

[LJ 0816]

AUGUST 2016

Sub.Code :1331

B.Sc. DIALYSIS TECHNOLOGY

SECOND YEAR

PAPER I – MICROBIOLOGY I & II, PATHOLOGY I & II AND

PHARMACOLOGY

Q.P. Code: 801331

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Define Opportunistic Infections. Enumerate the organisms causing Opportunistic Infections. Write about the morphology, clinical features and laboratory diagnosis of Candida albicans.
2. List the Glomerular diseases. Write in detail about the pathology of Nephrotic Syndrome.
3. Classify Antihypertensive drugs. Write about the mechanism of action, uses and adverse effects of Angiotensin Converting Enzyme Inhibitors.

II. Write Notes on:

(8 x 5 = 40)

1. Principle, Types and Uses of Autoclave.
2. Universal Precautions.
3. Gaseous Disinfectants.
4. Acute Pyelonephritis.
5. Urinary Tract Infections.
6. Cell Injury.
7. Parenteral Iron.
8. Thiazide Diuretics.

III. Short Answers on:

(10 x 3 = 30)

1. What is Cold sterilisation? Mention any two uses.
2. Name any six organisms causing Blood Borne Infections.
3. Name six organisms causing Urinary Tract Infections.
4. How to collect and transport blood sample for Blood culture to microbiology laboratory?
5. Define End Stage Renal Disease. Give four causes of end stage Renal Disease.
6. Define Inflammation. Mention its types.
7. What is Acquired Immunity? Give examples.
8. Name three Chemical Carcinogens.
9. Name three uses and three side effects of Protamine sulphate.
10. Name two Advantages and Disadvantages of Sodium hypochlorite.

[LK 0217]

FEBRUARY 2017

Sub.Code :1331

B.Sc. DIALYSIS TECHNOLOGY

SECOND YEAR

PAPER I – MICROBIOLOGY I & II, PATHOLOGY I & II AND

PHARMACOLOGY

Q.P. Code: 801331

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Write in detail about the morphology, modes of transmission, pathogenesis and laboratory diagnosis of Human Immunodeficiency Virus.
2. Define Peritonitis. Write about the pathology of Bacterial Peritonitis.
3. List the High Ceiling Diuretics. Write in detail about the mechanism of action, uses and adverse effects of Frusemide.

II. Write Notes on:

(8 x 5 = 40)

1. Sterilisation by Radiation.
2. Personal Protective Equipment.
3. Difference between Gram Positive and Gram Negative Bacterial Cellwall.
4. Renal Calculi.
5. Metastasis.
6. Diabetic Nephropathy.
7. Intravenous preparation of Vitamin D.
8. Alpha Adrenergic Blockers.

III. Short Answers on:

(10 x 3 = 30)

1. Principle of Autoclave and Hot air oven.
2. What is the method to discard used gloves in hospital?
3. What is the route of administration and number doses for Hepatitis B vaccine?
4. Define Sterilisation and Disinfection with examples.
5. Mention three causes of Urinary Tract Infections.
6. Mention the types and mechanisms of Cell Injury.
7. What is Analgesic Nephropathy? Mention any two drugs causing it.
8. Define Hyperplasia. Mention its types.
9. What is Erythropoietin? Mention two uses.
10. Name two Gaseous Disinfectants. Mention two uses of each.

B.Sc. DIALYSIS TECHNOLOGY

SECOND YEAR

**PAPER I – MICROBIOLOGY I & II, PATHOLOGY I & II AND
PHARMACOLOGY**

Q.P. Code: 801331

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. List the microbes causing Urinary Tract Infections. Write in detail about the sample collection, transport and laboratory diagnosis of Urinary Tract Infections.
2. List the Renovascular Diseases. Write in detail about the pathology and clinical features of Nephrosclerosis.
3. Classify Diuretics. Write in detail about the mechanism of action, uses and adverse effects of Spiranolactone.

II. Write Notes on:

(8 x 5 = 40)

1. Moist Heat Sterilisation.
2. Cell wall of Gram Negative Bacteria.
3. Candida albicans.
4. Inflammation.
5. Acute Glomerular Nephritis.
6. Necrosis.
7. Calcium Channel Blockers.
8. Erythropoietin.

