Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 17-May-2023

Time: Three Hours | Max. Marks: 80 Marks

CONCEPT OF RENAL DISEASES – (RS-2)

Q.P. CODE: 1247

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

LONG ESSAYS (Answer any Two) 2 x 10 = 20 Marks

1. What is AKI? List the causes, 'RIFLE' classification and management of AKI
2. Write in detail about congenital renal disorders
3. Write in detail about obstructive uropathy

SHORT ESSAYS (Answer any Six) 6 x 5 = 30 Marks

4. Write a note on Renin angiotensin system
5. Malignant nephrosclerosis
6. Wilms' tumor
7. Triple stone
8. RPGN
9. Nephritic syndrome
10. Diabetic nephropathy
11. Alport syndrome

SHORT ANSWERS (Answer any Ten) 10 x 3 = 30 Marks

12. What is cystitis?
13. What is dietary recommendation for protein in dialysis patients?
14. Diagnosis for UTI
15. Causes of anemia in CKD patients
16. Causes of hypertension in CKD patients
17. What is micro albuminemia?
18. What is anuria?
19. Define CKD
20. What is eclampsia?
21. Causes of renal stones
22. List of foods rich in protein
23. Normal serum level of sodium, potassium and urea

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 19-May-2023

Time: Three Hours | Max. Marks: 80 Marks

Pharmacology Related to Haemo and Peritoneal Dialysis – (RS-2)

Q.P. CODE: 1248

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

LONG ESSAYS (Answer any Two) 2 x 10 = 20 Marks

1. Classify anticoagulants. Explain the mechanism of action, uses and adverse effects of heparin.
2. Name four beta blockers. Explain their actions side effects and contraindications.
3. What dose modifications are important in a patient with renal failure who is prescribed an Aminoglycoside and a non selective COX-2 inhibitor?

SHORT ESSAYS (Answer any Six) 6 x 5 = 30 Marks

4. Inhalational route of drug administration
5. Intravenous fluids
6. Sodium nitroprusside
7. Furosemide
8. Parenteral iron preparations
9. Dopamine
10. Lithium
11. Complications of haemodialysis

SHORT ANSWERS (Answer any Ten) 10 x 3 = 30 Marks

12. Importance of phosphate binders for dialysis patients
13. Enumerate three vitamin D analogues.
14. Residual side effects of formalin as a disinfectant
15. Uses of Protamine sulphate
16. Methanol intoxication
17. Plasma expanders
18. Potassium exchange resins and their uses
19. Uses and adverse effects of **Prazosin**
20. Name three live vaccines.
21. Name 2 plasma expanders and write one use.
22. Name three antiemetic drugs.
23. Three complications of peritoneal dialysis

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 22-May-2023

Time: 3 Hours Max. Marks: 40 Marks

APPLIED ANATOMY (RS2)
Q.P. CODE: 1249

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.
(Note: Both QP Codes 1249 and 1250 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. Describe the gross anatomy of the urinary bladder under the following headings:
    a) Surfaces
    b) Borders
    c) Relations
    d) Blood supply
2. Describe the male urethra under the following headings:
    a) Different parts
    b) Sphincters
    c) Histological aspects
    d) Applied anatomy

SHORT ESSAYS (Answer any Three) 3 x 5 = 15 Marks

3. Lesser sac of peritoneum.
4. Macroscopic structure of kidney, seen as in coronal section.
5. External carotid artery.
6. Anomalies of kidney.

SHORT ANSWERS (Answer any Five) 5 x 3 = 15 Marks

7. Hilum of kidney.
8. Structure piercing the prostate gland.
9. Deep palmar arch.
10. Femoral hernia.
11. Venous thrombosis.
12. Radial artery.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 22-May-2023

Time: 3 Hours Max. Marks: 40 Marks

PHYSIOLOGY (RS2)

Q.P. Code : 1250

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.
(Note : Both QP Codes 1249 and 1250 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. Describe the role of loop of henle and vasa recta in the formation of urine.
2. Draw a diagram showing the innervation of urinary bladder. Explain briefly any of the three disorders affecting the bladder.

