BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

1st Year

Sub: - ANATOMY THEORY (Paper-1) F.M.-70 (Hrs.-3Hrs)

1) Introduction of Bones of the Human Body of:

- Upper Limb : clavicle, scapula, humerus, radius, ulna, carpel, metacarpal & phalanges
- Lower Limb : hipbone, female, tibia, fibula, tarsus, metatarsus & phalanges
- Skull : name the bone of skull and sutures between them
- Thorax : ribs and their articulations
- Vertebral Column : cervical, thoracic, lumber, sacral and coccygeal vertebrae

2) Surface Marketing of the Whole Body:

- Nine regions of the abdomen
- Hip
- Skull

3) Introduction of different Vital Organs:-

A) Respiratory Organs:

- Nasopharynx
- Oropharynx
- Larynx
- Trachea
- Bronchi
- Lungs (and their lobular segments)
- Thoracic cavity
- Pleura and Pleural cavity

B) Circulatory Organs:

- Anatomical position of the heart
- Pericardium of the heart
- Chambers of the heart
- Valves of the heart

C) Digestive Organs:

- Tongue
- Teeth
- Oral cavity
- Pharynx
- Oesophagus
- Stomach
- Small intestine
- Large intestine

D) Reproductive Organs:

- Introduction of male Genital Organs (Gonads) : Testes, Epididymis
- Introduction of female Genital Organs:- Ovary, Fallopian Tube, Uterus, Vagina

E) Liver, Gall Bladder and Spleen:

- Introduction
- Anatomical position

F) Excretory Organs:

- Cortex and Medulla of Kidney
- Ureter
- Urinary Bladder
- Urethra (male and female)

G) Muscles:

- Introduction, Origin and Insertion, Function

H) Embryology:

- Only Introduction

I) Endocrine Glands: Morphology and Anatomical relation

- Pituitary Gland
- Thyroid Gland
- Para Thyroid Gland

J) Nervous System:

- Neuron Theory
- Classification of Nervous System
- Name of Basal membrane
- Blood supply of brain
- Cranial Nerves
- Sympathetic & Parasympathetic System

K) Sense Organs:

- Skin – Histology, Epidermis and Dermis
- Eye - Morphology, Parts of eye, Histology, Visual pathway and Optic nerve
  *Lachrymal apparatus, Extra ocular muscles & it's Nerve supply
- Ear
- Nose
- Tongue

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

1st Year

Sub:-ANATOMY **Practical (Only INTERNAL)**

1. Labeled Diagram of different organs and bones
2. Surface Markings of the Body
3. Demonstration of Histological Slides-
   a. Cartilage **b**. Bone **c**. Smooth Muscles **d**. Skeletal Muscles
4. Radiography of Normal Bones, Joints and Chest.

NO UNIVERSITY EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

1st Year

Sub :- PHYSIOLOGY THEORY (Paper -2) F.M.-70 (Hrs.-3 hrs)

1. **Cell Biology :-** Cell membrane structure, intracellular organelles and their functions and cytoskeleton
   - Definition
   - Structure and functions the cytoplasmic organelles
   - Reproduction : Meiosis, Mitosis

2. **The important physio-chemical laws applied to physiology**
   - Diffusion
   - Osmosis
   - Dialysis

3. **Fundamentals of different Organ System**
   - Cardiovascular System
   - Respiratory System
   - Digestive System
   - Excretory System
   - Reproductive System
   - Endocrine System
   - Lymphatic System

4. **Blood**
   - Definition
   - Composition
   - Function

5. **Formation of different type of blood cells**
   - Erythrocytes
   - Leucocytes
   - Thrombocytes

6. **Mechanism of Blood Clotting**
7. **Cerebrospinal Fluid**
   - Formation & Circulation
   - Composition
   - Circulation and Function

