

# SUMANDEEP VIDYAPEETH

(Declared as Deemed to be University under Section 3 of the UGC Act 1956)

Accredited by NAAC with a CGPA of 3.53 out of four-point scale at 'A' Grade

At & Post Piparia, Tal: Waghodia 391760 (Gujarat) India.

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## CURRICULUM

### Bachelor of Science (B.Sc)

### RENAL DIALYSIS TECHNOLOGY

Attested CTC

*Charaney*  
15/2/2021

Vice-Chancellor

Sumandeep Vidyapeeth

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2016



## **INTRODUCTION**

### **Scope**

The quality of paramedical care has improved tremendously in the last few decades due to the advances in technology, thus creating fresh challenges in the field of healthcare. It is now widely recognized that health service delivery is a team effort involving both clinicians and non-clinicians, and is not the sole duty of physicians and nurses. Professionals that can competently handle sophisticated machinery and advanced protocols are now in high demand. In fact, diagnosis is now so dependent on technology, that paramedical and healthcare professionals are vital to successful treatment delivery.

Effective delivery of healthcare services depends largely on the nature of education, training and appropriate orientation towards community health of all categories of health personnel, and their capacity to function as an integrated team, with a range of skills and expertise, play key roles within the National Health Service, working autonomously, in multi-professional teams in various settings. All of them are first-contact practitioners and work across a wide range of locations and sectors within acute, primary and community care.

### **Learning goals and objectives for paramedical healthcare professionals**

The learning goals and objectives of the undergraduate and graduate education program will be based on the performance expectations. They will be articulated as learning goals (why we teach this) and learning objectives (what the students will learn). Using the framework, students will learn to integrate their knowledge, skills and abilities in a hands-on manner in a professional healthcare setting. These learning goals are divided into nine key areas, though the degree of required involvement may differ across various levels of qualification and professional cadres.

### **Program outcomes**

After completing this programme, learner will be able to

- Demonstrate pre-dialysis patient assessment and understand the knowledge about renal failure (ARF & CRF) and its management.
- To practice independently on dialyzer extracorporeal blood circuit priming and setting up the machine for dialysis procedure.
- To manifest aseptic cannulation of AVF/AVG and initiation of aseptic acute vascular access catheter care and dialysis initiation as well as machine disinfection methods.
- To upgrade knowledge on alarm processing, continuous monitoring of patient and machine during procedure

### **Ethics and accountability**

Students will understand core concepts of clinical ethics and law so that they may apply these to their practice as healthcare service providers. Program objectives should enable the students to:

- Describe and apply the basic concepts of clinical ethics to actual cases and situations

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- Recognize the need to make health care resources available to patients fairly, equitably and without bias, discrimination or undue influence.
- Demonstrate an understanding and application of basic legal concepts to the practice.
- Employ professional accountability for the initiation, maintenance and termination of patient-provider relationships
- Demonstrate respect for each patient's individual rights of autonomy, privacy, and confidentiality .

### **Commitment to professional excellence**

The student will execute professionalism to reflect in his/her thought and action a range of attributes and characteristics that include technical competence, appearance, image, confidence level, empathy, compassion, understanding, patience, manners, verbal and non-verbal communication, an anti-discriminatory and non-judgmental attitude, and appropriate physical contact to ensure safe, effective and expected delivery of healthcare.

### **Eligibility for admission:**

He/she has passed the Higher Secondary (10+2) Science or a duly constituted Board with pass marks in Physics, Chemistry, Biology

### **Duration of the course:**

Duration of the course is 4 years including 1 year internship.

### **Attendance:**

A candidate has to secure minimum 80% attendance in overall with at least-

1. 75% attendance in theoretical
2. 80% in Skills training (practical) for qualifying to appear for the final examination.

No relaxation, whatsoever, will be permissible to this rule under any ground including indisposition etc.

**Assessment:** Assessments should be completed by the academic staff, based on the compilation of the student's theoretical & clinical performance throughout the training programme. To achieve this, all assessment forms and feedback should be included and evaluated. Student must attain at least 50% marks in each Theory, Internal assessment and Practical independently / separately for each individual subject.