SHORT ESSAYS (Answer any Three) 3 x 5 = 15 Marks

3. What is renal plasma threshold for glucose? Where and how is glucose absorbed in Kidneys?
4. Explain Renin Angiotensin System.
5. Mention the tests for measuring GFR. Explain any one in detail.
6. Name the types of dialysis. Give the composition of dialyzing fluid. Explain the principles of peritoneal dialysis.

SHORT ANSWERS (Answer any Five) 5 x 3 = 15 Marks

7. What are the 24hrs urine urea, creatinine, calcium levels?
8. What is glomerulo tubular feedback in kidney.
9. Define splay. What is the tubular maximum for glucose?
10. Describe the dietary principle of renal stone.
11. What is metabolic acidosis? Give any three clinical features.
12. What are the three layers of glomerular capillary membrane?

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (Renal Dialysis Technology) Degree Examination – 24-May-2023

Time: 3 Hours Max. Marks: 50 Marks

APPLIED PATHOLOGY (RS2)

Q.P. Code : 1351

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

(Note : Both QP Codes 1351 and 1352 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. Describe in detail the renal changes in Diabetes mellitus. What are its complications? Add a note on microalbuminuria.
2. Describe the etiopathogenesis of urinary tract infections. What are the gross and microscopic features of chronic pyelonephritis?

SHORT ESSAYS (Answer any Five) 5 x 5 = 25 Marks

3. Childhood polycystic kidney.
4. Renal changes in hypertension.
5. Post-streptococcal glomerulonephritis.
6. Dialysis-related changes in the peritoneum.
7. Renal artery stenosis.
8. End-stage renal disease.

SHORT ANSWERS (Answer any Five) 5 x 3 = 15 Marks

9. Renal papillary necrosis.
10. Define Nephrotic syndrome.
11. Tuberculous pyelonephritis.
12. Renal diseases in pregnancy.
13. List three causes of proteinuria.
14. Urine examination findings in acute pyelonephritis.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (Renal Dialysis Technology) Degree Examination – 24-May-2023

Time: 3 Hours Max. Marks: 50 Marks

MICROBIOLOGY (RS2)

Q.P. Code: 1352

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

(Note : Both QP Codes 1351 and 1352 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. List the viruses causing hepatitis. How are they transmitted? Add a note on Hepatitis B Virus prophylaxis.
2. List the different intravascular devices used in patient care. How do you prevent infection when patients use them? Add a note on the diagnosis of these infections.

SHORT ESSAYS (Answer any Five) 5 x 5 = 25 Marks

3. Standard precautions.
4. **Candidiasis as an Opportunistic infection.**
5. Importance of screening Blood and Blood products.
6. Monitoring quality of water used in dialysis.
7. Waste management in health care settings.
8. Prevention of air borne infection in dialysed patients.

SHORT ANSWERS (Answer any Five) 5 x 3 = 15 Marks

9. **List samples to be collected for bacterial infection.**
10. List 3 agents causing UTI in catheterized patients.
11. Vaccines available to prevent infection in Health Care workers.
12. Different methods available for Hand hygiene.
13. HIV-routes of transmission.
14. Use and disposal of Gloves.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 17-May-2023

Time: Three Hours Max. Marks: 100 Marks

Concepts of Renal Diseases: Clinical Manifestation and its Management (RS-3)

Q.P. CODE: 3300

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

LONG ESSAYS (Question No.2 Choice) 2 x 10 = 20 Marks

1. Explain Hemodialysis with labelled diagram of Hemodialysis apparatus and circuit.
2. What is Urinary Tract Infection? What are its causes? Mention the types of UTI and its symptoms.
   OR
   Define chronic renal failure. What are the causes, stages and diagnosis of CRF?

SHORT ESSAYS (Question No.5 & 10 choice) 10 x 5 = 50 Marks

3. What is AKI? Elaborate on the pre renal, renal and post renal causes of AKI.
4. Tumors of kidney.
5. Asymptomatic Bacteriuria.
   OR
   Nephrotic syndrome definition and types.
6. What is renal vascular disorder? Explain Renal Artery Stenosis.
7. Renal stone disease.
8. Obstructive uropathy.
9. Polycystic kidney disease.
10. Pre-dialysis nutrition.
    OR
    Renal disease in pregnancy and Pregnancy induced hypertension.
11. **Write a note on Peritoneal Dialysis and its types.**
12. Acute Nephritic syndrome.

