

**BHARATHIAR UNIVERSITY; COIMBATORE 641 046**  
**CENTRE FOR COLLABORATION OF INDUSTRIES AND INSTITUTIONS**  
**B. Sc. PHYSICIAN'S ASSISTANCE**

(For the CCII candidates admitted from the academic year 2015-16 onwards)

**SCHEME OF EXAMINATIONS – CBCS PATTERN**

Part	Course Title	Ins. Hrs/week	Examinations				Credits
			Dur. Hrs.	CIA	Uni. Exam	Total	
<b>FIRST SEMESTER</b>							
I	Language -I	6	3	25	75	100	4
II	English - I	6	3	25	75	100	4
III	Core I - Introduction to Health and Healthcare	6	3	25	75	100	4
III	Core II – Applied Basic Sciences- I	5	3	25	75	100	4
III	Allied Paper I– Introduction to Secretarial & Computer Skills	5	3	25	75	100	4
IV	Environmental Science #	2	3	-	50	50	2
<b>SECOND SEMESTER</b>							
I	Language -II	6	3	25	75	100	4
II	English -II	6	3	25	75	100	4
III	Core III - Applied Basic Sciences- II	4	3	25	75	100	4
III	Core IV - Applied Basic Sciences- III	4	3	25	75	100	4
III	Core Practical I- Clinical Sciences – I	4	3	40	60	100	4
III	Allied Practical I– Information Technology/ Communication Skills	4	3	40	60	100	4
IV	Value Education – Human Rights#	2	3	-	50	50	2

<b>THIRD SEMESTER</b>							
III	Core V- Clinical Science – I – Diseases of Human Body	5	3	25	75	100	4
	Core VI - Clinical Science – II – Emergency Medicines	5	3	25	75	100	4
	Core VII –Applied Basic Science IV – Nutrition and Therapeutic Diet	5	3	25	75	100	4
	Core Practical-II –Clinical Science – II	5	3	40	60	100	4
	Allied Paper II- Advanced Secretarial skills	4	3	25	75	100	4
IV	Skill Based Subject 1- Medical Instrumentation	4	3	20	55	75	3
IV	Tamil @ / Advanced Tamil # (OR ) Non-major elective- I (Yoga for Human Excellence)#/Women's Rights#	2	3	-	50	50	2
<b>FOURTH SEMESTER</b>							
III	Core VIII - Clinical Science – III – Communicable and Skin Disorder	5	3	25	75	100	4
	Core IX- Clinical Science IV ( Speciality)	5	3	25	75	100	4
	Core Practical-III - Clinical Science – III	5	3	40	60	100	4
	Core X - Insurance in Health Care / Medical Records	5	3	25	75	100	4
	Allied Practical II - Advanced Secretarial skills	4	3	40	60	100	4
IV	Skill Based Subject 2 - Medical Instrumentation - Practical	4	3	30	45	75	3
IV	Tamil @ / Advanced Tamil # (OR ) Non- major elective – II : General Awareness #	2	3	-	50	50	2

## **I SEMESTER**

### **Core I -INTRODUCTION TO HEALTH AND HEALTH CARE**

#### **Unit I**

What is health – What is health care – Preventive – Curative – rehabilitative – individual – society's health.

#### **Unit II**

Private health care in India – No. of doctors - Clinics – Nursing Homes – Hospitals – Laboratories – Public health care in India – Central, State. Description of facilities till Primary health centre.

#### **Unit III**

Community health care – Role of NGO's.- What is an NGO – Examples – Role played by them in India

#### **Unit IV**

Health economics –Health care facilities in management – Health research – Importance of these there in Individual context.

#### **Unit V**

Where does physician's fit in – Where does physician's assistant fit in – Modern Health care – Future of health care – States obligation in health care – Role of Health insurance – Experience in other countries

### **Core II - APPLIED BASIC SCIENCES - I**

#### **Unit I**

##### **Introduction to Human Body**

What is health – How to achieve this – WHO definition of health - Conception of birth – Growth of foetus – Growth of a baby into an adult – Development mental, physical – ageing death - Overview of Structure and function – Basic Structure – Cell functions of a cell – Cell death – Life – Death - How all systems work together to keep a man alive- Overall view of human body's functioning. -

#### **Unit II**

Nutrition – Essential, nutrients – How we acquire them – Why deficiency

#### **Unit III**

##### **Anatomy I**

Definition and subdivisions of anatomy, anatomical position and terminology, regions and system of the body, cavities of the body and their contents.  
Size and shape of cells. Parts of cells, Cell division, Tissues of the body, Characteristics and function of different types of tissues, types of glands.

