SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

B.Sc. Allied Health Sciences Second Year (Semester-III)

February – 2016 Examination

B.Sc. Renal Dialysis Technology (RDT)

Time : 3 Hrs. **[Max. Marks : 100]**

PAPER-I

Applied Anatomy & Physiology Related to Dialysis Technology

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

(Use separate answer booklet for Section A & B)

Section – A

Applied Anatomy Related to Dialysis Technology (50 marks)

Q.P. Code : AHS - 134

LONG ESSAY **2 X 10 = 20 Marks**

1. Describe the kidney under the following headings.
   a) coverings b) morphology c) relations
2. Describe the urinary bladder under the following headings.
   a) Morphology b) relations c) arterial supply d) nerve supply

SHORT ESSAY (Answer any three) **3 X 5 = 15 Marks**

3. Anastomosis around the elbow joint.
4. Development of secretory and collecting parts of the kidney.
5. Lesser sac.
6. Branches of the external carotid artery.
7. Juxtaglomerular apparatus.

SHORT ANSWERS (Answer any five) **5 X 3 = 15 Marks**

8. Femoral canal.
9. Divarication of recti.
10. Carotid sinus.
11. Hesselbach's triangle.
12. Varicose veins.
13. Pouch of douglas.
14. Transitional epithelium.

Section - B

Applied Physiology Related to Dialysis Technology (50 Marks)

Q.P. Code : AHS - 135

(Use separate answer booklet for Section A & B)

LONG ESSAY **2 X 10 = 20 Marks**

1. Explain the location and functioning of bicarbonate buffer system.
2. Explain intrinsic pathway for initiating blood clotting. Add a note on prothrombin time.

SHORT ESSAY (Answer any three) **3 X 5 = 15 Marks**

3. Give normal value of glomerular filtration rate. Explain the effect of afferent and efferent arteriolar lumen size on glomerular filtration rate.
4. What is the cause for renin secretion. How angiotensin II is formed.
5. Explain the role of kidney tubules in urine formation.
6. What is renal autoregulation of blood flow. What is its physiological significance.
7. What are the salient feature of the substance suitable for measuring GFR by determining its clearance. Give two examples.

SHORT ANSWERS (Answer any five) **5 X 3 = 15 Marks**

8. What is the normal lowest possible P^H of the renal tubules. Which buffer system prevents its further fall.
9. Name two solutes which do not have upper limit for transport maximum. Give reason.
10. Give the arteriovenous oxygen difference in kidney and its significance.
11. What is thrombocytopenia. Name the test for it and give its normal value.
12. What is renal erythropoietic factor. What is its function.
13. What is hyperkalemia. List four major causes.
14. What are the calcium supplements to be provided to the chronic renal disease patient and why?

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B.Sc. Renal Dialysis Technology (RDT)

Time : 2.30 Hrs. **Paper - II** **[Max. Marks : 80]**

Pharmacology Related to Dialysis Technology

Q.P. Code: AHS- 136

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

LONG ESSAY **2 X 10 = 20 Marks**

1. Classify drugs used in hypertension. Write the mechanism of action, therapeutic uses and adverse effects of angiotensin converting enzymes (ACE) Inhibitors.
2. Enumerate different intravenous fluids. Give the composition, uses and adverse effects of any two.

SHORT ESSAY (Answer any Six) **6X 5 = 30 Marks**

3. Explain the mechanism of action, uses and adverse effects of Loop diuretics.
4. Explain the Factors determining drug dialyzability.
5. Vitamin A.
6. Vasopressors - Enumerate and list their indications.
7. Vitamin D in therapy.
8. Erythropoietin.
9. Drugs and their dosages used in dialysis.
10. Phosphate binders.

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

11. Drugs used in hypotention.
12. Name three drugs causing acute kidney injury (AKI).
13. Name two oral and two parenteral preparations used in iron deficiency anaemia.
14. Phenobarbitone.
15. Mention three uses of vasopressin analogues.
16. Two examples and two uses of potassium sparing diuretics.
17. Uses of Folic acid.
18. Name three analgesics safely used in renal failure.
19. Vancomycin.
20. Management of methanol poisoning.
21. Desferrioxamine.
22 Ranitidine.

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B.Sc. Allied Health Sciences Second Year (Semester-III)

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B.Sc. Renal Dialysis Technology (RDT)

Time: 2.30 Hrs. **Paper - III** **[Max. Marks: 80]**

Concept of Renal Disease & Its Management

Q.P. Code: AHS-137

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

LONG ESSAY **2 X 10 = 20 Marks**

1. Write about nephrotic syndrome under following headings
   a) Definition, b) Six causes, c) Complications of nephrotic syndrome, d) management of nephotic syndrome.
2. Define CKD. What are the stages of CKD? Write about Mineral bone disease in CKD and indication of dialysis in CKD.

SHORT ESSAY (Answer any Six) **6X 5 = 30 Marks**

3. Define AKI. Classify AKI. How do you manage hyperkalemia in patient with AKI?
4. What is nephritic syndrome? Write six causes of nephritic syndrome and its management.
5. Write about classification of UTI? Briefly write about cystitis.
6. Discuss obstructive uropathy under definition, causes, clinical features, management.
7. What is the diet advice given in following subset of patients:
   a)Patients with high potassium, b) patients with hypertension, c) patients with CKD not on dialysis, d) patients with high uric acid.
8. How does lifestyle, diet habits and drug addiction impact kidneys?
9. What is erythropoietin? Write about causes, complications and management of anemia in chronic renal failure.
10. Define hematuria. Write six causes of hematuria.

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

11. What are diuretics? Mention two diuretics. Mention four indications for their use.
12. What is hypertension? What are the stages of hypertension?
13. Write about food adulteration and its impact on kidney health.
14. What is subnephrotic proteinuria? Write four causes.
15. What are the functions of kidney?
16. RIFLE criteria.
17. What is acidosis? What is the role of kidney in maintaining acid base homeostatsis?
18. What is hyperkalemia? Mention four causes.
19. Management of hyperkalemia.
20. What are the indication for dialysis in AKI?
21. Three causes of pedal edema.
22 Three dialisable drugs.

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