SHORT ANSWER (Question No. 15 & 20 choice) 10 x 3 = 30 Marks

13. Stages of AKI.
14. Expand a) CRRT b) SLED c) CAVHF.
15. What are the complications of renal hypertension?
    OR
    How do you manage renal hypertension?
16. **Mention any three difference between Hemodialysis and Peritoneal dialysis.**
17. What are the types of food the patient has to avoid post renal transplantation?
18. How can you prevent UTI?
19. Give any three examples of inherited kidney disease.
20. Define a) Glycosuria b) Hematuria c) Proteinuria.
    OR
    What is atheroembolic renal disease? Mention any two symptoms.
21. Is potassium good for hemodialysis patient? Give reasons for your answer.
22. Why is PD patient advised high protein diet?

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 19-May-2023

Time: Three Hours Max. Marks: 50 Marks

Applied aspects of Pathology (RS-3)

Q.P. CODE: 3301

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

(Note: Both QP Codes 3301 and 3403 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. What are the causes of peritonitis? Write in detail about Tubercular peritonitis.
2. Discuss the cause, pathogenesis and lab diagnosis of Chronic Renal Failure.

SHORT ESSAYS (Answer any Five) 5 x 5 = 25 Marks

3. Describe nephritic syndrome.
4. Explain Good pasture syndrome.
5. Describe etiopathogenesis and morphology of membranous nephropathy.
6. Define and classify amyloidosis. Write the microscopic features of it.
7. Discuss laboratory diagnosis of UTI.
8. Polycystic kidney disease.

SHORT ANSWER (Answer any FIVE) 5 x 3 = 15 Marks

9. Classify renal cell carcinoma.
10. Name three causes of contracted granular kidney.
11. Name three causes of hematuria.
12. Thin basement membrane lesion.
13. Renal complications in pregnancy.
14. Enumerate different types of Renal stones.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 22-May-2023

Time: Three Hours | Max. Marks: 50 Marks

Applied Anatomy related to Dialysis Technology (RS-3)

Q.P. CODE: 3302

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

(Note: Both QP Codes 3302 and 3402 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. Explain left kidney – External features, coverings, relations, blood supply and applied aspects.
2. Explain common carotid artery, course and distribution / Branches and applied anatomy.

SHORT ESSAYS (Answer any Five) 5 x 5 = 25 Marks

3. Prostate gland.
4. Urinary bladder.
5. Explain origin, course, termination and applied aspects of subclavian artery.
6. Blood supply of ureter.
7. Parietal peritoneum.
8. Abdominal hernia.

SHORT ANSWER (Answer any FIVE) 5 x 3 = 15 Marks

9. Tributaries of external jugular vein.
10. Name any three blood vessels of lower limb.
11. Pouch of Douglas.
12. Name any three veins of upper limb.
13. Femoral neuropathy.
14. Mesentery

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 22-May-2023

Time: Three Hours | Max. Marks: 50 Marks

Applied Physiology related to Dialysis Technology (RS-3)

Q.P. CODE: 3402

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

(Note: Both QP Codes 3302 and 3402 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. What is GFR? Give its normal value. Explain factors regulating GFR.
2. Describe the role of kidney in long term regulation of blood pressure.

SHORT ESSAYS (Answer any Five) 5 x 5 = 25 Marks

3. Discuss renal function tests.
4. Endocrine function of kidney.
5. What is auto regulation of renal blood flow and how it is explained?
6. Clearance tests. Add a note on urea clearance.
7. Describe role of kidney in glucose reabsorption.
8. Mechanism of coagulation. Outline the intrinsic.

SHORT ANSWER (Answer any FIVE) 5 x 3 = 15 Marks

9. Haemophilia.
10. Clotting time.
11. Normal value of urea, creatinine, uric acid.
12. Hyponatremia.
13. List three major buffers in the blood.
14. Explain briefly Glomerulo-tubular feedback.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 19-May-2023

Time: Three Hours | Max. Marks: 50 Marks

Applied aspects of Microbiology (RS-3)

Q.P. CODE: 3403

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

(Note: Both QP Codes 3301 and 3403 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. Enumerate the pathogens causing vascular access infections. Describe the steps taken to prevent these infections. Enumerate the samples sent for culture in a case of suspected vascular access infection.