## **Anatomy II**

Skeleton – Definition axial and appendicular skeleton with names and location of bones. Joints – Definition, Types of muscles, Difference between striated and smooth muscle, Functions of the muscle, Bone and joints.

Subdivisions of nervous system, Brain – location, External features and functions of brain and spinal cord, Location features, Functions of the sense organs.

## **Unit IV**

### **Physiology I**

The types and structure of blood vessels. Shape, Structure of heart, blood supply to heart and functions of cardio vascular system.

The name, Location of organs of respiration and physiology of respiration.

### **Physiology II**

Name, Parts and functions of alimentary canal and accessory organs.

Names of endocrine gland – Location and features and functions of the endocrine glands. Parts and functions of kidney, Ureter, bladder and urethra.

## **Unit V – Biochemistry ( theoretical)**

Carbohydrate absorption, Metabolism, Maintenance of blood glucose levels – Hormonal influence, diabetes mellitus protein – Digestion absorption and metabolism – Lipid digestion absorption and metabolism – Water and other nutrient metabolism.

## **Allied Paper I -INTRODUCTION TO SECRETARIAL AND COMPUTER SKILLS**

### **Unit I**

Need for a secretary – Functions of a secretary – Role of a secretary in the hospital setup – Bridge between physicians and patients and his/her family

### **Unit II**

Secretarial Skills, Communication language, Typing, Recording, Acting as intermediary between Doctors

### **Unit III**

Computerization – What is it? Advantages, Requirements, skills needed to implement and use it

### **Unit IV**

MS Office – Word – Introduction – Handling – Excel – Power point – Slide Presentation – Preparing slides

### **Unit V**

Helping the Doctor – Receiving patient Outpatient – Appointments – Money collection – Medical report preparation – Doctors talk slide preparation

## **II SEMESTER**

### **Core III - APPLIED BASIC SCIENCES - II**

#### **Unit I – Clinical Pathology**

Blood and its constituents, urine – composition, complete urine analysis – Physical, chemical – glucose, protein, reducing substances, ketone bodies, Blood pigments bile, sediments, body fluids, CSF and semen analysis. Parasitology – Classification of common human parasites.

#### **Unit II – Biochemistry (Laboratory)**

Carbohydrates, Proteins, Lipids, Electrolyte- H<sub>2</sub>O – Arterial blood gas analysis – Buffers – Round function – Liver function – Enzymes.

#### **Unit III – Microbiology**

Introduction – Definition and importance of microbiology classification of microorganism. Brief morphological features of microbes. General properties of bacteria viruses and fungus. Chain of infection - Definition of infection, chain of infection – Sources of microbes. Routes of infection and prevention of hospital acquired infection, Immunity and its types.

#### **Unit IV – Histopathology**

Sample reception – Record Keeping – Specimen fixation and fixations – Processing of tissue – Embedding Microtomy – Routine and special stains – Frozen sections.

#### **Unit V – Immunology**

Introduction – Barriers for defense – Homeostasis – Vaso contraction – Platelets – Blood coagulation – Anticoagulants – Inflammatory response and wound healing – specific immune responses – Cellular immunity – Humoral immunity monoclonal antibodies.

### **Core IV - APPLIED BASIC SCIENCES - III**

#### **Unit I – Pathology**

Introduction – Techniques in pathology – Micro dissection – Microscopy – Examination of fixed tissues lipid soluble dyes – The electron microscope – The virulent infuge.

#### **Unit II – Pathology**

Electrophoresis – Chromatography – Fluorescent tracing – Techniques – radioactive Isotopes – Photography – Tissue culture.

#### **Unit III – Microbiology**

Sterilization – Definition and classification physical methods of sterilization, Use of autoclave, Preparations and Sterilization of surgical packs.

Disinfection – Definition and classifications, Methods disinfection. Principles of cleaning and disinfection the rubber, goods, Glasswares, Packs, linens, Equipments.

Collection and transport of specimen, Standard precautions for precaution for prevention of blood borne infection. Collection of culture sources from theatre. Biomedical waste segregation and waste management.

