

Bachelor of Vocation (Dialysis technology)

B.Voc. (DT) Syllabus

II Semester				
S.No.	Course Code	Subject	Content Type	Credit
1	BVDT-201	General Human Anatomy & Physiology-II	General	4
2	BVDT-202	General Pathology & Microbiology	Skill	4
3	BVDT-203	Principle and types of Dialysis	General	3
4	BVDT-204	Introduction of patient safety	skill	3
5	BVDT-205	Medical terminology and record keeping	General	3
6	BVDT-206	Communication Skills - I	General	3
7	BVDT-207	Computing Skill - II	General	3
8	BVDTP-201	Vocational Practical	Skill	13

BVDT- 201 HUMAN ANATOMY AND PHYSIOLOGY II

UNIT 1

1.Cardiovascular System

Heart-size, location, chambers, exterior & interior, Blood supply of heart, Systemic & pulmonary circulation, Branches of aorta, common carotid artery, subclavian artery, axillary artery, brachial artery, superficial palmar arch, femoral artery, internal iliac artery, Peripheral pulse, Inferior venacava, portal vein, portosystemic anastomosis, Great saphenous vein, Dural venous sinuses, Lymphatic system- cisterna chyli& thoracic duct, Histology of lymphatic tissues, Names of regional lymphatics, axillary and inguinal lymph nodes in brief.

2.Gastro-intestinal System

Parts of GIT, Oral cavity (lip, tongue (with histology), tonsil, dentition, pharynx, salivary glands Waldeyer's ring), Oesophagus, stomach, small and large intestine, liver, gall bladder, pancreas Radiographs of abdomen.

3. Respiratory System

Parts of RS, nose, nasal cavity, larynx, trachea, lungs, bronchopulmonary segments, Histology of trachea, lung and pleura, Names of paranasal air sinuses.

4. Peritoneum: Description in brief

UNIT 2

1.Urinary System

Kidney, ureter, urinary bladder, male and female urethra, Histology of kidney, ureter and urinary bladder.

2.Reproductive System

Parts of male reproductive system, testis, vas deferens, epididymis, prostate (gross & histology), Parts of female reproductive system, uterus, fallopian tubes, ovary (gross & histology), Mammary glandgross.

3. Endocrine Glands

Names of all endocrine glands in detail on pituitary gland, thyroid gland, parathyroid gland, suprarenal gland (gross & histology).

4. Nervous System

Neuron, Classification of NS, Cerebrum, cerebellum, midbrain, pons, medulla oblongata, spinal cord with spinal nerve (gross & histology), Meninges, Ventricles & cerebrospinal fluid, Names of basal nuclei, Blood supply of brain, Cranial nerves, Sympathetic trunk & names of parasympathetic ganglia

5. Sensory Organs

Skin: Skin-histology, Appendages of skin, Eye: Parts of eye & lachrymal apparatus, Extra-ocular muscles & nerve supply, Ear: parts of ear- external, middle and inner ear and contents

UNIT 3

Cardiovascular System

Respiratory System

Excretory System

GIT

UNIT-4

Reproductive System

Endocrine System

Lymphatic System

BVDT- 202-General Pathology & Microbiology

UNIT-1

Pathology

General Definition of Pathology Cellular adaptation, Cell injury & cell death, Inflammation, Genetic disorders.

UNIT-2

Immunity disorders. Infectious diseases. Clinical relevance of Pathological test, various diagnostic tests. Collection and transportation of sample, commonly submitted samples, Types of specimens, Laboratory assessment of renal function

Renal Biopsy, Renal Biopsy in transplant

UNIT-3

Microbiology

Identification of common infections, Infection and transmission of disease,

UNIT-4

Types & principles of Disinfections

sterilization- steam Autoclave sterilization, ETO sterilization, Gamma rays sterilization, Chemical Disinfectants -formaldehyde, clinitest, per acetic acid, sterilant test. Laboratory test and method of collection of specimen for culture, Common pathogenic bacteria, General Principle of Infection control. Hospital waste management

BVDT- 203- Principles and types of Dialysis

UNIT-1

Physiology of Dialysis

Haemodialysis, Basics of Dialysis, Haemodialysis Procedure,

UNIT-2

Haemodialysis apparatus, Vascular Access for dialysis,

Reuse of Dialyser.

Peritoneal Dialysis,

UNIT-3

Basics of Peritoneal dialysis, Types of PD,

UNIT-4

CAPD, Indications and contraindication for CAPD.

Complication – infectious and non-infectious complications.

BVDT-204-Introduction of patient safety

UNIT-1

Concepts of Quality of Care

Quality Improvement Approaches

Standards and Norms

Quality Improvement Tools

Basic emergency care – first aid and triage

Ventilations including use of bag-valve-masks (BVMs)Choking, rescue breathing methods One- and Two-rescuer CPR

Using an AED (Automated external defibrillator).