2. Enumerate the viruses causing hepatitis. Explain the mode of transmission and laboratory diagnosis of Hepatitis A virus. Add a note on prevention of Hepatitis A infection.

SHORT ESSAYS (Answer any Five) 5 x 5 = 25 Marks

3. Describe principle and procedure of Acid fast staining.
4. Selective media.
5. Subclavian catheter infections.
6. Candida albicans – morphology and laboratory diagnosis.
7. Human deficiency virus (HIV) – Morphology and mode of transmission.
8. Hepatitis B virus – Morphology and universal precautions to prevent Hepatitis B infection.

SHORT ANSWER (Answer any FIVE) 5 x 3 = 15 Marks

9. Name three Bacteria causing urinary tract infections.
10. Name three Enriched media.
11. Mode of transmission of Hepatitis infections.
12. Name three opportunistic infections.
13. Antibiotic sensitivity testing.
14. Name three gram negative bacteria.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 24-May-2023

Time: Three Hours | Max. Marks: 100 Marks

Pharmacology Related to Haemodialysis and Peritoneal Dialysis (RS-3)

Q.P. CODE: 3303

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

LONG ESSAYS (Question No.2 Choice) 2 x 10 = 20 Marks

1. Write briefly on vasopressors.
2. Classify diuretics. Write the mechanism of action, uses and adverse effects of furosemide.
   OR
   Write briefly on dialyzable drugs.

SHORT ESSAYS (Question No.5 & 10 choice) 10 x 5 = 50 Marks

3. Vitamin K formulation and their **indications**.
4. Crystalloids used as plasma expanders.
5. Peritoneal dialysis solution.
   OR
   Folic acid in dialysis patients.
6. Phosphate binders.
7. Erythropoietin – mode of action, indication and dose.
8. Protamine sulphate – Indication and dose.
9. Classify Immunosuppressants. Write the mechanism of action and uses of any one of them.
10. Name the different IV fluids. Write the advantages and indications of any two of them.
    OR
    Name any four antihypertensives. Write the mechanism of action and adverse effects of any one of them.
11. Aminoglycoside antibiotics.
12. Low molecular weight heparins.

SHORT ANSWER (Question No. 15 & 20 choice) 10 x 3 = 30 Marks

13. Name any three water soluble vitamins.
14. Mannitol.
15. Spironolactone.
    OR
    Mention any three precautions to be taken while administering vaccines to dialysis patients.
16. Name any three antidiuretics.
17. List the adverse effects of penicillins.
18. Name any three calcium channel blockers.
19. Name any three parenteral iron preparations.
20. Name any three positive inotropes.
    OR
    Name any three angiotension converting enzyme (ACE) inhibitors.
21. Mention any three uses of warfarin.
22. Mention any three antiplatelet drugs.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 26-May-2023

Time: Three Hours Max. Marks: 100 Marks

Basics of Renal Dialysis Technology (RS-3)

Q.P. CODE: 3304

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

LONG ESSAYS (Question No.2 Choice) 2 x 10 = 20 Marks

1. Describe types of vascular access for HD. Explain briefly about A.V graft.
2. Explain dialyser reuse technique.
   OR
   Discuss peritoneal dialysis apparatus.

SHORT ESSAYS (Question No.5 & 10 choice) 10 x 5 = 50 Marks

3. Indications of dialysis.
4. Types of dialysis.
5. Write about medical complications of Haemodialysis.
   OR
   Explain pre –HD assessment.
6. Dialyser characteristics.
7. Patient monitoring during dialysis.
8. Anticoagulation technique used in HD.
9. Brief about water treatment system.
10. Alarm systems in HD machine.
    OR
    Basic principle of Haemodialysis.
11. Standard dialysate composition.
12. Post operative care of permanent access.