#### **Unit IV – Pharmacology**

Definition – Drugs – Pharmacy – source of drugs – forms of drugs – Routes of administration – various types of drugs – Classification – advantages and disadvantages of drugs  
– dose – definition – Minimum dose – Maximum Dose – Over dose – Oral Administration – Purpose of administration – Methods of administration – Calculating dosage – Domestic measurement - Metric system – Table measure – Injection – Definition – Purpose of injection – common dangers of injection – Different routes – Injection – Special points to be remembered.

#### **Unit V – Therapeutics**

Pharmacology used to treat diseases – Role in patients – Absorption – Drug interaction – Drug toxicities – Therapy of common diseases.

### **CORE PRACTICAL I: CLINICAL SCIENCES - I**

#### **Unit I – Examination of the patient**

History taking – History of the present illness – family history – personal history – possible diagnosis

#### **Unit II – Physical Examination – 1**

General – Consciousness – Other features – Height – Weight – Body surface area – Pulse – Blood pressure – Respiration temperature

#### **Unit III – Physical Examination – 2**

Hear sounds – Murmurs – Cardiac hypertrophy – Breath sounds – Rates - Rhonehi

#### **Unit IV – Physical Examination – 3**

Septomegaly – Splenomegaly – Tenderness – Over abdomen – Abdominal distension – Percussion – Palpation – auscultation – Gentalia.

#### **Unit V – Physical Examination – 4**

Nervous systems – Consciousness level – Pupils – Neck rigidity – Movements of limbs – Muscle power.

## **ALLIED PRACTICAL I: INFORMATION TECHNOLOGY / COMMUNICATION SKILLS**

### **Unit I**

Patient Registration - Appointment - Hospital Reception - Reason for registering patient –  
Ideal method of patient identification

### **Unit II**

Communicating to treating physician - Different methods of giving appointments – function  
and problems of hospital reception – Importance of organization medical report – Use of  
MRD.

### **Unit III**

Communication to relatives - Need for public education - Various methods of public education  
– Disadvantage of inadequate wrong education – Referring doctor – Role of referring doctor  
in patient treatment continuation - Rights of the referring doctor – Oral and letter  
communication to referring doctor.

### **Unit IV**

Communicating to Public - Information be given to relatives about disease and future  
course including cost – Which relatives to communicate with

### **Unit V**

Communication to referring doctor - Importance of organization information – Needed by  
the physician from his assistant – Verbal written and system based information transfer to  
the physician.

### **III SEMESTER**

#### **CORE V – CLINICAL SCIENCE – I** **DISEASE OF HUMAN BODY**

##### **UNIT – I Upper respiratory tract infection**

Bronchitis , Bronchial Asthma, Emphysema, Empyema , Atelectasis , Pneumonia  
Pulmonary edema, Chronic obstructive pulmonary disease, Pulmonary Hypertension  
Acute respiratory Distress syndrome , Pulmonary embolism , Lung abscess  
Pulmonary tuberculosis

##### **UNIT – II Gastro Intestinal Disorder**

Oesophagus – inflammation , stricture , obstruction , bleeding, Stomach – hiatus hernia , gastritis ,  
peptic and duodenal ulcer , bleeding , Intestinal disorder - inflammation ,and infection ,  
obstruction, Hemorrhoids , fissures , fistulas, Pancreas - inflammation , abscess , Liver –  
inflammation, cirrhosis , hepatic failure , Gall Bladder – inflammation , stones

##### **UNIT – III Cardio vascular problems**

Hypertension , Aneurism and Peripheral vascular disorder , Heart – Coronary artery diseases ,  
Angina pectoris , Myocardial infarction , Valvular disorders , Inflammatory diseases , Arrhythmias ,  
Cor – pulmonale cardiogenic shock,  
Blood – Anaemia , Bleeding disorders

##### **UNIT – IV Genito-Urinary problems**

Nephritis, Nephrotic Syndrome , Renal failure , Renal calculus, Bladder and urethral  
inflammation, infection and obstruction , Benign prostate hypertrophy

##### **UNIT – V Endocrine Problems**

Disorders of Thyroid and parathyroid , Pituitary , Adrenal , Diabetes mellitus  
Diabetes insipidus, Diabetic Ketoacidosis , Hyperosmolar coma , Thyroid crisis .