III. Short Answers on:

(10 x 3 = 30)

1. Define Disinfection. Enumerate any four Alcoholic Disinfectants.
2. Name the transport media used for the blood sample for Blood culture and mention the ratio in which blood sample is to be added to the culture media for Blood culture.
3. Write any six Modes of Transmission of Hepatitis B virus.
4. Mention four tests done for laboratory diagnosis of Human Immunodeficiency virus infection.
5. Name six Oncogenic Viruses.
6. Name three causes of Peritonitis.
7. Name three types of Renal calculi.
8. Define Neoplasia. Mention the types.
9. Name three Low Molecular Weight Heparins.
10. Name three Indications of Potassium Exchange Resins.

B.Sc. DIALYSIS TECHNOLOGY

SECOND YEAR

**PAPER I – MICROBIOLOGY I & II, PATHOLOGY I & II AND
PHARMACOLOGY**

Q.P. Code: 801331

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Write a notes on Opportunistic infections and how it's complicated to the dialysis patient.
2. Describe about in details of Routes of administration.
3. Brief notes on different patterns of Cellular adaptation with suitable examples.

II. Write Notes on:

(8 x 5 = 40)

1. Explain about acute inflammation and its mechanism.
2. Describe morphology, mode of transmission, pathogenicity and prevention of hepatitis B virus.
3. Discuss about Vasopressin.
4. Pathology of Pyelonephritis.
5. Write about Peritoneal dialysis.
6. Write notes on culture Medias with suitable example.
7. Define about Pathologic calcification and its types.
8. Discuss about the candida albicans.

III. Short Answers on:

(10 x 3 = 30)

1. Define vesicourethral reflux.
2. Poly cystic kidney.
3. Phosphate Binders.
4. Vitamin-K.
5. Retinol.
6. Define diabetic nephropathy.
7. Explain Universal precaution need dialysis technician during dialysis.
8. Describe the lab diagnosis and prevention of HIV infection.
9. Vascular access infection.
10. Classify bacteria with shape.

B.Sc. DIALYSIS TECHNOLOGY

SECOND YEAR

**PAPER I – MICROBIOLOGY I & II, PATHOLOGY I & II AND
PHARMACOLOGY**

Q.P. Code: 801331

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Describe the antibiotic sensitivity tests and elaborate the disc diffusion techniques of antibiotic susceptibility test.
2. Explain in Detail about Dialyzable Drugs.
3. Discuss in details peritonitis and complication.

II. Write Notes on:

(8 x 5 = 40)

1. Elaborate notes on UTI infection and complication.
2. Write about Apoptosis and mechanism.
3. Various antiseptic and disinfectant.
4. Water Soluble Vitamins.
5. Discuss about UTI infection.
6. Brief notes on Hypersensitivity Reactions with suitable examples.
7. Adverse effects of Diuretics.
8. Write about AIDS pathology.

III. Short Answers on:

(10 x 3 = 30)

1. Opportunistic infections in HIV patients.
2. Name Three fibrinolytics.
3. Name Three potassium sparing.
4. Three adverse effects of heparin.
5. Hepatitis C virus mode of transmission.
6. Vaccination.
7. Principle of the gram staining.
8. Infective agents causes vascular access.
9. SLE syndrome.
10. Cellular accumulation.

B.Sc. DIALYSIS TECHNOLOGY

SECOND YEAR

**PAPER I – MICROBIOLOGY I & II, PATHOLOGY I & II AND
PHARMACOLOGY**

Q.P. Code: 801331

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Brief notes on vascular access infection with contraindication and precautions.
2. Brief notes on kidney in hypertension in details.
3. Explain in detail about Iron Synthesis, Storage, Metabolism, Therapeutic Uses and Deficiency.

II. Write Notes on:

(8 x 5 = 40)

1. Explain about the causes and pathology of end stage renal disease.
2. Describe the lab diagnosis and prevention of HIV infection.
3. Discuss about vascular disease in renal.
4. Classify Oral anticoagulants.
5. Discuss about acute pyelonephrities.
6. Thyroid and Anti Thyroid Drugs.
7. Discuss about Hemodialysis.
8. Write in detail about necrosis and its types.

III. Short Answers on:

(10 x 3 = 30)

1. Intercellular accumulations of pigments.
2. Define Marasmus and Kwashiorkor.
3. Sources of drugs.
4. Name three osmotic diuretics.
5. Name renal function test.
6. Autoimmune Diseases.
7. Pneumoconiosis.
8. Gram staining.
9. Culture media.
10. Sterilization.

