

# **Bachelor of Vocation (Operation theatre technology)**

## **B.Voc. (OTT)**

<b>I Semester</b>				
<b>S.No.</b>	<b>Course Code</b>	<b>Subject</b>	<b>Content Type</b>	<b>Credit</b>
1	BVOTT-101	Human Anatomy & Physiology-1	Gen	4
2	BVOTT-102	Bio Medical Waste management	Skill	4
3	BVOTT-103	Introduction to Bio-Chemistry	General	4
4	BVOTT-104	First Aid and Bandaging	Skill	3
5	BVOTT-105	<b>Fundamentals of computer</b>	Gen	3
6	BVOTT-106	<b>General English</b>	Gen	3
7	BVOTT-107	<b>Personal Grooming</b>	Gen	2
8	BVOTTP-1	Vocational Practical	Skill	13

### **BVOTT -101 BASICS OF HUMAN ANATOMY AND PHYSIOLOGY-1**

#### **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 organs.

### **BVOTT -102 BIOMEDICAL WASTE MANAGEMENT**

#### **UNIT-1**

Introduction to bio medical waste management: definition of bio medical waste management, hazards of bio medical waste and its management, infection control, principles of bio medical waste management.

## **UNIT-2**

Categories of BMW: Different waste category, different types of waste, to manage bio medical waste in the work place, disposal of laboratory waste.

## **UNIT-3**

Color coding: Use of different colors of bags, describe waste management in hospital, need for bio medical waste, history of bio medical waste, problems associated with BMW, waste treatment.

## **UNIT-4**

Bio safety: components of safety in Operation Theater, personal protective equipments, cleaning and disinfecting medical equipments, sterilization basic care of OT.

# **BVOTT -103 INTRODUCTION TO BIO- CHEMISTRY**

## **UNIT-1**

Introduction to Laboratory apparatus: Pipettes- different types (Graduated, volumetric, Pasteur, Automatic etc.), Burettes, Beakers, Petri dishes, depression plates. Flasks - different types ) Volumetric, round bottomed, Erlenmeyer conical etc. Funnels - different types (Conical, Buchner etc.), bottles - Reagent bottles - graduated and common, Wash bottles - different type Specimen bottles etc., measuring cylinders, Porcelain dish, tubes - Test tubes, centrifuge tubes, test tube draining rack etc.

## **UNIT-2**

Maintenance of lab glass ware and apparatus: Glass and plastic ware in Laboratory use of glass: significance of boro silicate glass; care and cleaning of glass ware, different cleaning solutions of glass care and cleaning of plastic ware, different cleaning solutions etc.

## **UNIT-3**

Instruments 1 (Theory and demonstration) : Diagrams to be drawn

Water bath: Use, care and maintenance

Oven & Incubators: Use, care and maintenance.

Water Distillation plant and water deionizers. Use, care and maintenance

Refrigerators, cold box, deep freezers - Use, care and maintenance

Reflux condenser: Use, care and maintenance

Centrifuges (Theory and demonstration) Diagrams to be drawn

Definition, Principle , Svedberg unit, centrifugal force, centrifugal field rpm.

## **UNIT-4**

Instruments 2: Laboratory balance diagrams to be drawn

Manual balances: Single pan, double pan, trip balance

Direct read out electrical balances.

Use care and maintenance: Colorimeter and spectrophotometer Principle

Use, care and maintenance: pH meter principle, parts, Types of electrodes, salt bridge solution.

Use, care and maintenance: Ph meter and electrodes.

# **BVOTT -104 FIRST AID AND BANDAGING**

## **UNIT-1**

First Aid 1: Definition of first aid, scope, principles and essentials, methods of approach and qualifications of a first aider. Wounds, Snake bite, bite by rabid animal, and stings of insects- first aid and treatment. Fractures- Varieties, general signs and symptoms, general rules for treatment, padding of splints, individual fractures and treatment.

## **UNIT-2**

First Aid 2: Hemorrhage Varieties, arrest of external hemorrhage, arrest of hemorrhage from special regions, mouth, nose and ear. Artificial respiration, Asphyxia - Definition and causes. Poisons, classification, general rules for the treatment of poisoning, burn injury, Shock, Effects of heat and cold

## **BVOTT -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

## **BVOTT-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:**

### **BVOTTP 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

### **BVOTTP-102 PRACTICAL BIOMEDICAL WASTE MANAGEMENT**

- bio medical waste management
- waste infection control, principles of bio medical waste management.
- Categories of BMW
- Use of different colors of bags,
- sterilization basic care of OT.

### **BVOTTP 103-PRACTICAL BIOCHEMISTRY**

- 1. 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

### **BVOTTP -104 PRACTICAL FIRST AID AND BANDAGING**

- first aid and treatment.
- general rules for the treatment of poisoning, burn injury, Shock, Effects of heat and cold

### **BVOTTP 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).