##### **Reference**

Davidson - Principle and Practice of medicine - 1999, Churchill  
Harrisons manual of medicine - 2009, Tata Mc Graw Hill  
P.J.Mehta - Practical Medicine , 2016, National Book Department  
Oxford Hand book of Acute Medicine - 2005, Oxford Uni.Press  
Tooheys Medicine - 2006, Elsevier



## **CORE VI– CLINICAL SCIENCE – II EMERGENCY MEDICINES**

### **UNIT- I Respiratory Emergencies:**

Foreign body obstruction, Chronic obstructive pulmonary disease (COPD)  
Asthma Pneumonia, Pulmonary edema , Common medication in respiratory problems (Meter dose inhaler, nebuliser) , Mechanical ventilator, Respiratory acidosis alkalosis

### **UNIT – II Gastrointestinal Emergencies**

Abdominal pain , Peptic ulcer disease , Cholecystitis , Hepatitis, Pancreatitis , Abdominal aortic aneurysm , Bowel obstruction, Hernias ,  
Gastro intestinal bleeding

### **UNIT III Cardiovascular Emergencies:**

Angina pectoris , Myocardial infarction (MI), Thrombolytic Therapy  
Congestive Cardiac Failure (CCF) , Aortic Aneurysm , Hypertensive Emergencies ,Cardiac Arrhythmias , Heart Block , CPR

### **UNIT – IV Central Nervous System Emergencies:**

Meningitis , Stroke , Seizure , Status epileptics , Syncope , Sub arachnoid hemorrhage , Epidural hemorrhage

### **UNIT – V Emergencies due to venomous bites and stings, Industrial Hazards**

Snake bite , Scorpion stings , Spider bite, Bee and wasp stings , Dog bite  
Cat bite , Human bite . Electrocution , Amputation , Crush injury , Fall from height , Assaults

### **Reference :**

Nayak - Practice of Emergency Medicine , 2008 - Elsevier  
Oxford Handbook of Accident and Emergency Medicine - 2005, Oxford  
Peter Manning - Essential of Emergency Medicine- 2004, McGraw Hill  
Haen - Principle of Hematology - 1995, Little Brown  
Gupta Practical Pediatric Critical Care Medicine , 1999, Jaypee  
Pearson - Hand book of pediatric intensive care, 2002 - W.B.saunders

## **CORE VII - APPLIED BASIC SCIENCE – IV NUTRITION AND THERAPEUTIC DIET**

### **UNIT – I MACRONUTRIENTS-CARBOHYDRATES**

Introduction, Classification, Functions, Sources, Deficiency diseases, Treatment

### **UNIT – II LIPIDS AND PROTEINS**

Introduction, Classification, Functions, Sources, Deficiency diseases, Treatment

### **UNIT – III MICRONUTRIENTS-VITAMINS**

Introduction, Classification, Functions, Sources, Deficiency diseases, Treatment

### **UNIT -IV MINERALS**

Introduction, Classification, Functions, Sources, Deficiency diseases, Treatment

### **UNIT – V THERAPEUTIC DIET**

Diet for fever , overweight and obesity , diabetes mellitus , cardiovascular diseases , GIT diseases , renal diseases , liver disorders , pregnancy and lactation

#### **Reference :**

Indrani - Manual of Nutrition and Therapeutic diet, 2009 - Jaypee

Darshan Sohi - Nutrition and Dietetics, 2012 - S.Vikas

Robinson - Normal and Therapeutic Nutrition - Mcmillan

Raheerja Begum - Textbook of Food, Nutrition and Dietetics, 2001 - Sterling Publication

Sheila John - Essential of Nutrition and Dietetics - 2009 - B I Publication

## **CORE PRACTICAL – II CLINICAL SCIENCES – II**

### **Unit I ICU Procedures**

Oxygen therapy , Ryles tube feeding , ECG , Arterial Blood gas analysis , IV Infusion ,CVP monitoring, Catherization , ICD , Abdominal Tapping , Pericardial effusion , Biopsy , Preoperative care ECG monitoring , Intubations , Ventilator , Defibrillation , Emergency Medicine

### **Unit II Dialysis Unit Procedures**

Checking RO water , Checking machine conductivity , Preparing acid of Bio carbonate concentrates , Priming Tubing and Dialyser ,AVF canulating , Starting of Haemodialysis , Monitoring Haemodialysis , Terminating dialysis , Reuse techniques for dialyser and tubing , Machine Maintenance , Peritoneal dialysis , CRRT , Haemoperfusion , Plasmapheresis .

