



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH
(A DEEMED TO BE UNIVERSITY)

B.Sc. Allied Health Sciences Third Year (Semester- VI)

November 2024 Examination

B.Sc. Renal Dialysis Technology (RDT)

Time: 3 Hrs.

Paper – I

[Max.Marks: 100]

APPLIED DIALYSIS TECHNOLOGY

Q.P Code: J6541

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Enumerate the acute complication of hemodialysis. What is intradialytic hypotension? How to manage intradialytic hypotension? How to prevent intradialytic hypotension.
2. Explain briefly about mechanical complication of peritoneal dialysis.

SHORT ESSAY (Any ten)

10 X 5 = 50 Marks

3. Write about dialysis adequacy tests and the targets for Hemodialysis and peritoneal dialysis.
4. What is sodium modelling? What are the different methods of sodium modelling?
5. Explain the anticoagulation techniques used in Hemodialysis.
6. What are the factors favouring clotting of the extra-corporeal circuit? What are the signs of clotting in the extra-corporeal circuit?
7. What is peritoneal equilibrium test (PET)? Explain the transport characteristic of peritoneum.
8. Adequacy of Dialysis.
9. Type of heparin preferred in Hemodialysis – unfractionated heparin vs. low molecular weight heparin and why?
10. Draw, label and explain the Hemodialysis circuit.
11. Dialysis disequilibrium syndrome.
12. What are the routine blood test done monthly and 3 months in dialysis patients?
13. Explain Sodium profiling.
14. Explain Ultrafiltration profiling.

SHORT ANSWERS (Any ten)

10 X 3 = 30 Marks

15. Define Dialysis, Acute Kidney Injury, And Chronic Kidney Disease.
16. Composition of dialysate solution.
17. Mention normal values of serum creatinine, sodium, blood urea.
18. Mention 3 organism cause peritonitis
19. Ultrafiltration failure in peritoneal dialysis.
20. Management of hypotension during dialysis.
21. Advantages of hemodialysis over peritoneal dialysis.
22. What is conductivity?
23. Mention causes of anemia in dialysis.
24. What is renalin? Mention the composition and uses.
25. Define diffusion, osmosis, and ultrafiltration.
26. What are types of peritoneal equilibrium test (PET)

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Time: 3 Hrs.

Paper – II

[Max.Marks: 100]

APPLIED DIALYSIS TECHNOLOGY

Q.P Code: J6542

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Write briefly about chronic kidney disease- mineral and bone disorder.
2. List components of a Water treatment plan for a dialysis unit in sequence with suitable diagrams. Write in detail about the following components: Carbon filter, Reverse osmosis and the Deionizer.

SHORT ESSAY (Any ten)

10 X 5 = 50 Marks

3. Discuss about control of infections (universal precautions) in dialysis unit.
4. Why aluminium harmful to a patient on hemodialysis.
5. What is the daily dietary recommendation for hemodialysis and peritoneal dialysis patient for protein (g/kg), calories, carbohydrate, fat, sodium, potassium, phosphorus?
6. What is disequilibrium syndrome? How will you manage it?
7. Mention various Iron preparations. Complications of using iron injections.
8. Write a short note on hemodialysis.
9. Explain psychological problems in dialysis patients.
10. Write briefly about telemedicine in dialysis practice.
11. Hypertension management during dialysis
12. Write brief note on Online dialysis.
13. Diet in a patient on maintenance hemodialysis
14. Write brief note on Daily dialysis.

SHORT ANSWERS (Any ten)

10 X 3 = 30 Marks

15. Define dialysis and its principles.
16. Carbon filters in water purification.
17. Complications of central venous catheterisation.
18. Protocol and Role of Hepatitis B vaccination in HD patients.
19. First use syndrome in haemodialysis.
20. Dialysis management of Lithium poisoning.
21. Complications of plasmapheresis.
22. Extra corporeal Immunoabsorption.
23. Ultrafiltration failure in peritoneal dialysis.
24. High flux dialysis.
25. Automated versus manual reuse of dialyzers.
26. What is ultrapure water?



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Time: 2.30 Hrs.

Paper – I

[Max.Marks: 80]

APPLIED DIALYSIS TECHNOLOGY

Q.P Code: K6511

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Enumerate the acute complication of hemodialysis. What is intradialytic hypotension? How to manage intradialytic hypotension? How to prevent intradialytic hypotension.
2. Explain briefly about mechanical complication of peritoneal dialysis.

SHORT ESSAY

6 X 5 = 30 Marks

3. Write about dialysis adequacy tests and the targets for hemodialysis and peritoneal dialysis.
4. What is sodium modelling? What are the different methods of sodium modelling?
5. Explain the anticoagulation techniques used in Hemodialysis.
6. What are the factors favouring clotting of the extra-corporeal circuit? What are the signs of clotting in the extra-corporeal circuit?
7. Type of heparin preferred in Hemodialysis – unfractionated heparin vs. low molecular weight heparin and why?
8. Draw, label and explain the hemodialysis circuit.

SHORT ANSWERS

10 X 3 = 30 Marks

9. Define Dialysis, Acute Kidney Injury, Chronic Kidney Disease.
10. Composition of dialysate solution.
11. Mention normal values of serum creatinine, sodium, blood urea.
12. Mention 3 organism cause peritonitis
13. Ultrafiltration failure in Peritoneal dialysis.
14. Management of hypotension during dialysis.
15. Advantages of hemodialysis over peritoneal dialysis.
16. What is conductivity.
17. Mention causes of anemia in dialysis.
18. What are types of Peritoneal equilibrium test (PET).

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Paper – II

[Max Marks: 80]

Time: 2.30 Hrs.

APPLIED DIALYSIS TECHNOLOGY

Q.P Code: K6512

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Elaborate the causes of anaemia in a patient on Hemodialysis and management.
2. List components of a Water treatment plant for a dialysis unit in sequence with suitable diagrams & explain in detail about each component.

SHORT ESSAY

6 X 5 =30 Marks

3. Discuss about control of infections (universal precautions) in dialysis unit.
4. Why aluminum harmful to a patient on hemodialysis.
5. Write briefly about renal osteodystrophy.
6. Write brief note on wearable artificial kidney.
7. What is the daily dietary recommendation for Hemodialysis and peritoneal dialysis patient for protein (g/kg), calories, carbohydrate, fat, sodium, potassium, phosphorus?
8. Mention various Iron preparations. Complications of using iron injections.

SHORT ANSWERS

10 X 3 = 30 Marks

9. Define dialysis and its principles.
10. Complications of central venous catheterisation.
11. Protocol and Role of Hepatitis B vaccination in HD patients.
12. First use syndrome in haemodialysis.
13. Dialysis management of Lithium poisoning.
14. Complications of plasmapheresis.
15. Ultrafiltration failure in peritoneal dialysis.
16. High flux dialysis.
17. Automated versus manual reuse of dialyzers.
18. What is ultrapure water & write AAMI criteria of water used in Hemodialysis.

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