

## Syllabus of Diploma in Dialysis Technology

The course shall include the respective subject as given in the table below, the minimum number of hours to be devoted to each subject – lectures and practical shall not be than those against them.

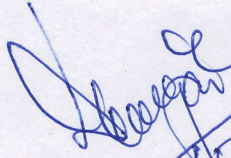
### A FIRST YEAR

S.N.	Subject	Allotment of marks in theory	Oral & Practical
		Including Clinical Assessment )	
1	Paper 1 Normal Renal function and its derangement	100	25+75
2	Paper II Fundamentals of Dialysis Technique	100	25+75
3	Paper III Managing Dialysis Procedure	100	25+75
4	Paper IV Advances in Dialysis	100	25+75
	Total	400	400

All written examination shall be of three hours duration

### B SECOND YEAR

S.N.	Subject	Allotment of marks in theory	Oral & Practical
		Including Clinical Assessment )	
1	Paper 1 Clinical issues with haemodialysis	100	25+75
2	Paper II Doses of Dialysis	100	25+75
3	Paper III continuous Dialysis	100	25+75
4	Paper IV Peritoneal Dialysis With special Dialysis procedure	100	25+75
	Total	400	400

  
2/10/16  
डॉ. धनंजय कुमार  
वरिष्ठ आचार्य एवं विभागाध्यक्ष  
नेफ्रोलोजी विभाग  
सवाई मानसिंह चिकित्सालय, जयपुर

## Syllabus of Diploma in Dialysis Technology

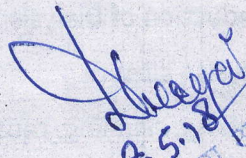
The Course shall include the respective subject as given in the table below, the minimum number of hours to be devoted to each subject-lectures and practical shall not be than those noted against them

Sl No	Subject (1 year)	Allotment of Marks in Theory	Oral & Practical
		(Including Clinical Assessment)	
1.	Paper I: -- Normal Renal Function and its derangement	100	25 + 75
2.	Paper II: Fundamentals of Dialysis Technique	100	25 + 75
3.	Paper III: Managing Dialysis Procedure	100	25 + 75
4.	Paper IV: Advances in Dialysis	100	25 + 75
	<b>Total</b>	<b>400</b>	<b>400</b>

all written examinations shall be of three hours duration.

### 3. Examinations: (2nd year)

Sl No	Subject	Allotment of Marks in Theory	Oral & Practical
		(Including Clinical Assessment)	
1.	Paper I: Normal Renal Function and its derangement <i>Clinical issue</i>	100	25 + 75
2.	Paper II: Fundamentals of Dialysis Technique <i>Dose of Dialysis (inclu HD &amp; other dialysis techs)</i>	100	25 + 75
3.	Paper III: Managing Dialysis Procedure <i>Continuous Dialy techs</i>	100	25 + 75
4.	Paper IV: Advances in Dialysis <i>P.D Dialy &amp; + special</i>	100	25 + 75
	<b>Total</b>	<b>400</b> <i>Dialysis procedus</i>	<b>400</b>

  
 29.5.18  
 डॉ. धनराज अग्रवाल  
 वरिष्ठ आचार्य एवं विभागाध्यक्ष  
 नेफ्रोलोजी विभाग  
 सवाई मानसिंह बिल्डिंग, जयपुर

## 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 30 = 60 Teaching Hours)

Demonstration of

- A Hemodialysis unit
- Demineralisation plant
- Machine
- Intiation of Dialysis
- Conduction of Dialysis
- Dialysis - closure
- Washing, cleaning, reuse
- Maintenance of Hygiene in Dialysis unit
- Access - core

  
डॉ. धनन्जय प्रभुवाल  
वरिष्ठ आचार्य एवं विभागाध्यक्ष  
नेफ्रोलोजी विभाग  
मणई नानसिंह त्रिकेसालय, जयपुर (2)

- Anticoagulation

B. Actual participation in Dialysis Procedure : 120 Teaching Hours including clinical evaluation of patient  
**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
- Maintenance of hygiene in Dialysis unit
- Acces - core
- Anticoagulation

**B. Doses of Hemodialysis : 8 hours**

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

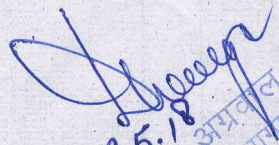
**C. Doses of Hemodialysis : 8 hours**

- Continuous Dialysis : 10 hours
- 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.

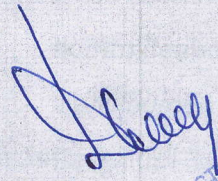
**Practical : 160 Teaching Hours :**

  
25.18  
डॉ. धनन्जय अग्रवाल  
वरिष्ठ आचार्य एवं विभागाध्यक्ष (3)  
सर्वमानसिक विकासालय, जयपुर

- Actual conduction of Hemodialysis : 140 hours
- Actual conduction of peritoneal Dialysis : 120 hours
- Clinical assessment of patients

**List of Books Prescribed**

- **Handbook of Dialysis**  
By John T. Daugirdas (Editor), Peter G. Blalke (Editor), Todd S. Ing (Editor)
- **Actual conduction of peritoneal Dialysis : 120 hours**  
By Judith Z. Kallenbach MSN RN CNN (Author)
- **Peritoneal Dialysis : From basic concepts to clinical excellence**  
By C. Ronco, Carlo Crepaldi, Dinna N. Cruz
- **Basic Clinical Dialysis**  
By David Harris, Grahame Elder, Lukas Kairaitis, Gopala Rangan
- **Replacement of Renal Function by Dialysis**  
By John P Meher
- **Nutritional Considerations in Indian Patients on PD**  
By Aditi Nayak, Akash Nayak, Mayoor Prabhu and K S Nayak
- **Chronic Kidney Disease, Dialysis, and Transplantation**  
BY: Mohamed H. Sayegh (Author), Jonathan Himmelfarb (Author), Mohamed Sayegh (Author), Jonathan, M. D. Himmelfarb (Author), Mohamed H., M.D. Sayegh (Author) Publisher : W.B. Saunders Company

  
 डॉ. धनञ्जय अग्रवाल  
 वरिष्ठ आचार्य एवं विभागाध्यक्ष  
 नैफ्रोलोजी विभाग  
 सवाई मानसिंह चिकित्सालय, जयपुर

# 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

\* addita on extra page

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

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

###### Demonstration of -

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

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

#### 1. Special dialysis procedures:

- a) Continuous therapies in Hemodialysis
- b) Different modalities of peritoneal dialysis
- c) Haemodiafiltration.
- d) Haemoperfusion.
- e) SLED
- f) MARS.
- g) Plasmapheresis:

*Shree*  
2.5.18  
डॉ. धनन्जय रामवाल  
वरिष्ठ आचार्य एवं विभागाध्यक्ष  
नेफ्रोलोजी विभाग  
सवाई मानसिंह चिकित्सालय, जयपुर

## 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
- Actual conduction of Peritoneal Dialysis
- Clinical assessment of patients

: 140 hours

: 20 hours

*S. S. S. S.*  
2.5.18  
डॉ. धनंजय अग्रवाल  
वरिष्ठ आचार्य एवं निभागाध्यक्ष  
नेफ्रोलोजी विभाग  
सवाई मानसिंह चिकित्सालय, जयपुर