### **UNIT – III Operation Theatre procedures I**

Catherization , Stenting, CVP monitoring, D&C, Herniarraphy, orchidectomy, laprotomy,

circumcision, haemorrhoidectomy, AVF surgery, , nephrectomy, cystoscopy, stentremoval, internal urithrotomy, vesicolithotripsy, trans urethral resection of prostate, SSG, ureteroscopy, stone removal, ureteric reanastomosis, appendix, extra corporeal shock wave, meatoplasty, pyeloplasty, cystectomy, hystrectomy, cholecystomy, renal transplant surgery

#### **UNIT - IV Operation Theatre procedures II**

Epidural injection, burhole evacuation, craniotomy and tumor excision, cervical disk, laminectomy, shunting, tooth excision, ovarian cyst removal, excision biopsy, fraction currantage, bladder neck incision, bladder tumor (TURBT), below knee amputaion, penis amputation, toe amputation, CAPD catheter incision and removal, fistula closer and colostomy

#### **UNIT - V Other outpatient procedures**

Dressing changing, suture removal, bladder catheterization, catheter removal , POP, Skin traction

#### **Reference :**

Berry & Kohn - Operating Room Technique , 2004 - Mosby  
Rashmi S.Patil - Operation Theatre Technique, 2003 - Vora  
Clement - Textbook of Operation Theatre , 2014 - Jaypee

### **Allied Paper II - ADVANCED SECRETARIAL SKILLS**

#### **UNIT - I**

Data Processing , Technical Report Writing ,Technical communication ,Discharge summary

#### **Unit II**

Preparing presentations , Letters to Government, Vo luntary Agencies , Permissions from various agencies

#### **Unit III**

Financial options for hospitals , Communications w ith banks, Project Reports, Referring a patient , Appointments , All forms of communication .

#### **Unit IV**

Maintaining patient records , Reports , Knowledge about the patient .

#### **Unit V**

Health Insurance – Definition , medical health insurance companies in India, Government and private insurance companies, health care needs, tips for buying health insurance, benefits

#### **Reference:**

Mari Robbins - Medical Receptionist and Secretries handbook, 4<sup>th</sup> edition  
Kevin Wilson - Administrative Assistants and Secretary's handbook , 5<sup>th</sup> revised eedition  
Helen Harding - Secretarial Procedures – Theory and Application, 2<sup>nd</sup> edition  
John Harrison - Secretrial Duties , 10<sup>th</sup> edition  
E.Krishnamurthy - Improve Your Secretarial Skills, 2006

## **Skill Based Subject 1 - MEDICAL INSTRUMENTATION**

**Scope** - Medical Instrumentation encompasses a wide range of instruments, apparatus that are used to diagnose, monitor and treat all medical abnormalities. It also focuses on the instruments principle and calibration.

**Equipments used in the medical tests for diagnosis, screening, and monitoring of diseases.**

### **Unit I**

X- ray machine , IITV (Image intensifying television) , Fluoroscopy , Ultrasound sonogram , Glucometer , Spigmomanometer

### **Unit II**

ECG machine , MRI Scan , CT scan , Digital X – ray (Computerized Radiography)

### **Unit III**

ICU care machine maintenance , Artificial breathing machines , Oxygen cylinders Pulse oximeter , Cardiac Monitors, Defibrillators .

### **Unit IV**

Arterial Blood Gas analyzer , Dialysis machine , Peritoneal Dialysis , Hemodialysis Machine , Endoscopy machine.