8. **Special Senses**
   - Hearing
   - Taste
   - Smell
   - Sight

9. **Kidney, General introduction, structure and function**
10. **Endocrine :** Secretion, regulation and functions of pituitary, thyroid, adrenal, pancreas, parathyroid, testis & ovaries
11. **Respiratory System :** introduction, general Organization, Mechanics of respiration, pulmonary volumes and capacities, Transport of respiratory gases, Nervous and chemical, control of respiration, pulmonary function tests.
12. **Cardiovascular System :** Structure and properties of cardiac muscle, Cardiac cycle Regulation of heart rate, Cardiac output, Blood pressure, its regulation, Regional circulation, coronary, cerebral circulation, Cardio respiratory changes during exercise, Normal ECG.
13. **Physiology of Exercise :** Effects of acute and chronic exercise on Oxygen transport, B.M.R./R.Q./Body fluids and electrolytes.

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

1st Year

Sub:- PHYSIOLOGY Practical (Only INTERNAL)

1. Labelled Diagram of different Vital Organs and System
2. Labelled Diagram of Corpuscles
3. Blood grouping Rh Typing
4. Determination of Vital Capacity
5. Auscultations of Heart Sound.
6. Blood pressure Recording
7. Pulse Rate, Heart Rate
8. BMI

NO UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

1st Year

Sub :- PATHOLOGY THEORY (Paper -3) F.M.-70 (Hrs.-3 hrs)

A) General Pathology

The Cell in health and disease

a. Introduction of pathology
b. Cellular structure and metabolism
c. Inflammation – Acute and Chronic
d. Derangement of Body Fluids and Electrolytes
   - Types of shocks
   - Ischaemia
   - Infection
e. Neoplasia – Etiology and Pathogenesis

B) Hematology (Normal and Abnormal)

a. Formation of Blood
b. Erythropoiesis
c. Leucopoiesis
d. Thrombopoiesis
e. Collection of Blood
f. Anticoagulants – mechanism of coagulation
g. Red cell count – Haemocytometer, Methods and Calculation
h. WBC Count – Methods, RBC – Indices, Platelets
i. Differential Leucocytes Count (DLC) –
   Morphology of White Cells, Normal Values
   Romanowsky Stains : Staining procedures
   Counting Methods, Principle of staining
j. Hb estimation – Method
   Colorimetric Method
   Clinical importance
k. Normal Haemostasis – BT, CT Prothrombin Time
l. Blood Bank – Introduction Blood Grouping and Rh Typing, Cross matching.
m. ESR

C) Clinical Pathology

Body Fluids :

a. Urine :
   - Method of Collection
   - Normal Constituents
   - Physical Examination
b. Stool Examination :
   - Method of Collection
   - Normal Constituents and appearance
   - Abnormal Constituents (Ova, Cyst)
c. CSF Examination :
   - Physical Examination
   - Chemical Examination
   - Microscopy
   - Cell Count
   - Staining
d. Semen Analysis :
   - Collection
   - Examination
   - Special Tests

D) Histopathology

- Introduction
- Techniques of - Receiving, grossing, mounting, section cutting.
- Various fixative modes of action preparation and indication.
- Decalcification of tissues.
- Tissues processing for routine paraffin section.
- Staining of Tissues – H & F staining.
- Maintenance of records and filling of the slides.
- Bio medical waste management.
- Preparation of Museum specimens.

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

1st Year

Sub:- PATHOLOGY Practical (ONLY INTERNAL)

- Collection of Sample
- Hb estimation
- TLC and DLC
- RBC, WBC, Platelet Count
- Peripheral blood film – staining and study of Malarial Parasite Thick & Thin

  a) Urine, Stool, Semen and CSF – Collection, Handling, Examinations
  b) Absolute Eosinophillia Count, PCV, RBC indices, ESR Estimation, Platelet Count
- Blood grouping Rh Factor Tube Method Slide Method
- Bleeding Time, Clotting Time, PT, APTT, TT, Platelet Count & Platelet Function Test
- Histopathology Section cutting and H & F Staining

