

# **Bachelor of Vocation (CARDIAC CARE TECHNOLOGY)**

## **B.Voc (CCT)**

I Semester				
S.No.	Course Code	Subject	Content Type	Credit
1	BVCCT-101	Human Anatomy and Physiology -1	Skill	4
2	BVCCT-102	General Biochemistry	Skill	4
3	BVCCT-103	Orientation in para clinic science	Skill	4
4	BVCCT-104	Basic Electrography	Skill	3
5	BVCCT-105	Fundamentals of computer	General	3
6	BVCCT-106	General English	General	3
7	BVCCT-107	Personal Grooming	General	2
8	BVCCTP-1	Vocational Practical	Skill	13

### **BVCCT- 101-Human Anatomy and 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 organs.

### **BVCCT-102-General 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)

## **BVCCT-103-Orientation in para clinic science**

### **UNIT-1**

Entamoeba Histolytica, Leishmania, Material Parasites of man, Helminthology Taenia Saginata, Taenia Soleum,

### **UNIT-2**

Echinococcus granulosus, Ascaris Lumbricoides, Ancylostoma duodenale, Strongylids, stercoralis.

### **UNIT-3**

General Properties of Virus, Herpes virus, Poliovirus, Hepatitis virus, Oncogenic virus, HIV

### **UNIT-4**

Inflammation, Neoplasia, Osteomyelitis, Fractures, Osteoporosis, Rickets.

## **BVCCT-104 - Basic electrography**

### **UNIT-1**

Fundamental principles of electrocardiography: Cardiac electrical field Generation during activation, Cardiac wave fronts

Cardiac electrical field Generation during ventricular recovery

## **UNIT-2**

Electrocardiographic lead systems: Standard limb leads, Precordial leads and the Wilson central terminal, Augmented limb leads

The hexaxial reference frame and electrical axis

Recording adult and pediatric ECGs

## **UNIT-3**

The normal electrocardiogram, Atrial activation

The normal P wave Atrial repolarization

Atrioventricular node conduction and the PR segment Ventricular activation

## **UNIT-4**

activation and the QRS complex

Ventricular recovery and ST-T wave, U wave Normal variants

Rate and rhythm

## **BVCCT -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

#### **BVCCT-106-GENERALENGLISH 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:**

#### **BVCCTP 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

### **BVCCTP-102-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

### **BVCCTP-103 Practical Orientation in para clinic science**

- Know the diagnostic techniques used in pathology
- Know the various categories of the causes of diseases
- Know the course, outcome, consequences of diseases
- Compound Microscope
- Dark ground Microscopy
- Measurement of Microorganisms
- Hanging drop Preparation

- Isolation of Pure Cultures
- Bacterial Staining
- Simple Staining
- Gram's Staining
- Acid Fast Staining
- Albert's Staining
- Capsule Staining

### **BVCCTP-104- Practical Basic electrography**

Demostration of :

- electrocardiography
- Cardiac wave fronts
- Cardiac electrical field Generaleration during ventricular recovery
- Electrocardiographic lead systems central termina, Augmented limb leads, The normal electrocardiogram, Atrial activation, The normal P wave Atrial repolarization, Atrioventricular node conduction and the PR segment Ventricular activation
- activation and the QRS complex
- Ventricular recovery and ST-T wave, U wave Normal variants
- Rate and rhythm

### **BVCCTP-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, Generalerating 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).