### **Unit V**

How to handle all the machines , Problem Solving - Testing and calibrating the machines

### **Reference:**

Dr.M.Arumugam - Bio-medical Instrumentation, Anuradha Publication, 2006  
Mccarthy - Fine Surgical and General instrument , Mccarthy  
Berry & Kohn - Operating Room Technique , 2004 - Mosby  
Rashmi S.Patil - Operation Theatre Technique, 2003 - Vora

## **IV SEMESTER**

### **CORE VIII - CLINICAL SCIENCE - III COMMUNICABLE AND SKIN DISORDERS**

#### **UNIT – I COMMUNICABLE - CONTAGIOUS**

Tuberculosis , diarrhoeal diseases , hepatitis A - E , herpes , chickenpox , smallpox typhoid , meningitis , gas gangrene , leprosy. , Dengue , Plague , Malaria , Diptheria Pertussis , Poliomyelitis , Measles , Mumps , Influenza , Tetanus , Yellow fever ,Filariasis

#### **UNIT - II COMMUNICABLE - NON CONTAGIOUS**

Tuberculosis , diarrhoeal diseases , hepatitis A - E , herpes , chickenpox , smallpox typhoid , meningitis , gas gangrene , leprosy. , Dengue , Plague , Malaria , Diptheria Pertussis , Poliomyelitis , Measles , Mumps , Influenza , Tetanus , Yellow fever ,Filariasis

### **UNIT – III BURNS**

Causes, Classification, patho physiology, clinical manifestation , phases of management, reconstructive and cosmetic surgeries.

### **UNIT – IV Dermatitis**

Dermatoses, infectious and Non infectious , inflammatory dermatoses, Acne Vulgaris Allergies and Eczema , Psoriasis , Malignant melanoma , Alopecia

### **UNIT – V Sexually transmitted diseases**

Syphilis, Gonorrhoea, Genital Herpes, Genital warts, HIV / AIDS, HPV, Chlamydia, Trichomoniasis,

### **Reference :**

Premalatha - Communicable Disease, 2006 - Anand Prakasam

Rkmanelkar - Communicable Disease, 1995 - Vora

Cambell - Skin Disease, Diagnosis and Treatment, 2012 - Elsevier

Mohan - Textbook of Dermatology, Venerology & Leprology, 2012 - Elsevier

Schofield - Sexually Transmitted Disease , Churchill Livingstone

Antonio - Aids – Rage and reality, 1993 - Anchol Book

## **CORE IX - CLINICAL SCIENCE – IV (SPECIALITY)**

### **UNIT – I Musculoskeletal problem**

Muscles , Ligaments and joints – inflammation , infection , trauma, Bones - inflammation , infection , trauma , fracture , dislocation , Osteomalacia and osteoporosis , Arthritis , Spinal column – defects and deformities , Tumor , prolapsed , pott's spine , paget's diseases

### **UNIT – II Disorders of Ear , Nose and Throat**

Otalgia , foreign bodies , Tympanic membrane perforation , otitis media , otosclerosis , mastoiditis , Meniere's Diseases , labyrinthitis , Sinusitis , rhinitis, pharyngitis , tonsillitis and adenoiditis , laryngitis , Nasal obstruction , epistaxis , laryngeal obstruction

### **UNIT - III Disorders of Eye**

Eyelids – infection , Deformities , Conjunctiva – inflammation and infection , bleeding, Cornea - inflammation and infection , Lens – cataracts , Glaucoma, Retinal and vitreous problem , Blindness

### **UNIT - IV Neurological Disorders**

Headache, Head injuries , Spinal cord injuries , Meningitis , Encephalitis , Brain abscess, seizures , cerebro vascular accidents, Brain tumor , aneurysms , Degenerative disorder

### **UNIT - V Male and female reproductive disorder**

Male- sexual dysfunction , infertility , penis disorder, Female – Menstrual disorder , endometriosis , fibroids , cervical and uterine tumors, vaginal & vulvular disorder and breast disorder , infertility

**Reference :**

Brian Corigan - Musculoskeletal and Sports injuries - Butter Worth  
Lane - The Osteoporosis Book, 1999 - Oxford  
Roy Choudhuri - Disease of the Ear , Nose, Throat, 2001 - Vijaya  
Logan - Disease of the, Nose, Throat , Ear , 1998 - Wright  
S.K.De - Fundamental of Ear , Nose, Throat disease, 1995 - NBS  
B.M.Chatterjee - Handbook of Ophthalmology, 2002 - CBS  
Vasudev - Textbook of Disease of Eye, 2004 - All India Publisher  
Parson - Disease of the Eye, 2013 - Elsevier  
Dutta - Textbook of Midwifery & Reproductive Health ,2006 - Jaypee