NO UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

1st Year

Sub: - MICROBIOLOGY THEORY (Paper --- (4.a)) F.M.-35 (Hrs.-3 hrs)

COURSE CONTENTS :

1. Introduction and brief history of Microbiology
   1. Historical Aspect
   2. Micro- Organism in Health and Disease

2. Requirement and uses of common Laboratory Equipments
   - Incubator, Hot Air Oven, Water Bath
   - Anaerobic Jar, Centrifuge, Autoclave
   - Microscope
   - Glassware – Description of Glassware, its use, handling and care

3. Sterilization
   - Methods of Sterilization and it's Principle
   - Culture Media
   - Autoclave – its structure, functioning, control and indicator

4. Antiseptics & Disinfectants
   - Definition
   - Types
   - Mode of Action
   - Uses

5. Collection, Transportation and processing of clinical samples for Microbiology investigations

COURSE CONTENTS

General Bacteriology :

- Definition
- Morphology, Physiology and Classification of Bacteria
- Structure of Bacterial cell, Capsule, Flagella and Spores
- Growth of Bacteria
- Nutrition of Bacteria
- Staining Techniques used for Bacteriology

Virology :

- Definition
- General Properties of Viruses
- Pathogenesis of Viral Infection
- Diseases caused by different virus and mode of infection

Parasitology :

- Definition
- General description of Parasites and Host
- Classification of Parasite
- Mode of transmission of parasitic diseases

Fungus :

- Definition
- Structure
- Classification

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

1st Year

Sub:- MICROBIOLOGY Practical (ONLY INTERNAL)

Demonstration of washing of instruments
Staining – Type of Staining, Principle, Procedure and Interpretation
Culture – Urine, Blood, Body, Fluid, Water Stool, Swab
Types of media
Colony Characteristics
VDRL, ASO, CRP, WIDAL
Stool Exam
Microscope Stool Exam

NO UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

1st Year

Sub: - BIOCHEMISTRY THEORY (Paper --- (4.b)) F.M.-35 (Hrs.- 1.5 hrs)

(1) PHYSICAL BIOCHEMISTRY

- Introduction of Biochemistry
- Elementary knowledge of inorganic chemistry: - Atomic weight, molecular weight, equivalent weight, acid bases.
- Definition and preparation of solutions :- Percent solution, Molar solution, Normal solution and Buffer solution etc.
- Definition and preparation of reagent.
- Unit of measurement
- pH indicators : pH paper, universal and other indicators, pH measurement : different methods.
- Ionization of water buffer pH value of solution using.

(2) GENERAL BIOCHEMISTRY

- Aim and scope of Biochemistry
- Collection and Recording of Biochemical Specimen, separation of serum/plasma preservation and disposal of Biological material.
- Chemical examination of urine : Qualitative, Sugar, Protein, Bile Salt, Bile Pigment, Ketones Bodies.
- Chemical examination of Stool : Occult Blood.
- Chemical examination of other Body fluids : CSF, Pleural Fluid, Ascitic Fluid etc.
- Laboratory management and Maintenance of Records.

INTRODUCTORY KNOWLEDGE OF :-

Carbohydrates:-

- Importance
- Classification
- Properties
- Estimation of Glucose
- Clinical Significance

Protein:-

- Introduction and Physiological importance
- Amino acids
- Essential amino acids
- Classification
- Denaturation of Proteins
- Estimation of Total Protein, Albumin, Globilin, A/G Ratio

Lipids :-

- Definition and Introduction of Lipids
- Functions of Lipids
- Classification
- Properties of Lipids
- Clinical significance
- Steroids
- Estimation : Total lipids, HDL, LDL, VLDL, Total cholesterol, Triglyceride

Electrolytes :

- Function
- Properties
- Estimation of Essential electrolytes Sodium, Potassium, calcium, chloride and phosphate etc.
- Clinical Importance