B.Sc. DIALYSIS TECHNOLOGY

SECOND YEAR

**PAPER I – MICROBIOLOGY I & II, PATHOLOGY I & II AND
PHARMACOLOGY**

Q.P. Code: 801331

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Describe the types, colour codes and methods of Biomedical Waste management?
2. Explain details about cellular adaption, cell injury and cell death.
3. Pathogenicity of viruses relevant in the dialysis patient including mode of infection, Vaccination and universal precautions.

II. Write Notes on:

(8 x 5 = 40)

1. Explain detailed about HbsAg.
2. Immunity.
3. Personal Protective Equipment.
4. Calcium Channel blockers.
5. Drugs used in Kidney disease and Dialysis.
6. Inflammation.
7. Moist Heat Sterilization.
8. Discuss about the Candida albicans.

III. Short Answers on:

(10 x 3 = 30)

1. Laboratory diagnosis of HIV.
2. Apoptosis.
3. Renal vascular disorder.
4. ESRD.
5. List some organisms causing Blood Borne Infections.
6. How will you differentiate Gram positive and Gram negative bacteria?
7. Types of Renal Calculi.
8. Poly cystic kidney.
9. SLE syndrome.
10. Define Sterilization.

B.Sc. DIALYSIS TECHNOLOGY

SECOND YEAR

**PAPER I – MICROBIOLOGY I & II, PATHOLOGY I & II AND
PHARMACOLOGY**

Q.P. Code: 801331

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. List the renovascular diseases. Write in detail about the pathology and clinical features of nephrosclerosis?
2. Explain details about anti hypertension drugs and classification action dosage adverse effects?
3. Write in details about morphology, pathogenesis, modes of transmission, prevention and laboratory diagnosis of HIV?

II. Write Notes on:

(8 x 5 = 40)

1. Common pathogen causing vascular access infection and prevention.
2. Write notes on culture media with suitable example.
3. Personal protective equipment.
4. Write about peritoneal dialysis.
5. Discuss about UTI infection.
6. Classification of renal disease.
7. Gram staining procedure.
8. Immunity.

III. Short Answers on:

(10 x 3 = 30)

1. Vitamin K.
2. How to collect blood for blood culture and transport to microbiology lab?
3. Pathology of chronic kidney disease.
4. Diabetic nephropathy.
5. Side effects of protamine sulphate.
6. Parasitic infection with examples.
7. Erythropoietin.
8. Hepatitis C virus.
9. Retinol.
10. Name three chemical carcinogens.

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

[AHS 0321]

MARCH 2021

Sub. Code: 1331

(AUGUST 2020 EXAM SESSION)

B.Sc. DIALYSIS TECHNOLOGY

SECOND YEAR (From 2014-2015 onwards)

PAPER I – MICROBIOLOGY I & II, PATHOLOGY I & II AND PHARMACOLOGY

Q.P. Code : 801331

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. List of High Ceiling Diuretics. Write in details about the mechanism of action, uses and adverse effects of Furosemide.
2. Write in details about morphology, pathogenesis, modes of transmission, prevention and laboratory diagnosis of HIV?
3. Describe the types, Colour codes and methods of Biomedical Waste management?

II. Write Notes on:

(8 x 5 = 40)

1. Renal vascular disorder.
2. Moist Heat Sterilization.
3. Discuss about Urinary Tract Infection.
4. Acute Pyelonephritis.
5. Personal Protective Equipment.
6. Anticoagulation.
7. Water Soluble Vitamins.
8. Hyperkalemia.

III. Short Answers on:

(10 x 3 = 30)

1. Vitamin K.
2. Neoplasia.
3. Glomerulonephritis.
4. Candida albicans.
5. Name three Chemical Carcinogens.
6. Acute and Chronic inflammation.
7. Heparin.
8. Inflammation.
9. ESRD.
10. Vasopressin.

