Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Renal Dialysis Technology Degree Examination – 30-May-2024

Time: Three Hours | Max. Marks: 100 Marks

APPLIED RENAL DIALYSIS TECHNOLOGY – I (RS2)

Q.P. CODE: 2918

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. Discuss about various types of vascular access used in dialysis patients.
2. Explain the causes, peritonitis diagnosis, management and prevention of the same.
3. Enumerate acute complications of hemodialysis. What is intradialytic hypotension? Discuss about causes management and prevention of intradialytic hypotension.

SHORT ESSAYS (Answer any Ten) — 10 x 5 = 50 Marks

4. Compare hemodialysis and peritoneal dialysis.
5. Define dialysis adequacy. Explain Kt/V & URR.
6. Discuss withdrawal criteria in acute dialysis setting.
7. Discuss the factors affecting diffusion in hemodialysis.
8. Explain mechanical and metabolic complications of peritoneal dialysis.
9. With a neat labelled diagram, explain Hollow Fibre Dialyzer and blood lines used for hemodialysis.
10. Explain different Osmotic agents used in peritoneal dialysis solutions and its advantages and disadvantages.
11. Explain indications for dialysis.
12. Discuss history of dialysis.
13. Describe anticoagulation technique used during hemodialysis.
14. Explain peritoneal equilibration test (PET).
15. Write briefly about long term complications of hemodialysis.

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

16. Define clearance in hemodialysis.
17. What are the normal values of serum creatinine, serum potassium and Blood Urea Nitrogen (BUN)?
18. Define osmosis.
19. Explain the procedure for Allen test.
20. Importance of counter-current and co-current flow configuration during dialysis.
21. Name three drugs used to treat catheter related blood stream infection.
22. What is reflection coefficient in peritoneal dialysis?
23. List steps of AV fistula cannulation.
24. What are the immediate complications of dialysis catheter insertion?
25. List three symptoms of steal syndrome.
26. Explain biocompatibility.
27. Define ultrafiltration coefficient.

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III Year B.Sc. Renal Dialysis Technology Degree Examination – 30-May-2024

Time: Three Hours Max. Marks: 100 Marks

APPLIED DIALYSIS TECHNOLOGY – PAPER I (RS-3)

Q.P. CODE: 3305

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

LONG ESSAYS (Second Question Choice) 2 x 10 = 20 Marks

1. Explain procedure of CAPD and what is tidal PD?
2. Classification, causes of chronic kidney disease
   OR
   Explain the blood circuit of HD apparatus with neat labelled diagram

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

3. Mention the different types of chronic PD catheters and also mention advantages and disadvantages of each type
4. Initial cannulation procedure for AVF
5. Heparin free dialysis
   OR
   Refractory peritonitis
6. Mention the different common location of AVG and also explain physical examination of AVG
7. Automated dialyzer reuse
8. Exit-site tunnel infection
9. Types of cuffed catheters and write its advantages
10. Chronic dialysis withdrawal criteria
    OR
    Encapsulating peritoneal sclerosis
11. Common complications of temporary venous access
12. Three-pore model

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

13. What is amount of proteins in lost in CAPD and hemodialysis during each session?
14. Bypass valve in HD and its importance
15. Mention any three indications for PD
    OR
    Who is William Kolff and what is contribution to dialysis?
16. Access recirculation
17. Management of exist-site infection in PD
18. How to assess whether frustrate is matured?
    Or
    Management for anemia in CKD patients.
19. Common complications of heparin
20. Define diffusion, osmosis and ultrafiltration
    OR
    Mention any three major complications during HD
21. What is the ideal blood flow rate during regular dialysis and first few dialysis? Give reasons
22. Mention any three advantages of PD

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III Year B.Sc. Renal Dialysis Technology Degree Examination – 03-Jun-2024

Time: Three Hours | Max. Marks: 100 Marks

APPLIED RENAL DIALYSIS TECHNOLOGY – II (RS2)

Q.P. CODE: 2919

Your answer 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 continuous renal replacement therapy (CRRT)? What are the types of CRRT? What are the indications of CRRT?
2. List various extra-corporeal treatment available for management of poisoning. Explain hemoperfusion.
3. What is plasmapheresis? Elaborate on the procedure and indications for plasmapheresis.

SHORT ESSAYS (Answer any Ten) 10 x 5 = 50 Marks

4. Precautions for dialysis of HBsAg positive patients.
5. Explain hemodiafiltration.
6. Sustained low efficiency dialysis (SLED) indications and prescriptions.
7. Explain Molecular Adsorbent Recirculating System (MARS) with diagram.
8. Causes and management of anemia during dialysis.
9. Explain the advantages of technical consideration of Nocturnal hemodialysis.
10. Explain different modalities of peritoneal dialysis.
11. Psychosocial issues in dialysis patient.
12. Management and prevention of Aluminium toxicity in dialysis patients.
13. Discuss about Phosphate binders used in dialysis patients.
14. Dialysis a pregnant patient with renal failure.
15. Difference between direct feed and indirect feed in RO water distribution system. How to disinfect water distribution system.

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

16. Adynamic bone disease.
17. Advantages of telemedicine in dialysis practices.
18. What is the function of carbon filter in water treatment plant?
19. Precautions while using Deionizer in water treatment plant.
20. How to calculate blood volume in pediatric patients.
21. Allowed range of Chlorine and Chloramine in water for hemodialysis as per AAMI standards.
22. Name some chemical substances which are used for disinfection during dialyser reuse?
23. Disadvantages of dialyzer reuse.
24. Differences between low flux and high flux dialyzer.
25. Mention three replacement fluids used during plasmapheresis.
26. Write three examples of dialyser used for infants and children and its priming volume.
27. Maximum allowed limit of endotoxin and bacterial contaminations in ultrapure dialysis solution as per AAMI.