Liver Function Test (LFT :

- Introduction
- Functions of liver
- Bile pigment
- Type of Jaundice
- Clinical significance

Kidney function tests (KFT) :

- Structure and function of Kidney
- Formation of urine
- Urea and Uric acid estimation

(3) ANALYTICAL BIO-CHEMISTRY

- Estimation of specific gravity of urine
- Urinary proteins
- Blood Sugar
- Blood urea
- Serum Creatinine
- Blood Cholesterol
- Serum Bilirubin, SGPT, SGOT
- Alkaline Phosphatase
- Australia Antigen

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

1st Year

Sub: - BIOCHEMISTRY Practical (ONLY INTERNAL)

Practical :

Introduction and usage of Glassware and Instruments.

Glassware :

- Composition of Glass
- General glass wares

Instruments :

- Balance
- Hot plate and Magnetic stirrer
- Centrifuges
- Incubators
- Constant temperature bath
- Colorimeter : Principle Function
- Photometer
- Flame Photometry
- Urine Examination Physical, Microscopic, Biochemical
- Stool Examination
- Body Fluids: Physical and chemical examination CSF Pleural Fluid, Ascitic fluid.
- Methods of estimation of glucose : Benedicts Reaction, Glucose oxidase
- Methods of estimation of urea.
- Methods of estimation of creatinine.
- Methods of estimation of cholesterol.
- Methods of estimation of Bilirubin.
- Methods of estimation of SGOT, SGPT

NO UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

1st Year

Subsidiary Sub :- COMMUNICATIVE SKILLS (ENGLISH)
THEORY F.M.-35 (Hrs.- 1.5 hrs)

COURSE OUTLINE

COURSE DESCRIPTION: This course is designed to help the student acquire a good command and comprehension of the English language through individual papers and conference.

BEHAVIOURAL OBJECTIVES
The student at the end of training is able to

1. Read and comprehend English language.
2. Speak and write grammatically correct English
3. Appreciates the value of English literature in personal and professional life.

UNIT – I: INTRODUCTION:

- Study Techniques
- Organization of effective note taking and logical processes of analysis and synthesis use of the dictionary
- Enlargement of vocabulary
- Effective diction

UNIT – II: APPLIED GRAMMER:

- Correct usage
- The structure of sentences
- The structure of paragraphs
- Enlargement of Vocabulary

UNIT – III: WRITTEN COMPOSITION:

- Pracee writing and summarizing
- Writing of bibliography
- Enlargement of Vocabulary

UNIT – IV: READING AND COMPREHENSION:

- Review of selected materials and express on self in one's words.
- Enlargement of Vocabulary

UNIT – V: THE STUDY OF THE VARIOUS FORMS OF COMPOSITION:

- Paragraph, Essay, Letter, Summary Practice, in writing

UNIT – VI: VERBAL COMMUNICATION:

- Discussions and summarization, Debater, Oral reports Use in teaching

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

1st Year

Subsidiary Sub:- COMPUTER SKILLS

THEORY F.M.-35 (Hrs.- 1.5 hrs)

&

PRACTICAL F.M. – 15

Basic Computer Course (BCC)

1. **Knowing computer:** What is computer, Basic Applications of Computer, Components of Computer System, Central Processing Unit (CPU), VDU, Keyboard and Mouse, Other input/output Devices, Computer Memory, Concepts of Hardware and Software, Concept of Computing, Data and Information, Applications of IECT, Connecting keyboard, mouse, monitor and printer to CPU and checking power supply.
2. **Operating Computer using GUI Based Operating System :** What is an Operating System, Basics of Popular Operating System, The User Interface, Using Mouse, Using right Button of the Mouse and Moving Icons on the screen, Use of Common Icons, Status Bar, Using Menu and Menu- selection, Running an Application, Viewing of File, Folders and Directories, Creating and Renaming of files and folders, Opening and closing of different Windows; Using help; Creating Short cuts, Basics of O.S Setup; Common utilities.
3. **Understanding Word Processing:** Word Processing Basics; Opening and Closing of documents; Text creation and Manipulation; Formatting of text; Table handling; Spell check, language setting and thesaurus; Printing of word document.
4. **Using Spread Sheet:** Basics of Spreadsheet; Manipulation of cells; Formulas and Functions; Editing of Spread Sheet, printing of Spread Sheet.