SHORT ANSWER (Question No. 15 & 20 choice) 10 x 3 = 30 Marks

13. Define Dry weight.
14. Blood flow rate and dialysate flow rate adjustment.
15. Bio-medical waste management.
    OR
    Needlestick management.
16. List PPE used during handling HIV patients.
17. Note on CPR.
18. Normal values of a) Pulse b)spo_2 c) RR
19. Co-current dialysis.
20. Renalin.
    OR
    SLED
21. Scribner's shunt.
22. Antidote for heparin.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 23-Nov-2023

Time: Three Hours Max. Marks: 80 Marks

CONCEPT OF RENAL DISEASES – (RS-2)

Q.P. CODE: 1247

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

LONG ESSAYS (Answer any Two) 2 x 10 = 20 Marks

1. Classify and discuss urinary tract infection.
2. Define nephritic syndrome. Mention clinical features and discuss complications of nephritic syndrome.
3. Definition and classification of chronic kidney disease (CKD) and discuss about treatment option in CKD stage V.

SHORT ESSAYS (Answer any Six) 6 x 5 = 30 Marks

4. Anemia of chronic kidney disease
5. IgA nephropathy
6. Acute pyelonephritis
7. Tumors of kidney
8. Complications of acute renal failure
9. Clinical presentation of patient with nephrotic syndrome
10. Acute tubular necrosis
11. Horse shoe kidney

SHORT ANSWERS (Answer any Ten) 10 x 3 = 30 Marks

12. Name three organisms causing chronic kidney disease in children.
13. Drugs causing acute renal failure
14. Procedure for collection of 24hr urine sample
15. Mention three causes of secondary nephritic syndrome.
16. Classification of proteinuria
17. What are asymptomatic urinary abnormalities?
18. Alport syndrome
19. Name three congenital causes of renal disease.
20. Name the investigations of renal vascular hypertension.
21. Physiological changes of kidney in pregnancy
22. Normal values for serum calcium, phosphorus, and hemoglobin
23. Asymptomatic urinary abnormalities

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 28-Nov-2023

Time: Three Hours | Max. Marks: 80 Marks

Pharmacology Related to Haemo and Peritoneal Dialysis – (RS-2)

Q.P. CODE: 1248

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

LONG ESSAYS (Answer any Two) 2 x 10 = 20 Marks

1. Classify Anticoagulants. Write the therapeutic uses and adverse effects of Heparin
2. Enumerate the different types of dialysis fluids. Explain the composition and uses of them
3. Classify vitamins and write therapeutic value of fat soluble vitamins

SHORT ESSAYS (Answer any Six) 6 x 5 = 30 Marks

4. Furosemide
5. Phosphate binders
6. Differences between disinfectants and antiseptics. Give suitable examples
7. Lithium
8. Beta blockers
9. Mannitol
10. Treatment of hypertensive emergencies
11. Plasma expanders

SHORT ANSWERS (Answer any Ten) 10 x 3 = 30 Marks

12. Vitamin D analogues
13. Ramipril
14. Name three potassium sparing diuretics
15. Inotropic agents
16. Erythropoietin
17. Side effects of loop diuretics
18. Barbiturate poisoning
19. Potassium exchange resins
20. Three complications of peritoneal dialysis
21. Protamine sulphate
22. Name three immunosuppressive drugs
23. Three disadvantages of intravenous route

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 02-Dec-2023

Time: 3 Hours Max. Marks: 40 Marks

APPLIED ANATOMY (RS2)

Q.P. Code: 1249

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.
(Note: Both QP Codes 1249 and 1250 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. Describe Urinary Bladder under the following headings : Location, Features and Nerve supply.
2. Describe the femoral artery under the following headings: origin, termination, course, branches, relations and applied anatomy.

SHORT ESSAYS (Answer any Three) 3 x 5 = 15 Marks

3. Ureter.
4. Radial artery.
5. Histology of kidney.
6. Interior of Urinary bladder.

SHORT ANSWERS (Answer any Five) 5 x 3 = 15 Marks

7. Relations of left kidney.
8. Median cubital vein formation and applied anatomy.
9. Parts of Male urethra.
10. Name the great vessels of the Neck and give their applied anatomy.
11. Name the lobes of Prostate.
12. Beginning and termination of great saphenous vein.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 02-Dec-2023

Time: 3 Hours | Max. Marks: 40 Marks

PHYSIOLOGY (RS-2)
Q.P. Code: 1250

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary
(Note: Both QP Codes 1249 and 1250 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. Write in detail about nerve supply to urinary bladder and micturition reflex
2. Write in detail about counter current exchanger and multiplier in the kidney