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### Course of Instruction

Course Name	Course Code	Theory (In hrs.) (Class and lab)	Practical (In hrs.) (Clinical)	Total (in Hours)
<b>First Year - Total Hours 600</b>				
Anatomy	BRDT101	60	40	100
Physiology	BRDT102	60	40	100
Biochemistry	BRDT103	60	40	100
Pathology	BRDT104	60	40	100
Microbiology	BRDT105	60	40	100
Health Care	BRDT106	60	40	100
<b>Total</b>		<b>360</b>	<b>240</b>	<b>600</b>
<b>2<sup>nd</sup> Year - Total Hours 340</b>				
Concepts of renal disease & its management	BRDT201	60	40	100
Applied aspects of pathology & microbiology	BRDT202	60	40	100
Applied anatomy & physiology related to dialysis technology	BRDT203	60	40	100
Pharmacology related to dialysis technology	BRDT204	40	-	40
<b>Total</b>		<b>220</b>	<b>120</b>	<b>340</b>
<b>3<sup>rd</sup> Year - Total Hours 200</b>				
Applied dialysis technology	BRDT301	60	40	100
Advance dialysis technology	BRDT302	60	40	100
<b>Total</b>		<b>120</b>	<b>80</b>	<b>200</b>
<b>Internship (Integrated Practice) - Total Hours 1440</b>				

### III. Scheme of Examination

<b>First Year</b>				
SUBJECT CODE	SUBJECTS	EXAMINATION PATTERN		
		Internal	Final	TOTAL
BRDT101	Anatomy	20	80	100
BRDT102	Physiology	20	80	100
BRDT103	Biochemistry	20	80	100
BRDT104	Pathology	20	80	100
BRDT105	Microbiology	20	80	100
<b>Total</b>		<b>100</b>	<b>400</b>	<b>500</b>
<b>Second Year</b>				
BRDT201	Concepts of renal disease & its management	20	80	100
BRDT202	Applied aspects of pathology & microbiology	20	80	100

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BRDT203	Applied anatomy & physiology related to dialysis technology	20	80	100
BRDT204	Pharmacology related to dialysis technology	20	80	100
<b>Third year</b>				
BRDT301	Applied dialysis technology	20	80	100
BRDT302	Advance dialysis technology	20	80	100

## 1<sup>ST</sup> YEAR B.SC. RENAL DIALYSIS TECHNOLOGY

### **BRDT101 ANATOMY**

**(60 HOURS)**

#### **Unit 1- Organization**

- Terms, terminology, planes
- Tissues of the body (General) Epithelial tissue
- Glands, mucous membrane.

#### **Unit 2- Skeletal system**

- Cartilage
- Bones
- Ossification, blood supply
- Joints
- Synovial joint

#### **Unit 3- Muscular tissue**

- Muscle classification – I
- Muscle – II

#### **Unit 4- Nervous system**

- Neuron, Neuroglia
- Spinal cord & Spinal nerves
- Parts of brain & major functions
- Cranial nerves
- Autonomic nervous system

#### **Unit 5- Sensory organs**

- Nose & Olfaction
- Tongue

#### **Unit 6- Circulation & Lymphatic**

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- Systemic, Pulmonary, Portal
- Heart, chambers, valves
- Coronary circulation, Venous drainage, applied
- Major branches of aorta, major veins, pulse
- Femoral and Axillary artery
- Diaphragm
- Lymphoid tissue classification, structure I
- Lymphoid tissue classification, structure II
- Lymphatic drainage, lymphatic trunks

#### Unit 7- Respiratory system

- Larynx, Trachea
- Pleura & lung & structure
- Bronchopulmonary segments, Para nasal sinuses

#### Unit 8 - Digestive system

- Pharynx, Esophagus
- Stomach, Duodenum
- Liver, Gall bladder, Pancreas
- Jejunum, Ileum, Appendix
- Colon, Rectum, Anal canal

#### Unit 9 - Urinary system)

- Kidney
- Ureter, Urinary bladder
- Prostate, Urethra

#### Unit 10- Endocrine system

- Thyroid, Parathyroid
- Suprarenal
- Pituitary Pancreas,

#### Unit 11- Reproductive system

- Female reproductive system
- Male reproductive

#### PRACTICALS:

(40 HOURS)

- Human skeleton
- Organ systems
- Organs – 1
- Organs – 2
- Organs – 3
- Organs – 4
- Organs – 5
- Types of Cartilages

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- Bones -1
- Bones -2
- Bones -3
- Histology of compact bones
- Muscles of body as functional groups
- Histology of types of muscles

## BRDT102 PHYSIOLOGY

(60 HOURS)