UNIT-2

Managing an emergency including moving a patient Introduction to NABH guidelines

Evidence-based infection control principles and practices [such as sterilization, disinfection, effective hand hygiene and use of Personal protective equipment (PPE)],

Prevention & control of common healthcare associated infections,

Components of an effective infection control program, and

Guidelines (NABH and JCI) for Hospital Infection Control

History of Antibiotics

UNIT-3

Types of resistance- Intrinsic, Acquired, Passive

Trends in Drug Resistance

Actions to Fight Resistance

Bacterial persistence

Antibiotic sensitivity

Consequences of antibiotic resistance

Antimicrobial Stewardship- Barriers and opportunities, Tools and models in Hospitals

UNIT-4

Fundamentals of emergency management,

Psychological impact management,

Resource management,

Preparedness and risk reduction,

Key response functions (including public health, logistics and governance, recovery, rehabilitation and reconstruction), information management, incident command and institutional mechanisms.

-BVDT-205 Medical terminology and record keeping

UNIT-1

Derivation of medical terms.

Define word roots, prefixes, and suffixes.

Conventions for combined morphemes and the formation of plurals.

UNIT-2

Basic medical terms.

Form medical terms utilizing roots, suffixes, prefixes, and combining roots.

Interpret basic medical abbreviations/symbols.

UNIT-3

Utilize diagnostic, surgical, and procedural terms and abbreviations related to the integumentary system, musculoskeletal system, respiratory system, cardiovascular system, nervous system, and endocrine system.

Interpret medical orders/reports.

Data entry and management on electronic health record system.

BVDT-206-BASIC OF HEALTH MARKET AND ECONOMY

UNIT I

Health Care Market An Introduction : Main Problems in the Market for Health Care, Health Care and

Economic Basics, Analyzing Health Care Markets. Demand-Side Considerations: Demand for Health

and Health Care, Market for Health Insurance

UNIT II

Supply-Side Considerations: Managed Care, Health Care Professionals, Hospital Services, Confounding Factors Public Policy in Medical Care: Policies to Enhance Access, Policies to Contain Costs, Medical Care Systems Worldwide,

UNIT-III

Health Sector in India: An Overview Health Outcomes; Health Systems; Health Financing Evaluation of Health Programs Costing, Cost Effectiveness and Cost-Benefit Analysis; Burden of Diseases ,Role of WHO , Health Care Budget: purpose, types & practices in Indian context.

UNIT-IV

Health Economics: Fundamentals of Economics: Scope & coverage of Health Economics, demand for

Health Sciences; Health as an investment, population, Health &Economic Development.

Tools of Economics-Concepts of need, demand, supply & price in Health Services.

Methods & Techniques of Economic Evaluation of Health Programmes: Cost benefit &cost effective methods-output & input analysis.

Market, monopoly, perfect & imperfect competition. Health Financing from various sources – Public ,

Private, TPA.

Economics of Health Programmes for Nutrition, diet &population control, economics of abuse of tobacco & alcohol, environmental influences on health and feeding.

Economics of Communicable (STDs & Malaria) & non-communicable (IHD & Cancers) diseases

PRACTICALS:

BVDTP-201-PRACTICAL-General Human Anatomy & Physiology-II

Human Anatomy-II (Practical)

Demonstration of:

- Nervous system from models.
- Structure of eye and ear

- Structural differences between skeletal, smooth and cardiac muscles.
- Various bones
- Various joints
- Various parts of male & female reproductive system from models

Human Physiology- II (Practical)

- To perform total platelet count.
- To perform bleeding time.
- To perform clotting time.
- To study about CSF examination.
- To study about intrauterine contraceptive devices.
- To demonstrate microscopic structure of bones with permanent slides.
- To demonstrate microscopic structure of muscles with permanent slides.

BVDTP-202-PRACTICAL-General Pathology & Microbiology

Collection and transportation of sample,
commonly submitted samples,

Types of specimens,

Laboratory assessment of renal function

Renal Biopsy,

Renal Biopsy in transplant

sterilization- steam Autoclave sterilization,

ETO sterilization,

Gamma rays sterilization,

Chemical Disinfectants -formaldehyde, clinitest, per acetic acid, sterilant test.

Laboratory test and method of collection of specimen for culture, Common pathogenic bacteria,

BVDTP- 203 PRACTICAL Principle and types of Dialysis

Haemodialysis, Haemodialysis Procedure,

Haemodialysis apparatus,

Vascular Access for dialysis,

Reuse of Dialyser.

Peritoneal Dialysis,

Basics of Peritoneal dialysis, Types of PD,

CAPD.

BVDTP-204 PRACTICAL Introduction of patient safety

DEMONSTRATION OF:

Basic emergency care – first aid and triage

Ventilations including use of bag-valve-masks (BVMs) Choking, Using an AED (Automated external defibrillator).

Managing an emergency including moving a patient Introduction to NABH guidelines

Prevention & control of common healthcare associated infections,

Actions to Fight Resistance

Bacterial persistence

Antibiotic sensitivity

Consequences of antibiotic resistance

Antimicrobial Stewardship- Barriers and opportunities, Tools and models in

Hospitals

BVDTP-205-PRACTICAL-Medical terminology and record keeping

DEMONSTRATION OF:

Basic medical terms.

Form medical terms utilizing roots, suffixes, prefixes, and combining roots.

Interpret basic medical abbreviations/symbols.

Utilize diagnostic, surgical, and procedural terms and abbreviations related to the

Interpret medical orders/reports.

Data entry and management on electronic health record system.