SHORT ESSAYS (Answer any Three) 3 x 5 = 15 Marks

3. Write a note an tubular reabsorption
4. Hormones responsible for water balance
5. Microscopy in urine analysis
6. Erythropoietin

SHORT ANSWERS (Answer any Five) 5 x 3 = 15 Marks

7. Functions of juxta glomerular apparatus (JGA)
8. What is the normal GFR? Write a note on renal failure
9. Normal blood urea, creatinine and uric acid levels
10. Blood supply to kidneys
11. Clearance test with examples
12. Substance reabsorbed by proximal convoluted tubules

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (Renal Dialysis Technology) Degree Examination – 05-Dec-2023

Time: 3 Hours Max. Marks: 50 Marks

APPLIED PATHOLOGY (RS2)

Q.P. Code: 1351

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

(Note: Both QP Codes 1351 and 1352 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. Describe the etiopathogenesis, clinical features and laboratory diagnosis of chronic renal failure.
2. Classify and discuss the etiopathogenesis and clinical features of hypertensive renal vascular disease.

SHORT ESSAYS (Answer any Five) 5 x 5 = 25 Marks

3. Cystic diseases of kidney
4. Diabetic nephropathy
5. Goodpasture syndrome
6. Types and pathogenesis of renal calculi
7. Acute post streptococcal Glomerulonephritis
8. Tuberculous pyelonphritis

SHORT ANSWERS (Answer any Five) 5 x 3 = 15 Marks

9. Organisms causing urinary tract infection
10. Nodular glomerulosclerosis
11. Write the causes of hydronephrosis.
12. What is minimal change disease?
13. What are the urinary findings in nephrotic syndrome?
14. Sclerosing peritonitis

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (Renal Dialysis Technology) Degree Examination – 05-Dec-2023

Time: 3 Hours Max. Marks: 50 Marks

MICROBIOLOGY (RS2)

Q.P. Code: 1352

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

(Note : Both QP Codes 1351 and 1352 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. Define sterilization. Classify the methods of sterilization. Explain autoclave in detail.
2. Explain the mode of transmission, clinical symptoms, laboratory diagnosis and prophylaxis of Hepatitis B virus.

SHORT ESSAYS (Answer any Five) 5 x 5 = 25 Marks

3. Laboratory diagnosis of HIV-AIDS.
4. Define opportunistic infections. Name four important opportunistic infections seen in dialysis patients.
5. Explain the types of vascular access infections with causative agents.
6. Explain the collection, transport and methodology of RO water culture.
7. Explain the mode of infection and laboratory diagnosis of Hepatitis A virus.
8. Laboratory diagnosis of UTI

SHORT ANSWERS (Answer any Five) 5 x 3 = 15 Marks

9. Name three important universal precautions.
10. Segregation of biomedical waste.
11. Laboratory diagnosis of Hepatitis C virus.
12. Gaseous Disinfectants.
13. Steps of Gram’s stain.
14. Name the articles sterilized in a hot air oven.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 23-Nov-2023

Time: Three Hours Max. Marks: 100 Marks

Concepts of Renal Diseases: Clinical Manifestation and its Management (RS-3)

Q.P. CODE: 3300

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

LONG ESSAYS (Question No.2 Choice) 2 x 10 = 20 Marks

1. Define Nephrolithiasis. Name various types of Nephrolithiasis.
2. What are the secondary causes for hypertension? Mention the effects of HTN on the Kidney.
   OR
   Describe in detail about renal problems seen in pregnancy.

SHORT ESSAYS (Question No.5 & 10 choice) 10 x 5 = 50 Marks

3. Explain obstructive uropathy.
4. Minimal change disease.
5. Nephritic syndrome.
   OR
   Snakebite AKI.
6. Renal replacement therapy
7. Carpal tunnel syndrome.
8. Cystic diseases of kidney.
9. Management of lower UTI in Males.
10. Asymptomatic bacteriuria.
    OR
    Mineral – Bone diseases in CKD.
11. Causes of acute renal failure.
12. Renal diet during peritoneal dialysis.