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III Year B.Sc. Renal Dialysis Technology Degree Examination – 03-Jun-2024

Time: Three Hours Max. Marks: 100 Marks

Applied Dialysis Technology – Paper -II (RS-3)

Q.P. CODE: 3306

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. Enumerate the precautions taken while dialyzing a patients of Hepatitis B and Hepatitis C.
2. Explain in detail dialysis modalities for paediatric patients.
   OR
   Explain the procedures for dialyser priming and how to test whether priming is adequate.

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

3. Discuss the causes of hypertension in dialysis patients and how do you manage it.
4. Describe reverse osmosis.
5. Discuss dialysis in diabetic patients.
   OR
   What is home hemodialysis? What are its advantages and disadvantages?
6. Explain depression in dialysis patients.
7. Discuss diet recommendations for patients on peritoneal dialysis.
8. Describe membrane plasma separation technique.
9. Explain MARS.
10. Discuss telemedicine in dialysis practice.
    OR
    Explain online hemodiafiltration.
11. Discuss the prescriptions of sustained low efficiency dialysis.
12. List apparatus for hemoperfusion and write its standard prescription.

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

13. Write method of preparing bicarbonate based CRRT solutions when pre packed solutions are not available.
14. Write principle of plasmapheresis.
15. What are the water contaminants causing anaemia in dialysis patients?
    OR
    List three drugs that reduce serum phosphate levels.
16. List four commonly used drugs for treating hypertension.
17. What is aluminium toxicity? Write two causes of it in dialysis patients.
18. How do you manage blood spill in dialysis room?
19. Explain pre dilution of dilution of replacement solution in CRRT.
20. Causes of renal anaemia.
    OR
    What is Darbipoietin and its uses.
21. Explain charocal filter in water purification system.
22. Write a note on ultrapure dialysate.

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Correction 25.11.2024 Morning

Q.P Code:3306

Replace the question No. 1as

1.

Define acute kidney injury (AKI), its classification and common causes of AKI

Or

What is Anemia? List the causes, diagnosis and management of anemia in CKD patients.

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III Year B.Sc. Renal Dialysis Technology Degree Examination – 22-Nov-2024

Time: Three Hours Max. Marks: 100 Marks

Applied Dialysis Technology – Paper -I (RS-3)

Q.P. CODE: 3305

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. Discuss about various types of permanent vascular access used in hemodialysis.
2. Describe various types of anticoagulation protocols in hemodialysis unit.
   OR
   Explain anatomy and physiology of peritoneal dialysis. Explain peritoneal equilibration test.

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

3. Define UFF in peritoneal dialysis patients and explain its management.
4. Define dialysis adequacy. Explain Kt/v & URR.
5. Discuss withdrawal criteria of dialysis.
   OR
   Discuss diffusion in dialysis.
6. Draw a neat labelled diagram of extracorporeal blood circuit of hemodialysis apparatus and describe the same.
7. Discuss Hollow Fibre Dialyzer.
8. Explain different osmotic agents used in peritoneal dialysis patients.
9. Discuss management of prevention of peritonitis in peritoneal dialysis patients.
10. Discuss history of dialysis.
    OR
    Indications of clotting in extracorporeal circuit.
11. Write a note on Type a dialyzer reactions
12. Write briefly about long term complication of hemodialysis.

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

13. List any six advantages of peritoneal dialysis over hemodialysis.
14. What are the normal value of serum creatinine, serum potassium and blood urea?
15. Define osmosis.
    OR
    Explain the procedure for Allen test.
16. What is counter current and co-current flow of dialysate.
17. Name three drugs used to treat catheter related blood stream infection.
18. List any three urgent indications of dialysis.
19. Steps of AV fistula cannulation.
20. **Name 3 advantages of Dialyzer reuse**
    OR
    Define dry weight.
21. Explain biocompatibility.
22. Define ultrafiltration coefficient.

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Renal Dialysis Technology Degree Examination – 25-Nov-2024

Time: Three Hours | Max. Marks: 100 Marks

Applied Dialysis Technology – Paper -II (RS-3)

Q.P. CODE: 3306

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

LONG ESSAYS (Second Question Choice) 2 x 10 = 20 Marks

1. Define acute kidney injury (AKI), its classification and common causes of AKI
   Or
   What is Anemia? List the causes, diagnosis and management of anemia in CKD patients.
2. Describe water treatment plant. Illustrate with diagram
   OR
   What are various continuous dialysis therapies?

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

3. Explain plasmapheresis procedure
4. Aluminium toxicity
5. What is home haemodialysis set up?
   OR
   Usefulness of telemedicine in dialysis
6. Enumerate various modification of dialysis prescription in pregnant women
7. Explain importance of Basic Course in Life support (BCLS).
8. Vaccination in dialysis patient
9. Haemoperfusion in poisoning
10. Describe problem encountered in diabetic dialysis patient
    OR
    Causes and management of hypotension in dialysis patient
11. Note on HDF
12. Explain MARS in brief

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

13. Universal precautions
14. Causes of seizures in HD
15. How does contaminated water affect the dialysis patient?
    OR
    Three causes of malnutrition in HD patients
16. Functions of carbon filter
17. What are acceptable Endotoxin levels in water for HD?
18. Causes of sudden death in HD patient
19. Psychosocial problem in dialysis patient
20. Sorbent dialysis
    OR
    SCUF
21. Causes of amyloidosis
22. Different types of ESA used in the treatment of anaemia

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