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

2nd Year

Sub: - APPLIED PATHOLOGY THEORY (Paper-1.a) F.M.-35

(Hrs.-1.5Hrs)

I. CARDIOVASCULAR SYSTEM

- Atherosclerosis- Definition, risk factors, briefly Pathogenesis & morphology, clinical significance and prevention.
- Hypertension- Definition, types and briefly Pathogenesis and effect of Hypertension.
- Aneurysms – Definition, classification, Pathology and complications.
- Pathophysiology of Heart failure.
- Cardiac hypertrophy – causes, Pathophysiology & Progression to Heart Failure.
- Ischaemic heart disease- cause, Pathology & complication.Complication of artificial valves.
- Cardiomyopathy – Definition, Types, causes and significance
- Pericardial effusion-causes, effect and diagnosis.
- Congenital heart disease- Basic defect and effect of important types of congenital heart disease.

II. HAEMATOLOGY

- Anaemia – Definition, morphological types and diagnosis of anaemia, Brief concept about Haemolytic anaemia and polycythaemia.
- Leukocyte disorders- Definition, classification, causes & effects of important types of bleeding disorders. Briefly various laboratory tests used to diagnose bleeding disorders.

III. RESPIRATORY SYSTEM

- Chronic obstructive airway disease – Definition and types. Briefly causes, Pathology and complication of each type of COPD.
- Briefly concept about obstructive versus restrictive pulmonary disease.
- Pneumoconiosis – Definition, types, Pathology and effect and effect in brief.
- Pulmonary congestion and edema.
- Pleural effusion – causes, effect and diagnosis.

IV. RENAL SYSTEM

- Clinical manifestations of renal diseases. Briefly causes, mechanism, effects and laboratory diagnosis of ARF & CRF. Briefly Glomerulonephritis and pyelonephritis.
- End stage renal disease – Definition, causes, effects and role of dialysis and renal transplantation in its management.
- Brief concept about obstructive uropathy.

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 2nd Year

Sub: - APPLIED PATHOLOGY PRACTICAL (Paper-1.a) F.M.-25

1. Description & diagnosis of the following gross specimens.
   (a) Atherosclerosis. (b) Aortic aneurysm (c) Myocardial infraction (d) Emphysema
   (e) Chronic glomerulonephritis (f) chronic pyelonephritis
2. Interpretetion & diagnosis of the following charts.

a. Hematology Chart – AML, CML, Hemophilia, Neutrophila, Eosinophilia.

b. Urine Chart – ARF, CRF, Acute glomerulonephritis.

3. Estimation of Homoglobin. 4. Estimation of Bleeding & Clotting time.
5. Frozen Section Technique 6. Cytological Technique 7. Calculate Analysis

UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY
DEGREE 2nd Year

Sub: - APPLIED MICROBIOLOGY THEORY (Paper-1.b) F.M.-35
(Hrs.-1.5Hrs)

1. Health care associated infection and Antimicrobial resistance: Infection that patients acquire during the course of receiving treatment for other condition within a healthcare setting like Methiclinic Resistant Staphylococcus aureus infection, caused by Clostriduium difficle, Vancomycin resistant enterococci etc. Catheter related bloodstream infection, Vancomycin resistance and changing flora. The impact and constattributed to Hospital associated infection.