**CORE PRACTICAL III - CLINICAL SCIENCE III**

**UNIT - I Communicable Disease and skin disorder**

Assist in diagnostic and therapeutic procedure, practice medical and surgical asepsis, PPE (Personal Protective equipments), Counselling HIV patients

**UNIT - II Musculoskeletal disorder**

Assist in application of plaster cast removal of cast, skin fraction, application and removal of prosthesis, range of motion exercises, muscle strengthening exercises , Crutch maneuvering technique

**UNIT – III EAR , NOSE , THROAT DISORDER, EYE DISORDER**

Assist with diagnostic and therapeutic procedure , instillation of drops and assist with irrigation and tracheostomy , assist with foreign body removal

**UNIT - IV NEUROLOGICAL DISORDER**

Perform neurological examination, assist with diagnostic and therapeutic procedures, participating in rehabilitation programme.

**UNIT - V Reproductive disorder**

Assist with diagnostic and therapeutic procedure , breast self examination, biopsy, papsmear

**CORE X - INSURANCE IN HEALTHCARE / MEDICAL RECORDS**

**Unit I**

Psychology in relation to patients – Doctors and hospital staffs – patients relatives – How to handle these peoples in times of stress

**Unit II**

Role of law in medicine – Consumer protection to medical practitioners.

### **Unit III**

Health insurance – Role play by health insurance a ll over the world – Presets states of health insurance in India – Problems of possible s olutions.

### **Unit IV**

Interacting with Health insurance providers – Dat a to be ready records to be maintained solution for problems in individual patients and health insurance

### **Unit V : MRD**

What is MRD , Its Organization , Basic requirement and its functions , How to run it efficiently , Problems in MRD , How to solve them , Equipment in MRD

### **Reference:**

Nidhi Shah - Human Resourse Development in Health Care, 2009 - Excel Books  
S.K.Mangal - General Psychology, 1995 - Sterling  
Stephen Babu - Psychology for Nurses, 2014 - Elsevier  
Kunder - Hospital Facilities , Planning & Management, 2010 - Tata McCrGraw Hill  
Kelkar - Hospital Information System, 2010 - PHI  
Barbara J.Levin - Medical Legal Aspects of Medical Records  
William H.Roach Jr - Medical records and Law - 2006

## **Allied Practical II - ADVANCED SECRETARIAL SKILLS**

### **Unit I: Outpatient Office**

Functions of Outpatient office , Computerization - How to use them effectively , Telephonic communication , Maintanance of out patients medical records

### **Unit II: Billing Department**

Responsibilities of Billing department , Inputs Needed , Activity , How to record the billing, Problems in the billing department , Practical solutions.

### **Unit III: Ward Secretary**

Responsibilities of ward secretary , Actual problems faced by ward secretary , How to solve

### **Unit IV:Patient Treatment Co – Ordination**

Both IP & OP patients common problems, How to interact with all departments and solve them.

### **UNIT – V Communication**

Body language , Words, Tone of voice,Active listening, correct layout of letters and e-mails  
Telephonic skill- How to deal with callers professionally and effecttively, Telephonic etiquette, dos and donts of answering the phone.

## **Skill Based Subject 2 - MEDICAL INSTRUMENTATION - PRACTICAL**

### **Unit I : Biomedical Signals and instrumentation Sensors**

Measuring several signals from the human body , temperature , electrical and pressure. Understand noise from the environment , instruments and other physiologic systems , creating artifacts in instrumentation , theory of several sensors operation , sensors in laboratory sessions.

### **Unit II :Instrumentation Design**

Design on Wheatstone bridge , inverting and noninverting , differential and instrumentation amplifiers, Design filters necessary to condition and isolate a signal , signals are digitized and stored in a computer or presented on an output display.

### **Unit III :Instrumentation Application**

Review the cardiac , respiratory and neural physiological systems , designs of several instruments used to acquire signals from living systems , ECG , blood pressure monitors , spirometers , EEG -,MRI ,CT, ultrasound, Integrate information , biomedical signals , sensors and instrumentation design to create a design of your own.

### **Unit IV : Work in Multi-disciplinary Teams**

Written and oral communication skills necessary to present information learned from laboratory sessions. Learn how to work in a group to attain a common goal.

### **Unit V: Computers in Medical Instrumentation**

Computer analysis of ECG and EEG, Computer aided tomography, Computers in patient monitoring, Computers in the clinical laboratory