### Unit 1- General Physiology

- Introduction to cell physiology,
- transport across cell membrane
- Homeostasis, Body Fluid compartment & measurement

### Unit 2 - Blood

- Introduction - composition and function of blood
- Plasma proteins
- Red blood cells.
- Hemoglobin
- WBC
- Platelets
- Homeostasis
- Blood Group

### Unit 3 - Nerve - Muscle Physiology

- Resting membrane potential & Action potential
- Types of muscle & Mechanism of Muscle Contraction
- Neuromuscular Junction
- Neuron and neuroglia
- Properties of nerve fibre
- Secretion & Composition & function of CSF

### Unit 4 - GIT

- Movement of GIT
- Deglutition & Mechanism of Vomiting
- Digestive Juices in upper digestive tract
- Digestive juices in lower digestive tract

### Unit 5 - Excretory system

- Kidneys-structure, function
- Glomerular filtration rate
- Counter current mechanism of concentration of urine, micturition, Diuretics

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- Artificial kidney, renal function tests
- Skin
- Regulation of body Temperature

### Unit 6 - Respiratory system

- Mechanism of Breathing
- Hypoxia
- O<sub>2</sub> and CO<sub>2</sub> transport
- Pulmonary volume & Capacities

### Unit 7 - Cardio Vascular System

- Introduction to CVS & general principles of circulation
- Properties of Cardiac muscle
- Cardiac cycle, heart sounds, Pulse
- Cardiac output, Heart rate ,BP ,ECG
- Coronary circulation, Cutaneous circulation-Triple response ,Shock
- Effects of exercise on CVS and Respiratory system

### Unit 8 - Lymphatic System

### Unit 9 - Endocrine System

- Hormones of pituitary, Thyroid
- Parathyroid Gland
- Hormones of Adrenal Gland & Pancreas

### Unit 10 - Reproductive System

- Introduction to reproductive system, Puberty
- Male reproductive system,
- Female reproductive system,
- Physiological changes during pregnancy, pregnancy tests, parturition & lactation
- Male & Female contraceptive methods
- Special senses
- Vision
- Audition
- Olfaction
- Gustation

### PRACTICALS:

(40 HOURS)

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- Introduction and Laboratory guidelines
- Demonstration of estimation of Hemoglobin
- Practical of estimation of Hemoglobin
- Practical of BT & CT

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- Practical of Blood Grouping
- ESR & PCV
- Blood Pressure
- Pulse
- Revision
- Heart rate & heart sound
- Breathing rate & breathing sound
- Identification of blood cells by peripheral smear. RBC, WBC, Platelets.
- Revisions

## BRDT103 BIOCHEMISTRY

(60HOURS)

- Introduction and scope of Clinical Biochemistry
- Functioning Clinical Laboratory: - Role of Medical Laboratory technologist, Code of Ethics.
- Laboratory Safety including Biomedical waste disposal
- Reagents: - Preparation, Formulation, storage, safety and uses.
- Collection and Preservation of Sample/specimen & anti-coagulants
- Chemistry of Body fluids: - Blood, CSF, Urine, Milk, Bile, Gastric Juice and Saliva.
- Buffers of Body system and pH regulation.
- Glassware's & plastic ware's used in laboratory and its calibration, cleaning, care and maintenance.
- Biophysics: -Osmosis, Dialysis, Viscosity, Surface tension, Colloids and Sedimentation, Osmotic Pressure and osmolality.
- Blood buffers and pH regulation.
- Cell biology:- Prokaryotic and Eukaryotic, cell organelles, subcellular fraction and its function
- Chemistry and Biomedical Importance of :
- Carbohydrate
- Proteins
- Lipids
- Nucleic acid.
- Enzymes:
- Vitamins
- Minerals
- Chemistry of Body fluids: - Blood, CSF, Urine, Milk, Bile, Gastric Juice and Saliva.

## PRACTICALS:

(40 HOURS)

- To demonstrate glassware's, apparatus and plastic wares used in laboratory.
- Preparation of different percentage solutions
- Preparation of normal and molar solutions. (0.1 N NaOH, 0.2N HCl, 0.1 M H<sub>2</sub>SO<sub>4</sub>).
- Reactions of Carbohydrate
- Reactions of Protein: - Precipitation and Color reaction.
- Analysis of Normal Urine:- Physical, Chemical and Microscopic
- Analysis of abnormal Urine:- Physical, Chemical and Microscopic
- Qualitative analysis of Saliva.
- Qualitative analysis of Milk

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- Qualitative analysis of Bile.
- Qualitative analysis of CSF.
- Qualitative analysis of Gastric juice.