2. Disease communicable to Healthcare workers in Hospital set up and its preventive measure: Occupationally acquired infection in healthcare professionals by blood borne transmission (HIV, Hepatitis B, Hepatitis C, Cytomegalovirus, Ebola virus etc), or faeca route (Salmonella, Hepatitis A etc.), direct contact (Herpes Simplex Virus etc.) Preventive measures to combat the spread of these infections by monitoring and control.

3. Microbiological surveillance and sampling: Required to determine the frequency of potential bacteria pathogens including Streptococcus pneumonia, Haemophilus influenza, and Moraxella catarrhalis and also to assess the antimicrobial resistance.

Sampling: Rinse technique, direct surface agar plating technique.

4. Importance of sterilization:
   a. Disinfection of instruments used in patient care: Classification, different methods, advantages and disadvantages of the various methods.
   b. Disinfection of the patient care unit.
   c. Infection control measures for ICU's
5. Sterilization:
   a. Rooms: Gaseous sterilization, one atmosphere uniform glow discharge plasma (OAUGDP).
   b. Equipments: Classification of the instruments and appropriate methods of sterilization.
   c. Central supply department: The four areas and the floor plan for instrument cleaning, high-level disinfecting and sterilizing areas.
6. Preparation of materials for autoclaving: Packing of different types of materials, loading, holding time and unloading.

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 2nd Year

Sub: - APPLIED MICROBIOLOGY Paper – 1.b PRACTICALS F.M.-25

1. Principles of autoclaving & quality control of Sterilization.

2. Collection of specimen from outpatient units, inpatient units, minor operation theatre and major operation theatre for sterility testing.

3. The various methods employed for sterility testing.

4. Interpretation of results of sterility testing.

5. Disinfection of wards, OT and Laboratory.

6. Revision of First Year Microbiology Practicals.

7. Test for Hepatitis Marker.

8. Test for H.I.V.

UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 2nd Year

Sub: - INTRODUCTION TO OPERATION THEATRE TECHNOLOGY

THEORY (Paper-2) F.M.-70 (Hrs.-3 Hrs)

1. C.S.S.D, and logistics

Cleaning and dusting – methods of cleaning, composition of dust. General care and testing of instrument – forcaps haemostatic, needle, holders, Knife, blade, scissor, use/abuse, care during surgery.
Disinfectants and of these instruments and Sterilization – Definition, Methods cleaning agents detergents, Mechanical washing, ultrasonic cleaner, lubrication inspection and pitfalls.
Various methods of chemical treatment- formalin, glutraidehavde etc, thermal. Hot Air oven-dry heat, Autoclaving, stream sterilization water etc.
UV treatment, Gamma Ray Sterilization
Instrument's Etching, care of micro surgical and titanium instruments
Sterilization of equipments – Arthroscope, Gastroscope, imago Lamp,Apparatus, suction Apparatus Anesthetic equiupment including endotracheal tubes-
OT Sterilization including laminar Air flow, Fumigation, Carbolization Trouble shooting – colored spots and corrosion, staining, dust deposit, Lighting in O.T. including Emergency Lighting recent amendment in EPA with reference to waste disposal.

2. Anesthesia Service, History, Pre-Operative, intra operative & post operative care
3. General Anesthesia Techniques
4. Local Anesthesia Techniques
5. Blood Transfusion
6. Monitoring in the Operation Theatre
7. Positioning of Patient
8. Instrument planning for various surgical procedure and Auxillary instrumentation.
9. O.T. Techniques, O.T. environment, control of infection scrubbing, theatre cloths including lead apron and goggles.
10. Duties of Nurses – Ethics, behavior during surgery etc.
11. Helping Surgeons and others to wash up and drape for operation, holding out cap, mask, grown and gloves for surgeon and others and handling of sterilized articles.
12. Special precaution in handling patients with sepsis, blood borne infections, H.B.V, H.C.V, H.I.V, etc With terminal disinfection, PEP.
13. Surgical Safety Check list, patient receipt, dispatch documentation and record keeping.
14. Preparations of Dressing, swabs and packs, packing of drums and sterilization.
15. Procedure for sending specimens for biopsy and fluid for culture.
16. Identification of instruments for common surgical operations and examination such as –
    (a) Incision of abscess, whitlow, carbuncles etc, excision of sebaceous cysts, warts, ulcers, ingrowing nails and foreign bodies etc.
    (b) Rectal operation like haemorrohoidectomy, excision of fistula etc.
    (c) Laparatomy instrumentation ---appendicetomy, intestinal obstruction etc.
    (d) Arrest of haemorrhage and operative procedure connected with wounds etc.
    (e) Operation on genitor-urinary system like supra pubic cystostomy hydrcele haematocele varicocele phimosis circumcision and vasectomy etc.

