

Bachelor of Vocation (Dialysis technology)

B.Voc. (DT) Syllabus

I Semester				
S.No.	Course Code	Subject	Content Type	Credit
1	BVDT-101	General Human Anatomy & Physiology-I	General	4
2	BVDT-102	Introduction to Biochemistry	Skill	4
3	BVDT-103	Introduction to kidney Disease and Renal replacement therapy	General	3
4	BVDT-104	Bio Medical Waste management	skill	4
5	BVDT-105	General English – I	General	3
6	BVDT-106	Personality Grooming	General	2
7	BVDT-107	Computing Skill - I	General	3
8	BVDTP-101	Vocational Practical	Skill	13

BVDT -101 General Human Anatomy & Physiology-I

UNIT-1

Anatomy : Introduction to human body , definition of anatomy, planes, position and movement of human body, anatomy of head and neck, cranial cavity, mouth pharynx, nose, pectoral region, shoulder, scapular region, upper and lower limbs ,bones and joints, pericardium and heart, lungs , diaphragm, trachea, esophagus, thoracic duct, brief introduction of skeletal system, organization of skeleton, definition, classification, constituents of bones and bone tissue, growth and development of bones, bones of cranium, electronic microscopic structure of cell, Structure of arteries, veins and capillaries

UNIT-2

Anatomy: Tissue- classification, functions and structure of primary tissues – epithelial tissue, connective tissue, muscular tissue, nervous tissue, function of arteries, veins and capillaries, cardiac cycle and heart sound, factors affecting heart rate and its regulation, physiological variations, factors controlling blood pressure, hemorrhage and shock, disease related to cardiovascular system, definition and classification of muscular tissue, characterization of skeletal, smooth, cardiac muscles, types of cartilage, skeletal, smooth and cardiac muscle.

UNIT-3

Physiology: introduction on physiology, cell-description of cell and its components, functions of cell, homeostasis, basics about different organs and systems, structure and functions of urinary system, organs of urinary system, glomerular filtration, physiology of urine formation, functions of kidney, glomerular filtration rate.

UNIT-4

Physiology: Introduction to blood and its components, functions of RBCs, WBCs and platelets, difference between serum and plasma components and organs of lymphatic system, introduction to reproductive system, structure and functions of male and female reproductive organs, parts of male and female reproductive

BVDT-02-INTRODUCTION TO BIOCHEMISTRY

UNIT 1

Carbohydrates- Glucose; fructose; galactose; lactose; sucrose; starch and glycogen (properties and tests, Structure and function)

UNIT 2

Proteins -Amino acids, peptides, and proteins (general properties & tests with a few examples like glycine, tryptophan, glutathione, albumin, haemoglobin, collagen)

UNIT 3

Lipids- Fatty acids, saturated and unsaturated, cholesterol and triacylglycerol, phospholipids and plasma membrane

UNIT 4

Vitamins -General with emphasis on A, B2, C, E and inositol (requirements, assimilation and properties)

Minerals--Na, K, Ca, P, Fe, Cu and Se (requirements, availability and properties)

BVDT-103-Introduction to kidney Disease and Renal replacement therapy

UNIT-1

Kidney Function and effect of Kidney Disease. Classification of kidney diseases

Chronic Kidney Disease.

UNIT-2

Acute Kidney injury

Sign and symptoms of Kidney disease.

UNIT-3

General Laboratory assessment of Kidney Disease.

Types of Renal Replacement therapy

UNIT-4

Haemodialysis Basics

Peritoneal Dialysis Basics.

BVDT-104 Biomedical Waste Management

UNIT-1

Definition of Biomedical Waste

Waste minimization

UNIT-2

BMW – Segregation, collection, transportation, treatment and disposal (including color coding)

Liquid BMW, Radioactive waste, Metals / Chemicals / Drug waste

UNIT-3

BMW Management & methods of disinfection

Modern technology for handling BMW

UNIT-4

Use of Personal protective equipment (PPE)

Monitoring & controlling of cross infection (Protective devices)

BVDT-105-Fundamental of Computers

Unit-1

Introduction to Computers, History of Computer , Generations, Characteristics, Advantages and limitations of Computer, Classification of Computers, Functional Components of Computer, Input ,Output and Processing, Concept of Hardware and Software, Data & Information .Concept of data storage .

Number system. Decimal, Binary, Hexadecimal ASCII .

UNIT-2

Introduction to GUI Based Operating System

Basics of Operating system , Basics of DOS & LINUX, The User interface, File and directory management, Windows setting, Control Panel, devices and Printer setting, Using various window commands for desktop.