## BRDT104 PATHOLOGY

(60 HOURS)

### Unit 1 - Histo Pathology

- Introduction to Histo Pathology
- Receiving of Specimen in the laboratory
- Grossing Techniques
- Mounting Techniques – various Mountants
- Maintenance of records and filing of the slides.
- Use & care of Microscope
- Various Fixatives, Mode of action, Preparation and Indication. Section Cutting
- Tissue processing for routine paraffin sections
- Decalcification of Tissues.
- Staining of tissues - H& E Staining
- Bio-Medical waste management

### Unit 2 - Clinical Pathology

- Introduction to Clinical Pathology
- Collection, Transport, Preservation, and Processing of various clinical Specimens
- Urine Examination – Collection and Preservation of urine. Physical, chemical, Microscopic Examination
- Examination of CSF and other body fluids.
- Sputum Examination.
- Examination of feces

### Unit 3 – Hematology


- Introduction to Hematology
- Normal constituents of Blood, their structure and function.
- Collection of Blood samples
- Various Anticoagulants used in Hematology
- Various instruments and glassware used in Hematology, Preparation and use of glassware
- Laboratory safety guidelines
- SI units and conventional units in Hospital Laboratory
- Hb, PCV
- ESR
- Normal Hemostasis
- Bleeding Time, Clotting Time, Prothrombin Time, Activated Partial Thromboplastin Time.

### Unit 4 - Blood Bank

- Introduction
- Blood grouping and Rh Types
- Cross matching

### PRACTICALS:

(40 HOURS)

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- Urine Examination.
- Physical
- Chemical
- Microscopic
- Blood Grouping Rh typing.
- Hb Estimation, Packed Cell Volume[PCV], Erythrocyte Sedimentation rate{ESR}
- Bleeding Time, Clotting Time.
- Histopathology – Section cutting and H &E Staining.

## BRDT105 - MICROBIOLOGY

(60 HOURS)

### Unit 1: General Microbiology

- History: Louis Pasteur, Robert Koch
- Microscope: Parts, function and its types
- Morphology of bacteria: classification of microorganisms, bacteria cell, staining of bacteria-Gram and ZN stain
- Physiology of bacteria: Growth and nutrition of bacteria, Growth curve
- Sterilization and disinfection: Dry heat, moist heat sterilization, filtration, Radiation, disinfectants use in hospital
- Culture media: simple and complex media, preparation and its use
- Culture methods: aerobic and anaerobic
- Identification of bacteria: catalase test, coagulase test, oxidase test, Urease test, IMViC TESTS

### Unit-2: Immunology

- Infection
- Immunity
- Antigen
- Antibody

### Unit 3: Collection, transport and processing of clinical specimens:

- Throat swab
- Sputum
- Urine
- Pus
- Blood
- CSF

### Unit 4: Health care associated Infections: Sources, Method of transmission and Prevention

### Unit 5: Principle and Practices of Biomedical waste management:

### Attested CTC PRACTICALS:

(40 HOURS)

- Microscope: parts function, focus, care and handling
- Hanging drop preparation

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- Performance of Gram's stain
- Performance of ZN stain
- Culture media preparation: Nutrient agar, Blood agar, Chocolate agar, NA slant, MacConkey agar
- Functioning of Autoclave and Hot air oven
- Visit to hospital for the demonstration of Biomedical Waste Management
- Aseptic practices in laboratory and safety precautions

## BRDT106 – HEALTH CARE

(60 HOURS)

### Unit 1 - Introduction to Health

- Definition of Health,
- Determinants of Health,
- Health Indicators of India,
- Health Team
- Concept.
- National Health Policy
- National Health Programmes (Briefly Objectives and scope) Population of India and Family welfare programme in India.

### Unit 2 - Introduction to Nursing

- What is Nursing? Nursing principles.
- Inter-Personnel relationships.
- Bandaging:
- Basic turns;
- Bandaging extremities;
- Triangular Bandages and their application.
- Nursing Position,
- Bed making,
- prone,
- lateral,
- dorsal,
- dorsal re-cumbent,
- Fowler's positions,
- comfort measures,
- Aids and rest and sleep.

