

August, 2015

STATE MEDICAL FACULTY OF WEST BENGAL

**Preliminary Examination
For Diploma in Dialysis Technique : Dialysis Technician Course**

**PAPER – I
Normal Renal Function & Its Derangement**

Time : 3 Hours

Full Marks : 80

*Question 1 is Compulsory.
Answer any Two from Question No. 2 to 5 and any Four from Question No. 6*

Q-1) Answer all the following:

10x1 = 10

- i) The commonest investigation to assess Kidney size is:
a) CT Scan
b) MRI
c) Palpation by hand
d) USG
- ii) Heart block is caused by:
a) Hyperphosphatemia
b) Hyponatremia
c) Hyperkalemia
d) Hyponatremia
- iii) Stage III CKD means GFR (ml/min/1.73m²) between:
a) 30 and 59
b) 15 and 29
c) More than 90
d) 60 and 89
- iv) Cockcroft-Gault Formula is used for:
a) Estimation of GFR
b) Assessment of Nutrition
c) Estimation of Kidney size
d) Detection of bone disease
- v) Which of the following has got longest half life?
a) Darbopoietin
b) Erythropoietin alpha
c) Erythropoietin beta
d) CERA
- vi) All are side effects of Heparin, except:
a) Pruritus
b) Hypokalemia
c) Bleeding
d) HIT
- vii) Granular cells of the afferent arteriole secrete:
a) Erythropoietin
b) Thyroxine
c) Renin
d) None of the above
- viii) Normal Kidney size is:
a) 9 – 12 cm
b) 13 – 16 cm
c) 9 – 12 mm
d) 13 – 16 mm
- ix) Hemodialysis solution, Calcium concentration is (Meq/L):
a) 2.5 – 3.5
b) 3.5 – 4.5
c) 0.5 – 1.25
d) 5 – 6.5
- x) In RIFLE criteria, R stands for:
a) Rotation
b) Renal
c) Risk
d) None of the above

Contd.....P2/

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**PAPER – I
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Answer any Two from Question No. 2 to 5 and any Four from Question No. 6

2x20 = 40

Q2. What is GFR? What are the methods of estimation of GFR? Mention the stages of chronic Kidney disease. Mention the symptoms of chronic Kidney disease.

5+5+5+5 = 20

Q3. Mention the common causes of acute Kidney injury and chronic Kidney disease. What are the points that will help you to differentiate between acute and chronic Kidney disease.

10+10 = 20

Q4. What are the common investigations done to diagnose Kidney diseases? What are the absolute indications of initiation of Hemodialysis?

10+10 = 20

Q5. Draw ultrastructure of a Nephron. Mention briefly the functions of different parts of a Nephron.

10+10 = 20

Q6. Write short notes on (**Any Four**):-

4 x 7½ = 30

- a) Signs and symptoms of Snake bite.
- b) Hepatitis B Vaccination.
- c) Softener and Carbon filter.
- d) Side effects of Heparin.
- e) Causes of sudden onset of unconsciousness during Hemodialysis.

Preliminary Examinations
For Diploma in Dialysis Technique : Dialysis Technician Course

PAPER – II
Fundamentals of Dialysis Technique

Time – 3 hours

Full Marks – 80

Question 1 is Compulsory.
Answer any Two from Question No. 2 to 5 and any Four from Question No. 6

Q-1) Answer the following:

10x1 = 10

- i) In a patient with K^+ - 7 meq/L, all are given, except:
 a) Injection Calcium Gluconate c) Injection Ringer Lactate
 b) Inhaled Salbutamol d) Sodium Bicarbonate
- ii) All are used for anticoagulation, except:
 a) Citrate c) Fondaparinux
 b) Low Molecular wt. Heparin d) Vitamin K
- iii) The access site having highest complication rate of AV fistula is planned on the same side:
 a) Subclavian c) Femoral
 b) Internal Jugular d) None of the above
- iv) All of the following is done if Hypotension occurs during Dialysis, except:
 a) Stop UF c) IV Normal Saline
 b) Head end up d) None of the above
- v) The maximum decrease in Total Cell Volume allowed for Dialyser reuse is:
 a) 20% c) 40%
 b) 30% d) 80%
- vi) AAMI recommendation for product water bacteria and endotoxin:
 a) <100, <0.25 c) <0.1, <0.03
 b) <200, <2.0 d) <0.2, <0.02
- vii) In a water softener:
 a) Na^+ is exchanged for Ca^{2+} and Mg^{2+}
 b) Ca^{2+} is exchanged for Mg^{2+}
 c) K^+ is exchanged for Na^+
 d) Na^+ is exchanged for K^+
- viii) The maximum theoretical clearance of a Dialyser at infinite blood and dialysate flow rate is:
 a) KuF c) eKt/v
 b) KoA d) $Sp Kt/v$
- ix) All of the following may be used to clean Dialysis Unit Pipeline, except:
 a) Puresteril c) Formalin
 b) Ozone d) None of the above
- x) Large particles are removed by:
 a) Carbon filter c) UV
 b) Softener d) Multimedia filter

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**PAPER – II
Fundamentals of Dialysis Technique**

Answer any Two from Question No. 2 to 5 and any Four from Question No. 6

2x20 = 40

Q2. What are the different accesses for Hemodialysis? What are the complications of temporary and permanent access?

10+10 = 20

Q3. Mention with diagram the different components and their functions of a Water Treatment Plant.

20

Q4. What are the different causes of fever with chills and rigor in Hemodialysis patients? What are the measures you will take to prevent infection in Hemodialysis Unit?

5+15 = 20

Q5. Mention the benefits and hazards of Dialyzer reuse. Describe the methods of reuse of a Dialyzer.

8+6+6 = 20

Q6. Write short notes on (**Any Four**):-

4 x 7½ = 30

- a) Steps of starting Hemodialysis through an Internal Jugular line.
- b) Anticoagulants other than Heparin.
- c) Different types of Hemodialysis Machines.
- d) Ultrapure Water.
- e) SLEDD
