

# DIPLOMA IN DIALYSIS TECHNICIAN

## SYLLABUS

### First Year

#### **Theory : 60 Teaching Hours:**

Anatomy & Physiology (normal kidney structure and functions)	: 4 hours
Derangement of kidney functions (aetiology, clinical manifestation, diagnosis of acute and chronic renal failure)	: 8 hours
Dialysis – the concept (Brief history, definition, mechanism)	: 4 hours
Components of Dialysis Access, blood flow, anticoagulant, dialysate)	: 4 hours
Hemodialysis – Basics (Blood circuit: tubing, pump, dialyzer, flow rate, dialysate circuit, concentrates, delivery systems, flow rate)	: 12 hours
Anticoagulation (Heparin, alternatives to Heparin, regional no anticoagulation)	: 8 hours
Vascular access (Temporary, Permanent)	: 8 hours
Dialysis water and water treatment	: 4 hours
Dialysis and Dialyzer (including reuse)	: 4 hours
Hemodialysis machine	: 4 hours

#### **Practical :180 Teaching Hours:**

A. Demonstration : (20 x 3 = 60 Teaching Hours)

Demonstration of -

- A Hemodialysis unit
- Demineralisation plant
- Machine
- Initiation of Dialysis
- Conduction of Dialysis
- Dialysis – closure
- Washing, cleaning, reuse
- Maintenance of hygiene in Dialysis unit
- Access – care
- Anticoagulation

B. Actual participation in Dialysis Procedure : 120 Teaching Hours including clinical evaluation of patient

## **SYLLABUS**

### **Second Year**

A. Complications of Hemodialysis : 12 Hours

- Access related complication
- Dialyzer related complication
- Dialysate related complication
- Anticoagulant related complication
- Machine/Blood Pump associated complication
- Special type of complication
- Management of complications
- Maintenance of hygiene in Dialysis unit
- Access – core
- Anticoagulation

B. Doses of Hemodialysis : 8 hours

- Duration, index, clearance
- Middle molecules, Urea reduction ratio
- Urea kinetic modeling, Dialysis adequacy

C. Continuous Dialysis : 10 hours

- Continuous arteriovenous hemofiltration
- Continuous venovenous hemofiltration
- Continuous hemodiafiltration
- Continuous slow hemodialysis
- Component, access, tubing, filter, replacement, fluid, Anticoagulation, flow rate.

D. Peritoneal Dialysis : 30 hours

- History, Peritoneal physiology, kinetics technique, catheter, dialysate fluid, insertion procedure, drainage, complication. Continuous peritoneal dialysis procedure, dose.

### ***Practical :160 Teaching Hours:***

- Actual conduction of Hemodialysis : 140 hours
- Actual conduction of Peritoneal Dialysis : 20 hours
- Clinical assessment of patients