### Unit 3 - Lifting and Transporting Patients:

- Lifting patients up in the bed.
- Transferring from bed to wheel chair.
- Transferring from bed to stretcher.

### Unit 4 - Bed Side Management:

- Giving and taking Bed pan,
- Urinal:
- Observation of stools,
- urine.
- Observation of sputum,
- Understand use and care of catheters,
- enema giving.

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### Unit 5 - Methods of Giving Nourishment:

- Feeding,
- Tube feeding,
- drips,
- transfusion Care of Rubber Goods
- Recording of body temperature,
- respiration and pulse,
- Simple aseptic technique,
- sterilization and disinfection.
- Surgical Dressing:
- Observation of dressing procedures.

### Unit 6 - First Aid:

- Syllabus as for Certificate Course of Red Cross Society of St. John's Ambulance Brigade.

## 2<sup>nd</sup> YEAR B.SC.RANAL DIALYSIS TECHNOLOGY

### BRDT203 Applied Anatomy & Physiology Related to Dialysis Technology (60HOURS)

#### Unit 1 - Applied Anatomy

- Basic Anatomy of Urinary System
- Structural Anatomy of Kidney, Bladder, Ureter, Urethra, Prostate
- Histology of Kidney
- Blood Supply of Kidney
- Development of Kidney in Brief
- Anatomy of Peritoneum Including Concept of Abdominal Hernias
- Anatomy of Vascular System
- Upper Limb Vessels - Course, Distribution, Branches, Origin & Abnormalities
- Neck Vessels - Course, Distribution, Branches, Origin & Abnormalities
- Femoral Vessels - Course, Distribution, Branches, Origin & Abnormalities.

#### Unit 2 - Physiology

- Mechanism of Urine Formation
- Glomerular Filtration Rate (GFR)
- Clearance Studies
- Physiological Values – Urea, Creatinine, Electrolytes, Calcium, Phosphorous, Uric Acid, Magnesium, Glucose
- 24 Hours Urinary Indices – Urea, Creatinine, Electrolytes, Calcium, Magnesium
- Physiology of Renal Circulation
- Factors Contributing & Modifying Renal Circulation
- Autoregulation
- Hormones Produced by Kidney & Physiologic Alterations In Pregnancy
- Haemostasis – Coagulation Cascade, Coagulation Factors, Auto Regulation, BT, CT, PT, PTT, Thrombin Time.

#### Unit 3 - Acid Base Balance

- Basic Principles & Common Abnormalities Like Hypokalemia,
- Hyponatremia,
- Hyperkalemia,
- Hypermnatremia.

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- Hypocalcemia,
- Hypercalcemia,
- Ph, etc.
- Basic Nutrition in Renal Diseases.

### **BRDT204 Pharmacology Related to Haemo & Peritoneal Dialysis (60 Hours)**

- Fluid Therapy with Special Emphasis in Renal Diseases
- Diuretics – Classification, Actions, Dosage, Side Effects & Contraindications
- Anti-hypertensives – Classification, Actions, Dosage, Side Effects & Contraindications, Special Reference During Dialysis, Vasopressors, Drugs Used in Hypotension
- Drugs & Dialysis – Dose & Duration of Administrations of Drugs
- Dialysable Drugs – Phenobarbitone, Lithium, Methanol Etc.
- Vitamin D & Its Analogues, Phosphate Binders, Iron, Folic Acid & Other Vitamins of Therapeutic Value
- Erythropoietin in Detail
- Heparin Including Low Molecular Weight Heparin
- Protamine Sulphate
- Formalin,
- Sodium Hypochlorite,
- Hydrogen Peroxide – Role as Disinfectants & Adverse Effects of Residual Particles Applicable to Formalin
- Haemo dialysis Concentrates – Composition & Dilution (Acetate & Bicarbonates)
- Peritoneal Dialysis Fluid in Particular Hypertonic Solutions – Composition.
- Potassium Exchange Resins with Special Emphasis on Mode of Administration.

### **BRDT201 Concepts of Renal Diseases (60 Hours)**

- Clinical Manifestations Evaluation & Management of The Following Diseases
- Acute Renal Failure
- Nephrotic Syndrome – Primary & Secondary
- Nephritic Syndrome
- Uti – Urinary Tract Infections
- Asymptomatic Urinary Abnormalities
- Chronic Renal Failure
- Renal Stone Diseases
- Obstructive Uropathies
- Congenital & Inherited Renal Diseases
- Tumors of Kidney
- Pregnancy Associated Renal Diseases
- Renal Vascular Disorders & Hypertension Associated Renal Diseases.