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

[AHS 0222]

**FEBRUARY 2022
(AUGUST 2021 EXAM SESSION)**

Sub. Code: 1331

**B.Sc. DIALYSIS TECHNOLOGY
SECOND YEAR (From 2014-2015 onwards)
PAPER I – MICROBIOLOGY I & II, PATHOLOGY I & II AND PHARMACOLOGY
Q.P. Code : 801331**

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. What are the ways that HIV transmitted? Explain prevention, what does it mean to have a test that results in an HIV diagnosis?
2. What are Genetic disorders and Gene therapy? Explain briefly?
3. Explain briefly about Antihypertensive drugs uses and effects of Angiotensin converting Enzyme Inhibitors?

II. Write Notes on:

(8 x 5 = 40)

1. What is PPE.
2. Urinary Tract Infection.
3. What are the Five stages of Renal Failure.
4. Candida albicans.
5. Describe Morphology, Mode of Transmission, Pathogenicity and Prevention of Hepatitis B Virus.
6. What is a Gene Mutation and how do Mutations occur.
7. Water Soluble Vitamins.
8. Thiazide Diuretics.

III. Short Answers on:

(10 x 3 = 30)

1. Define Sterilization and Disinfection with examples.
2. Biomedical Waste Management
3. Differentiate between sterile and Antiseptic techniques
4. Hypersensitivity, Explain with types?
5. Medical management of Renal Calculi
6. Protamine Sulphate
7. Types of Mechanisms of Cell injury
8. Poly cystic Kidney.
9. Normal Karyotype.
10. What drugs are used to treat Parasitic infections?

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

[AHS 0922]

SEPTEMBER 2022

Sub. Code: 1331

(FEBRUARY 2022 & AUGUST 2022 EXAM SESSIONS)

B.Sc. DIALYSIS TECHNOLOGY

SECOND YEAR (Regulation from 2014-2015)

PAPER I – MICROBIOLOGY, PATHOLOGY I & II AND PHARMACOLOGY

Q.P. Code : 801331

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Clinical manifestations, evaluation and staging of renal cell carcinoma.
2. Write in details about the morphology, mode of transmission, pathogenesis and laboratory diagnosis of HIV.
3. Explain briefly about classification of Diuretics, mechanism of action, dosage, side effects and contraindications.

II. Write Notes on:

(8 x 5 = 40)

1. Blood culture.
2. Define Gram Positive and Gram Negative cell wall with suitable examples.
3. Diabetic Nephropathy.
4. Water Soluble Vitamins.
5. Protamine sulphate.
6. Candida albicans clinical features and Laboratory diagnosis.
7. Define Immunity with types.
8. PPE.

III. Short Answers on:

(10 x 3 = 30)

1. Biomedical Waste Management.
2. Normal Karyotype.
3. Name two sterilization methods and uses.
4. Mode of transmission of Hepatitis B Virus.
5. Principle of Gram staining.
6. Urinary Tract Infection.
7. Define Carcinogens with examples.
8. Poly cystic kidney.
9. Hypersensitivity and their types.
10. Immunofluorescence.

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

[AHS 0423]

APRIL 2023

Sub. Code: 1331

B.Sc. DIALYSIS TECHNOLOGY

SECOND YEAR - (Regulations 2014-2015 & 2018-2019 onwards)

PAPER I – MICROBIOLOGY I & II, PATHOLOGY I & II AND PHARMACOLOGY

Q.P. Code: 801331

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Describe in detail the Sampling methodologies for Culture and Sensitivity.
2. Explain in detail about acute and Chronic Inflammation and consequences of excessive Inflammation.
3. Classify Antihypertensives. Describe its actions, side effects and contraindications with special reference to Dialysis.

II. Write notes on:

(8 x 5 = 40)

1. Mode of Spread, precautions and prophylaxis of Hepatitis C virus.
2. Pathogenesis and clinical features of Bacterial infection of Urinary tract.
3. Opportunistic Fungal infections.
4. Hospital Acquired Infections.
5. Reversible and irreversible cell injury.
6. Neoplasia.
7. Congenital abnormalities of urinary system.
8. Therapeutic values of Vitamin with examples.

III. Short answers on:

(10 x 3 = 30)

1. Yeast infections.
2. How to identify viruses?
3. Transmission routes of HIV.
4. Apoptosis.
5. Cells involved in immunity.
6. Name three causes of Peritonitis.
7. Clinical features of tumours.
8. Heparin.
9. Dosage and side effects of Diuretics.
10. Drugs used in Hypotension.