UNIT-3

Word Processing

Word processing basics, Menu Bar, Opening and closing documents ,save & save as , Page setup ,print preview, and printing. Text creation and manipulation Editing, cut copy paste.

Document creation ,editing, Formatting the text – Paragraph indenting, bullets and numbering ,changing case, Table manipulation – creation of table ,insertion and deletion of cell, row and column.

UNIT-4

Network basics , Internet

Basics of computer network LAN, WAN etc, Concept of Internet ,Basic of Internet Achitecture, Services on Internet Architecture, World wide web and websites, Communication on Internet , Internet Services, Preparing Computer for Internet Access, ISPs and Examples ,Internet Access Technologies. Web Browsing , Configuring web browser, Popular search engines Downloading and printing web pages.

Internet application

Basics of E-mail , E-mail addressing , forwarding and searching, Composing

BVDT-106-GENERAL ENGLISH AND SOFT SKILL

Introduction to English language

- a) Role and significance of English language in the present scenario
- b) English language: its relevance for the Indian industry.
- c) Introduction to listening, speaking, reading, writing and bench marking of the class.

Functional Grammar

- a) Parts of speech, articles, tenses, verbs and modals.
- b) Practice of daily use words, numerals and tongue twisters
- c) Vocabulary building, construction of simple sentences: Basic sentence pattern, subject and predicate.
- d) Sentence construction – simple, complex and compound

English communication- About myself

- a) Let's talk, making conversation, meeting and greeting
- b) Introduction myself, my family and my friends
- c) My opinions, my likes and dislikes
- d) Life at collage, hostel and workplace

PRACTICALS:

BVDTP-101.PRACTICAL ANATOMY AND PHYSIOLOGY

Human anatomy (practical)

Demonstration of

- Study of Human Skeleton parts with skeletal models.
- Study with charts and models of all organ systems mentioned above.
- Microscopic slides examination of elementary human tissues, cells.
- Major organs through models and permanent slides.
- Parts of circulatory system from models.
- Parts of respiratory system from models.
- Digestive system from models.
- Excretory system from models.

Human Physiology (Practical)

- To measure pulse rate

- To measure blood pressure
- To measure temperature
- Measurement of the Vital capacity
- Determination of blood groups
- Transport of food through esophagus
- Calculation and evaluation of daily energy and nutrient intake.
- Measurement of basal metabolic rate
- Demonstration of ECG
- Bile juice secretion and excretion 11. Urine formation and excretion

BVDTP-102-PRACTICAL Introduction to Biochemistry

- Analysis of Normal Urine
- 2. Liver Function tests
- 3. Lipid Profile
- 4. Renal Function test
- 5. Blood gas and Electrolytes
- 6. Demonstration of Glucometer with strips

BVDTP-103-PRACTICAL-Introduction to kidney Disease and Renal replacement therapy

DEMONSTRATION OF:

effect of Kidney Disease

Chronic Kidney Disease.

Acute Kidney injury

Sign and symptoms of Kidney disease.

General Laboratory assessment of Kidney Disease.

Haemodialysis Basics

Peritoneal Dialysis Basics.

BVDTP-104-BIOMEDICAL WASTE MANAGMENT

Waste minimization

color coding

Liquid BMW, Radioactive waste, Metals / Chemicals / Drug waste

BMW Management & methods of disinfection

Modern technology for handling BMW

Use of Personal protective equipment (PPE)

BVDTP-105- PRACTICAL FUNDAMENTALS OF COMPUTER

- Starting MS WORD, Creating and formatting a document,
- Changing fonts and point size,
- Table Creation and operations, Autocorrect, Auto text, spell Check, Word Art, Inserting objects, Page setup, Page Preview, Printing a document, Mail Merge.
- Starting Excel, Work sheet, cell inserting Data into Rows/ Columns, Alignment, Text wrapping , Sorting data, Auto Sum, Use of functions, referencing formula cells in other formulae , Naming cells, Generating graphs, Worksheet data and charts with WORD, Creating
- Hyperlink to a WORD document , Page set up, Print Preview, Printing Worksheets.
- Starting MS–Power Point,, Creating a presentation using auto content Wizard, Blank presentation, creating, saving and printing a presentation, Adding a slide to presentation,
- Navigating through a presentation, slide sorter, slide show, editing slides, Using Clipart, Word art gallery, Adding Transition and Animation effects, setting timings for slide show, preparing
- note pages, preparing audience handouts, printing presentation documents, MS- Access
- Creating tables and database, Internet, Use of Internet (Mailing, Browsing, Surfing).