



Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore
Shri Vaishnav Institute of Paramedical Sciences
DDT (Diploma in Dialysis Technology)
Syllabus DDT I SEMESTER
Session 2024-2025

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
DDT101	CC	Anatomy & Physiology I	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based on the following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will

CEO1: rationalize the fundamental knowledge of the human body system.

CEO2: understanding detailed functioning about human system histology.

CEO3: gain knowledge about clinical conditions of different body systems.

Course Outcomes (COs): Student should be able to

CO1: understand the human system with emphasis on normal and pathophysiological conditions.

CO2: acquainted with the different body systems and their prime functions.

CO3: Identification of the different clinical conditions with their signs and symptoms.

CO4: Learn some important clinical identification processes of diseases.

Unit-I

Cell:

- Structure of Human Cell: Protoplasm and Nucleus.
- Functions of Human Cells.
- Cellular Transportation.

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Unit-II

Circulatory System I:

- Structure and Functions of Heart.
- Circulations: Systemic, Pulmonary and Different Regional Circulations.
- Heart Sounds.

Unit-III

Respiratory System I:

- Structure and Functions of Lungs.
- Mechanism of Breathing.
- Buffer system for maintenance of pH of the body.

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Unit-IV

Digestive system I:

- Introduction to Digestion
- Structure and Function of Digestive system.
- Different digestive juices and their composition.

Unit-V

Renal system I:

- Structure and Functions of Kidney.
- Structure and Functions of Nephron.
- Juxtaglomerular apparatus.

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***Teacher Assessment** shall be based on the following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will

CEO1: identify various bones present in the human body.

CEO2: develop understanding about vitals of human cardiovascular system and factors affecting them.
systems.

CEO3: understand, analyze and interpret various histological tests for blood.

Course Outcomes (COs): Student should be able to

CO1: understand and identify the human bones with emphasis on general anatomy and general histology.

CO2: distinguish various human bones based on their respective

CO3: memorize and perform various clinical tests.

CO4: analyze and interpret the results of various blood tests.

List of Practical's

- Muscles identification according to their anatomy.
- Identification of Different bones.
- Demonstration and Identification of Different Parts of Circulatory system.
- Demonstration and Identification of Different Parts of Urinary system.

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DDT102	CC	Renal Diseases-I	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will -

CEO1: Conferring basic knowledge about renal diseases.

CEO2: Understanding of how diseases develop.

CEO3: Comprehensive knowledge about treatment of diseases.

CO1: 1. An understanding of pathophysiology of Diseases

CO2: Understanding of the treatment processes in the living system.

CO3: Understanding the mechanism and the importance of dialysis in renal diseases.

Unit I:

Acute renal Failure I:

- Causes, Treatments and Dialysis Management

Unit II:

Vitamins and co-enzymes:

- Functions of water soluble vitamins; Fat soluble Vitamins A, D, E and K.

Unit III:

Chronic Renal Failure I:

- Causes, Treatments and Dialysis Management

Unit IV:

Urinary Tract Infections I:

- Pathogens.
- Pathophysiology

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DDT102	CC	Renal Diseases-I	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Unit V:

Diabetes I:

- Types of Diabetes.
- Causes of Diabetes.
- Insulin action.

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DDT102(P)	CC	Renal Diseases-I (Practical)	00	00	00	30	20	0	0	2	1

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will-

CEO1: understand, analyze and interpret test for macronutrients, blood and Urine.

Course Outcomes (COs): Student should be able to -

CO1: memorize and perform various tests.

CO2: analyze and interpret the results of various tests.

List of Practical's:

1. Demonstration of Pathophysiology of Renal Tissues
2. Sign and Symptoms analysis of Diabetes.
3. Indication and Contraindication analysis of AKD
4. Study of pH meter

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DDT103	CC	Background of Dialysis-I	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Course Objectives

1. To explain the history of Dialysis
2. To provide basic understanding of various stages of evolution of Dialysis.

Course Outcomes

1. Students will be able to understand Dialysis process.
2. Students will be able to understand various types of dialysis processes.

Unit-I

History of Dialysis I

- The early days of Dialysis.
- The first successful dialysis
- The Rotating drum Kidney
- Dialysis and Ultrafiltration.

Unit-II

Types of Dialysis

- What is Dialysis.
- Who needs Dialysis?
- What are the types of Dialysis?

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DDT103	CC	Background of Dialysis-I	60	20	20	0	0	3	0	0	3

Unit III

Precautions of Dialysis

- Precautions before and after dialysis.

Unit-IV

Vascular access of Dialysis

- Arteriovenous Fistula.
- Arteriovenous Graft
- Venous catheter

Unit-V

Anticoagulant:

- Principle and problems.

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DDT103(P)	CC	Background of Dialysis-I (Practical)	00	00	00	30	20	0	0	2	1

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

List of Practical's

1. Demonstration of Fistula.
2. Demonstration of Graft
3. Use of anticoagulants.

➤ **Practical's will be modified as per the feasibility.**

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DDT104	CC	Haemodialysis-I	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will-

CEO1: Acquire the ability to identify and find appropriate solutions to medical problems.

CEO2: Interpret morphological changes of the diseases in correlation to clinical manifestations and haemodialysis techniques of the Renal diseases.

Course Outcomes (COs): Student should be able to -

CO1: develop competency in techniques of Haemodialysis.

CO2: acquire knowledge and understand the background of hamodialysis.

CO3: understand the detailed aspects of haemodialysis techniques..

CO4: acquire knowledge and understand therapeutic use of Haemodialysis.

Unit-I

Introduction to Haemodialysis:

- History and discovery of Haemodialysis. Modern concepts of Haemodialysis.
- Physiological principle and urea kinetic Modeling.

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Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

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Unit II

Basic of Haemodialysis:

- Compatibility test for haemodialysis
- Indication and Contraindication of Haemodialysis.
- Laboratory investigation haemodialysis.

Unit-III

Techniques in Haemodialysis –

- Techniques of patient preparation.
- Initiation of Hemodialysis.
- Haemodialysis Machine: Working Principles and maintenance.

Unit-IV

Acute Haemodialysis prescription.:

- Components of haemodialysis prescription.
- Management during recovery of kidney function.
- Modern guidelines.

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***Teacher Assessment** shall be based on the following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Unit-V

Chronic Haemodialysis prescription.:

- Components of haemodialysis prescription.
- Management during recovery of kidney function.
- Modern guidelines

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Course Educational Objectives (CEOs): The students will-

CEO1: understand, analyze and interpret Haemodialysis.

Course Outcomes (COs): Student should be able to -

CO1: memorize and perform Haemodialysis.

CO2: analyze and interpret the results of haemodialysis.

List of Practical's:

- Techniques of patient preparation.
- Initiation of Hemodialysis.
- Haemodialysis Machine: Working Principles and maintenance.

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