### **BRDT202 Applied Aspects of Pathology & Microbiology (60 Hours)**

#### **Unit 1 - Pathology**

- Congenital Abnormalities of Urinary System
- Classification of Renal Diseases
- Glomerular Diseases – Causes, Types & Pathology
- Tubulo interstitial Diseases
- Renal Vascular Disorders
- End Stage Renal Diseases – Causes & Pathology
- Pathology of Kidney in Hypertension, Diabetes Mellitus, Pregnancy

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- Pathology of Peritoneum – Peritonitis – Bacterial, Tubular & Sclerosing Peritonitis  
Dialysis Induced Changes
- Pathology of Urinary Tract Infections
- Pyelonephritis & Tuberculous Pyelonephritis.

### Unit 2 - Microbiology

- Hepato trophic Viruses in Detail – Mode of Transfusion, Universal Precautions, Vaccinations
- Human Immunodeficiency Virus (HIV), Mode of Transfusion, Universal Precautions
- Opportunistic Infections
- Microbiology of Urinary Tract Infections
- Microbiology of Vascular Access Infection (Femoral, Jugular, Subclavian Catheters)
- Sampling Methodologies for Culture & Sensitivity.

### Unit 3 - Basics of Dialysis Technology

- Indications of Dialysis
- Types of Dialysis
- Principles of Dialysis – Definition
- Haemo dialysis Apparatus – Types of Dialyser & Membrane
- Types of Vascular Access for Haemo dialysis
- Introduction to Haemo dialysis Machine
- Priming of Dialysis Apparatus
- Diastereomer
- Common Complications of Haemo dialysis
- Monitoring of Patients During Dialysis.

### Unit 4 - Nutrition

- Definition
- Food Pattern and Its Relation to Health
- Factors Influencing Food Habits, Selection and Foodstuffs
- Superstitions, Culture, Religion, Income, Composition Of Family, Age, Occupation, Special Grouped
- Food Selection, Storage & Preservation
- Prevention of Blood Adulteration.

### Unit 5 - Classification of Nutrients

- Macronutrients and Micronutrients
- Proteins – Types, Sources, Requirements and Deficiencies Proteins
- Carbohydrates Sources, Requirements & Deficiency
- Fats – Types, Sources, Requirements and Deficiency of Fats
- Water – Sources of Drinking Water, Requirements, Preservation Of Water
- Minerals – Types, Sources, Requirements Deficiencies Minerals
- Vitamins - Types, Sources, Requirements Deficiencies of Vitamins.

## 3<sup>rd</sup> YEAR B.SC. RENAL DIALYSIS TECHNOLOGY

### BRDT301 Applied Dialysis Technology

(60Hours)

#### ~~Attended~~ Indications of Dialysis

- History & Types of Dialysis

#### Unit 2 - Theory of Haemo dialysis –

- Diffusion,

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- Osmosis,
- Ultrafiltration & Solvent Drag.

**Unit 3 - Hemo dialysis Apparatus –**

- Types of Dialyzer & Membrane,
- Dialysate
- Physiology of Peritoneal Dialysis
- Vascular Access for Hemo dialysis & Associated Complications.

**Unit 4 - Peritoneal Access Devices –**

- Types of Catheter,
- Insertion Techniques & Associated Complications.

**Unit 5 - Dialysis Machines –**

- Mechanism of Functioning & Management
- Haemo dialysis Machine
- Peritoneal Dialysis Machine
- Complications of Dialysis

**Unit 6 - Haemo dialysis –**

- Acute & Long-Term Complications

**Unit 7 - Peritoneal Dialysis –**

- Mechanical & Metabolic Complications
- Biochemical Investigations Required for Renal Dialyses
- Adequacy of Dialysis
- Haemo dialysis
- Peritoneal Dialysis
- Peritoneal Equilibrations test (PET)
- Anticoagulation
- Peritonitis & Exit Site Infection
- Withdrawal of Dialysis Criteria
- Acute Dialysis
- Chronic Dialysis.