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

[AHS 1123]

NOVEMBER 2023

Sub. Code: 1331

B.Sc. DIALYSIS TECHNOLOGY

SECOND YEAR - (Regulations 2014-2015 & 2018-2019 onwards)

PAPER I – MICROBIOLOGY, PATHOLOGY I & II AND PHARMACOLOGY

Q.P. Code: 801331

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Describe about Opportunistic infections and add a note on its complications to a Dialysis Patient.
2. Explain in detail about Cellular Adaptation, Cell Injury and Cell Death.
3. Classify Diuretics. Describe its actions, side effects and contraindications.

II. Write notes on:

(8 x 5 = 40)

1. Vascular access infections and its prevention.
2. Renal Vascular disorder.
3. Hyperkalemia.
4. Protamine sulphate.
5. Acute Pyelonephritis.
6. Vitamins of therapeutic value.
7. Inflammation and its types.
8. Difference between Gram Positive and Gram Negative Bacterial Cell Wall with diagram.

III. Short answers on:

(10 x 3 = 30)

1. Renal Calculi.
2. Define Sterilisation and Disinfection with examples.
3. Erythropoietin.
4. Calcium Channel Blockers.
5. Cells involved in Immunity.
6. Name three causes of peritonitis.
7. Laboratory diagnosis of Urinary Tract Infections.
8. Diabetic Nephropathy.
9. Name six Oncogenic Viruses.
10. Mode of Transmission of Hepatitis B Virus.

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

[AHS 0424]

APRIL 2024

Sub. Code: 1331

B.Sc. DIALYSIS TECHNOLOGY
SECOND YEAR - (Regulations 2014-2015 & 2018-2019 onwards)
PAPER I – MICROBIOLOGY, PATHOLOGY I & II AND
PHARMACOLOGY
Q.P. Code: 801331

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

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

1. Describe in detail about the following:
 - a) Pathogenesis of Candida infection.
 - b) Mode of spread and Vaccination for Hepatitis B virus.
2. Explain in detail about Neoplasia.
3. Classify Diuretics. Describe its actions, dosage, side effects and contraindications of Furosemide.

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

1. Acute Glomerulonephritis.
2. Mechanism and complications of Peritoneal Dialysis.
3. Calcium Channel Blockers.
4. Erythropoietin.
5. Inflammation.
6. Antiseptics and disinfectants with examples.
7. Sampling methodology for sensitivity.
8. Blood borne viral infections.

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

1. Universal precautions for HIV.
2. Difference between Gram Positive and Gram Negative Bacterial Cell wall.
3. Femoral catheter infections.
4. Coronary artery disease.
5. Sclerosing peritonitis.
6. Tubulointerstitial disease.
7. Analogues of Vitamin D.
8. Phenobarbitone.
9. IV fluid therapy.
10. Composition of Peritoneal dialysis fluid.

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

[AHS 1125]

NOVEMBER 2025

Sub. Code: 1331

B.Sc. DIALYSIS TECHNOLOGY

SECOND YEAR - (Regulations 2014-2015 & 2018-2019 onwards)

PAPER I – MICROBIOLOGY, PATHOLOGY I & II AND PHARMACOLOGY

Q.P. Code: 801331

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Classify the causes of Chronic kidney diseases. Add a note on pathology of Kidney in hypertension and diabetes mellitus.
2. Write in detail about morphology, pathogenesis, modes of transmission, prevention and laboratory diagnosis of HIV.
3. Explain in detail about Dialyzable drugs.

II. Write notes on:

(8 x 5 = 40)

1. Urinary tract infections.
2. Morphology, mode of transmission, pathogenicity and prevention of Hepatitis B virus.
3. Continuous Ambulatory Peritoneal dialysis (CAPD) care and exit site infections.
4. Angiotensin Converting Enzyme inhibitors.
5. Neoplasia and its types.
6. Renal Calculi.
7. Disinfectants.
8. Thiazide diuretics.

III. Short answers on:

(10 x 3 = 30)

1. Sodium hypochlorite.
2. Personal Protective Equipment (PPE).
3. Hepatitis C.
4. IV fluid therapy with special emphasis in renal diseases.
5. Sterilization in Dialysis machine.
6. Vitamin D.
7. Host defense against tumours.
8. Glomerular diseases – causes, types and pathology.
9. Advantages of Low molecular weight heparin.
10. Intercellular accumulations.