SHORT ANSWER (Question No. 15 & 20 choice) 10 x 3 = 30 Marks

13. Difference between ARF and CRF.
14. Anemia of CKD – management.
15. Name three Inherited renal diseases.
    OR
    Vaccination in CKD stage 4
16. Define cystitis and Pyelonephritis.
17. Uremic encephalopathy.
18. Atherosclerotic renal disease.
19. Normal values of a)S.Ca b) PO_4 c) Hb
20. Willm's tumor
    OR
    Alport's syndrome.
21. Phosphate binders in CKD.
22. Renal amyloidosis.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 28-Nov-2023

Time: Three Hours | Max. Marks: 50 Marks

Applied aspects of Pathology (RS-3)

Q.P. CODE: 3301

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

(Note: Both QP Codes 3301 and 3403 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. Discuss in detail the renal changes in hypertension. What are its complications?
2. Describe the pathology of the peritoneum in patients undergoing peritoneal dialysis.

SHORT ESSAYS (Answer any Five) 5 x 5 = 25 Marks

3. Pathology of glomerular diseases.
4. End stage renal diseases causes and pathophysiology
5. Tuberculosis of the urinary tract causes and lab diagnosis.
6. Pregnancy induced renal pathology.
7. Describe pathophysiology of tubular interstitial.
8. Describe pathogenesis of renal vascular disorders.

SHORT ANSWER (Answer any Five) 5 x 3 = 15 Marks

9. List three causes of Hyperkalemia.
10. Renal agenesis.
11. Xanthogranulomatous Pyelonephritis.
12. Bacterial peritonitis.
13. Nephrotic syndrome.
14. List three morphological findings in Diabetic Nephropathy.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 02-Dec-2023

Time: Three Hours Max. Marks: 50

APPLIED ANATOMY RELATED TO DIALYSIS TECHNOLOGY (RS-3)

Q.P. CODE: 3302

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

(Note: Both QP Codes 3302 and 3402 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. Name the parts of urinary system. Describe the course and relations of female ureter in detail
2. Describe peritoneal reflections in detail

SHORT ESSAYS (Answer any Five) 5 x 5 = 25 Marks

3. Describe the histology of kidney
4. Development of urinary bladder
5. Contents of femoral triangle
6. External carotid artery
7. Describe the capsule and lobes of prostate gland with its relevant applied aspects
8. Relations of Axillary artery

SHORT ANSWER (Answer any FIVE) 5 x 3 = 15 Marks

9. Name the constrictions of ureter. Add a note on its clinical importance
10. Development of kidney
11. Describe Azygoussystem under the following headings : formation and Tributaries
12. Name any three areas of portocaval anastomosis
13. Tributaries of inferior vena cava
14. Structure of nephron

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 02-Dec-2023

Time: Three Hours Max. Marks: 50 Marks

Applied Physiology related to Dialysis Technology (RS-3)

Q.P. CODE: 3402

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

(Note: Both QP Codes 3302 and 3402 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. What are the standard renal function tests? How are they interpreted?
2. Describe the mechanism by which water is reabsorbed from the collecting tubules.

SHORT ESSAYS (Answer any Five) 5 x 5 = 25 Marks

3. Draw labelled diagram of juxtaglomerular apparatus. List their functions.
4. Explain the hormones secreted by kidney.
5. Define plasma clearance. Add a note on urea clearance test.
6. What is the counter current mechanism?
7. What is the special features of renal circulation? Write a note on autoregulation of renal blood flow.
8. Normal serum sodium level in body? Explain how sodium concentration is regulated by Kidney.

SHORT ANSWER (Answer any FIVE) 5 x 3 = 15 Marks

9. Bleeding time.
10. List three major buffers in blood.
11. Draw diagram of Nephron;.
12. GFR.
13. Hyperkalemia.
14. Normal values of urea, creatinine and uric acid.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 28-Nov-2023

Time: Three Hours Max. Marks: 50 Marks

Applied aspects of Microbiology (RS-3)

Q.P. CODE: 3403

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary
(Note: Both QP Codes 3301 and 3403 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) 1 x 10 = 10 Marks

1. Describe the morphology, pathogenesis and laboratory diagnosis of HIV.
2. Describe the microbiology of vascular access infection.

SHORT ESSAYS (Answer any Five) 5 x 5 = 25 Marks

3. Kirby Bauer disc diffusion method.
4. Morphology of HBV and include on its pre-exposure prophylaxis.
5. Hand washing technique.
6. List three bacteria causing UTI and add a note on laboratory diagnosis of UTI.
7. Ziehl-Neelsen staining.
8. Streak plate method.