**BRDT302 Advance Dialysis Technology**

**(60Hours)**

- Dialysis in Special Situations
- Patients with Congestive Cardiac Failure
- Advanced Liver Disease
- Patients Positive for HIV,
- Hbsag & Hcv
- Failed Transplant
- Positioning Cases
- Pregnancy
- Dialysis in Infants & Children
- Dialyzer Reuse
- Special Dialysis Procedures
- Continuous Therapies hemodialysis
- Different Modalities of Peritoneal Dialysis
- Hemodiafiltration
- Hemoperfusion
- Sled

Attested CTC

*Sharanam*

15/2/2021

Vice-Chancellor

Sumandeep Vidyapeeth

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Dist. Vadodara-391 760. (Gujarat)



- Mars
- Plasmapheresis
- Special Problems in Dialysis Patients
- Psychology & Rehabilitation
- Diabetes
- Hypertension
- Infections
- Bone Diseases
- Aluminum Toxicity
- Recent Advances hemodialysis
- Nocturnal Dialysis
- Online Dialysis
- Daily Dialysis
- Telemedicine in Dialysis Practice
- Water Treatment System
- Renal Anemia Management
- Chronic Dialysis.

### **Practical Schedule**

- Setting up Dialysis Machine for Dialysis
- A V Cannulation
- A V Fistula/A V Graft Cannulation
- Initiation of Dialysis through Central Venous Catheters Like Internal Jugular, Femoral & Subclavian Vein
- Packing & Sterilization Dialysis Trays
- Closing of Dialysis
- Preparation of Concentrates Depending on The Situations
- Reuse of Dialysis Apparatus
- Isolated Ultrafiltration
- Performance of Peritoneal Dialysis Exchange Manually
- Setting up Of Automated Peritoneal Dialysis Equipment
- First Assistant in Minor Procedures
- Skin Suturing
- Redemonstrations.

### **4<sup>th</sup> YEAR B.SC. RENAL DIALYSIS TECHNOLOGY**

#### **Internship (Integrated Practice) -**

**Total Hours 1440**

The internship will span 1 Year. This will include 6 hours of practice a day, totaling to 1440 hours during internship year. As a part of this, the students will maintain a work logbook which will be duly endorsed by the supervisor or trainer. At the end of internship, the candidate shall submit the work log book along with certificate from the training institute.

The internship time period provides the students the opportunity to continue to develop confidence and increased skill in clinical delivery of services. Students will demonstrate competence in beginning and intermediate procedures. Students will observe the advanced and specialized procedures. The student will complete the clinical training by practicing all the skills learned in classroom and clinical instruction. The students are expected to work for minimum 6 hours per day and this may be more depending on the need and the healthcare setting.

**Arrested CTO**

*Sharaney*  
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## **CODE OF PROFESSIONAL CONDUCT INTRODUCTION**

The Code of Professional Conduct is designed and set out as guidance for the clinical practitioner within the relationship that exists with every patient receiving health care.

Essential to that relationship is the patient's trust in the practitioner. This trust hangs upon the patient's assurance of being the practitioner's first concern during their clinical encounter, and upon the patient's confidence that the care received will be competent, whether in diagnosis, therapy or counseling.

## **STANDARD OF PRACTICE AND CARE**

Patients are entitled to the highest standard of practice and care. The essential elements of this are professional competence, good relationships with patients and colleagues and observance of professional ethical obligations.

### **In providing care you must therefore:**

- Recognize the limits of your professional competence.
- Be willing to consult colleagues
- Keep clear, accurate and contemporaneous patient records which report the relevant findings.
- Keep colleagues informed.
- Pay due regard to the efficacy and the prudent use of resources.
- Be competent, truthful, and accurate, when reporting on investigations.
- Be competent when giving or arranging treatment.

### **Patient's rights**

- Listen to patients and respect their views.
- Treat patients politely and considerately.
- Respect patients' privacy and dignity.
- Give information to patients in a way they can understand.
- Respect the right of patients to be fully involved in decisions about their care.
- Respect the right of patients to refuse treatment or to take part in teaching or research, reporting the refusal to the person requesting the procedure.
- Respond to complaints promptly and constructively.
- Ensure that your views about a patient's life style, culture, beliefs, race, colour, sex, sexuality, age, social status, or perceived economic worth, do not prejudice the service you give.

## **CONFIDENTIALITY**

Patients have a right to expect that you will not pass on any personal information which you learn in the course of your professional duties, unless they agree



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