Nephritic Syndrome.

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

[AHS 0122]

JANUARY 2022

Sub. Code: 1337

(FEBRUARY 2021 & AUGUST 2021 EXAM SESSION)

**B.Sc. DIALYSIS TECHNOLOGY  
THIRD YEAR – (Regulation from 2014-2015)  
PAPER II – RENAL DISEASE THERAPEUTICS  
Q.P. Code: 801337**

**Time: Three Hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Define Hypertension and its stages. Discuss the management of hypertension.
2. What are the types of Diabetes Mellitus? Mention the stages of evolution of Diabetic nephropathy. How to treat end stage renal disease due to diabetics?
3. Causes and management of Nephrolithiasis.

**II. Write notes on:**

**(8 x 5 = 40)**

1. How will you evaluate a patient with hematuria?
2. Management of post streptococcal glomerulonephritis.
3. Discuss the role of Ultrasonogram, CT Scan, MRI Scans in nephrology.
4. Complication and management of Autosomal Polycystic Kidney disease.
5. Causes and management of obstructive nephropathy.
6. Biochemical and pathological changes of metabolic bone disease.
7. Management of hyperkalemia in Acute renal failure.
8. Causes of nephrotic syndrome and its management.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Role of erythropoietin in CKD.
2. Classify diuretics. Mention clinical uses of diuretics in nephrology.
3. What are the common causes of CKD in India.
4. Causes of Anemia in CKD.
5. What is sterile Pyuria? Discuss the causes.
6. Diet for a patient with CKD.
7. Vaccination in patient going for dialysis.
8. What is the structure of Nephron?
9. Common Microbes causing Urinary infection.
10. Clinical features of Hepato Renal syndrome.

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

[AHS 0922]

SEPTEMBER 2022

Sub. Code: 1337

(FEBRUARY 2022 & AUGUST 2022 EXAM SESSIONS)

**B.Sc. DIALYSIS TECHNOLOGY  
THIRD YEAR – (Regulation from 2014-2015)  
PAPER II – RENAL DISEASE THERAPEUTICS**

*Q.P. Code: 801337*

**Time: Three Hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Explain the difference between Nephritic and Nephrotic syndrome.
2. Renin angiotensin aldosterone axis. What is Reno-vascular hypertension?
3. Obstructive nephropathy. Mention the causes of obstructive nephropathy and treatment.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Complications of chronic kidney disease.
2. Explain about genitourinary tuberculosis.
3. Types and causes of renal calculi.
4. Hepatorenal Syndrome.
5. Lupus Nephritis.
6. Management of anemia in dialysis patient.
7. Pathophysiology and management of diabetic nephropathy.
8. Causes of CKD in children.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Indications of Kidney Biopsy.
2. List out three causes for pyuria.
3. Intravenous pyelography.
4. Any three congenital anomalies of the Kidneys.
5. Define hemoperfusion.
6. Mineral bone disease in chronic kidney disease.
7. Complications of diuretic therapy.
8. Drugs used to manage edema.
9. Non steroidal anti-inflammatory drugs.
10. What is Pregnancy Induced Hypertension (PIH)?

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

**[AHS 0423]**

**APRIL 2023**

**Sub. Code: 1337**

**B.Sc. DIALYSIS TECHNOLOGY  
THIRD YEAR (Regulations 2014-2015 & 2018-2019 onwards)  
PAPER II – RENAL DISEASE THERAPEUTICS**

*Q.P. Code: 801337*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:** **(3 x 10 = 30)**

1. Define Acute Kidney Injury. Describe the stages. Outline the Medical Management.
2. Discuss the clinical features, investigations and treatment of Urinary Tract Infections.
3. Principles of Peritoneal dialysis - What are the complications?

**II. Write notes on:** **(8 x 5= 40)**

1. Management of Hyperkalemia.
2. Phosphate binders in CKD.
3. Polycystic kidney disease.
4. Types of Renal Stones.
5. Renal artery stenosis – Diagnosis.
6. Membrano Proliferative Glomerulonephritis.
7. Causes of Nephrotic syndrome.
8. Approach to a patient with pyuria.

**III. Write answer on:** **(10 x 3 = 30)**

1. Formula for calculation of estimated GFR.
2. Ultrasonography in CKD.
3. Erythropoietin.
4. Diuretics in Kidney disease.
5. Clinical features of Pulmonary – Renal syndromes.
6. Continuous Ambulatory Peritoneal Dialysis.
7. Clinical evaluation of Hematuria.
8. Clinical uses of Furosemide.
9. Nephrotoxic antibiotics.
10. Diagnosis of Diabetic Nephropathy.

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

**[AHS 1123]**

**NOVEMBER 2023**

**Sub. Code: 1337**

**B.Sc. DIALYSIS TECHNOLOGY**

**THIRD YEAR (Regulations 2014-2015 & 2018-2019 onwards)**

**PAPER II – RENAL DISEASE THERAPEUTICS**

*Q.P. Code: 801337*

**Time: Three Hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Name the Congenital anomalies in Kidney and Urinary tract. How will you manage a pediatric patient with ESRD and the challenges in Dialysing a pediatric patient?
2. Explain in detail the diagnosis and management of Minimal Change Nephrotic Syndrome.
3. Explain about the Diabetic Nephropathy.

**II. Write notes on:**

**(8 x 5 = 40)**

1. What are the causes for recurrent Kidney stones? Discuss the risk factors for kidney stones and dietary management.
2. Define Systemic Hypertension and classification of drugs used in Hypertension.
3. What is Acute Pyelonephritis? Explain the Causes and Management.
4. Voiding cystourethrogram.
5. Autosomal Dominant Polycystic Kidney Disease.
6. Chronic Kidney Disease – Mineral bone disease.
7. Types of Cardio-renal syndrome.
8. Causes of Anemia in Chronic Kidney Disease and management.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Causes of Nocturnal enuresis.
2. Causes of dehydration.
3. Symptoms of hypernatremia.
4. Indications for kidney biopsy.
5. Six causes of Hematuria.
6. Catheter associated UTI.
7. Renovascular hypertension.
8. Preeclampsia.
9. Six common causes of CKD.
10. Nephrogenesis.

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