SHORT ANSWER (Answer any FIVE) 5 x 3 = 15 Marks

9. List RNA Hepatitis virus.
10. Name three gaseous sterilization agents.
11. Name three opportunistic bacterial infections in HIV.
12. Needle stick injuries.
13. Name three gram negative bacteria.
14. Settle plate method.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Renal Dialysis Technology Degree Examination – 05-Dec-2023

Time: Three Hours Max. Marks: 100 Marks

Pharmacology Related to Haemodialysis and Peritoneal Dialysis (RS-3)

Q.P. CODE: 3303

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

LONG ESSAYS (Question No.2 Choice) 2 x 10 = 20 Marks

1. Classify antihypertensive drugs. Write the mechanism of antihypertensive action, uses and adverse effects of Angiotension – converting enzyme (ACE) inhibitors.

2. List the different types of IV fluids. Write their composition and describe their uses.
   OR
   Classify immunosuppressants. Write the mechanism of action and uses of any one of them.

SHORT ESSAYS (Question No.5 & 10 choice) 10 x 5 = 50 Marks

3. Dialyzable drugs.
4. Compare and contrast furosemide and hydrochlorothiazide.
5. Parenteral iron preparations
   OR
   Water soluble vitamins.
6. Amoxicillin.
7. Heparin.
8. Erythropoietin.
9. Protamine sulphate.
10. Haemodialysis solution
    OR
    Peritoneal dialysis.
11. Vaccines in dialysis patients.
12. Treatment of urinary tract infection.

SHORT ANSWER (Question No. 15 & 20 choice) 10 x 3 = 30 Marks

13. List three vasopressors.
14. List three antibiotics which are safe in renal failure.
15. Vitamin D
    OR
    List three oral anticoagulants.
16. List three crystalloids and three colloids used as plasma expanders.
17. Name three Nephrotoxic drugs.
18. Write three uses of spironolactone.
19. List three inotropes.
20. Calcium supplements.
    OR
    Explain what is continuous renal replacement therapy?
21. Name three phosphate binders.
22. List three antiplatelet drugs.

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II Year B.Sc. Renal Dialysis Technology Degree Examination – 07-Dec-2023

Time: Three Hours Max. Marks: 100 Marks

Basics of Renal Dialysis Technology (RS-3)

Q.P. CODE: 3304

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

LONG ESSAYS (Question No.2 Choice) 2 x 10 = 20 Marks

1. What are the different types of vascular access used in Hemodialysis? Explain each type with example.
2. What are Anticoagulants and mention its importance in HD? Add a note on different types of Heparinization.

   OR

   How do you assess the patients during dialysis and after dialysis and management of any two common complications during hemodialysis?

SHORT ESSAYS (Question No.5 & 10 choice) 10 x 5 = 50 Marks

3. Reuse of Hollow fiber dialyzer.
4. What is Dialysate and mention its functions and composition.
5. Central Venous Catheter.

   OR

   Draw diagram of Water treatment in HD..
6. Pre-dialysis assessment.
7. BCLS.
8. Hemodialysis machine preparation.
9. Basic principles of Hemodialysis.
10. Anatomy of Peritoneum.

    OR

    Explain different alarms during dialysis with causes.
11. Write a note on different chemicals used in dialyzer reuse..
12. Write a note on different types of dialyzer membranes

SHORT ANSWER (Question No. 15 & 20 choice) 10 x 3 = 30 Marks

13. Importance of practicing proper handwashing technique in Dialysis.
14. What is the normal range of pulse rate and mention any two places in the human body where it can be felt?
15. Deionizers

    OR

    Blood stream infection with temporary venous catheter.
16. Types of dialyzers.
17. Define blood pressure and write the unit of blood pressure. Name of the equipment used to check blood pressure.
18. What is Reverse Osmosis and mention any 2 reasons for the necessity of RO pure water in Hemodialysis?
19. Hemodialysis vs peritoneal dialysis advantages and disadvantages.
20. Explain Kuf.

    OR

    Mention different kinds of personal protective equipment.
21. When do you adjust of ultrafiltration rate?
22. What are the functions of: a) Sample port b) Blood pump c) Air-Blood Detector.