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 2nd Year

Sub: - INTRODUCTION TO OPERATION THEATRE TECHNOLOGY

PRACTICAL (Paper-2) F.M.-70 (Hrs.-3 Hrs)

1. Demonstration and identification of surgical instruments
2. Demonstration and identification of anesthesia and others
3. Demonstration of Endoscopic instrumentation etc.
4. Demonstration of O.T. disinfectants
5. Demonstration of O.T. lights
6. Demonstration of O.T. rooms layout.
7. Live surgical operation demonstration in O.T.

UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 2nd Year

Sub: - GENERAL PHARMACOLOGY

THEORY (Paper-3.a) F.M.-35 (Hrs.-1.5 Hrs)

General concepts about Pharmacodynamic and Pharmacokinetic Principles involved in drug activity.

I. Autonomic nervous system.

- Anatomy & functional organization.
- List of drugs acting and ANS including does route of administration, indication, contra indication and adverse effects.

II. Cardiovascular drugs- Enumerate the mode of action, side effects And therapeutic uses of the following drugs.

a. Antihypertensive

- Beta Adrenergic antagonists
- Alpha Adrenergic antagonists
- Peripheral Vasodilators
- Calcium channel drugs

b. Antiarrhythmic drugs

c. Cardiac glycosides

d. Sympathetic and nonsympathetic inotropic agents.

e. Coronary vasodilators.

h.Drugs used in Haemostais – anticoagulants Thrombolytics and anti

i. Cardioplegic drugs – History, principles & types.

j. Primary solutions – History, Principles & types.

k. Drugs used in the treatment of shock.

III. Anesthetic agents.

- Definition of general and local anesthetics.
- Classification of general anesthetics
- Pharmacokinetics and Pharmacodynamics of inhaled anesthetic agents
- Intravenous general anesthetics agents.
- Local anesthetics – classification mechanism of action, duration of action and methods to prolong the duration of action. Preparation, dose and routes of administration.

IV. Analgesics

- Definition and classification
- Routes of administration, dose, frequency of administration, side effects and management of non opioid analgesics.

V. Antihistamines and antimetic-

Classification, Mechanism of action, adverb effects, Preparations, dose and routes and administration.

VI. CNS stimulants and depressants

- Alcohol
- Sedatives, hypnotics and narcotics
- CNS stimulants
- Neuromuscular blocking agents and muscle relaxants.

VII. Pharmacological protection of organ during CPB

VIII. Inhalational gases and emergency drugs.

IX. Pharmacotherapy of respiratory disorders

- Introduction – Modulators of bronchial smooth muscle tone and pulmonary vascular smooth muscle tone.
- Pharmacotherapy of bronchial asthma
- Pharmacotherapy of cough
- Mucokinetic and mucolytic agents
- Use of bland aerosols in respiratory care.

X. Corticosteroids – Classification, mechanism of action, adverse effects and complication. Preparation, dose and routes of administration.

XI. Diuretics

- Renal physiology
- Side of action of diuretics

- Adverse effects
- Preparations, dose and routes of administration.

XII. Chemotherapy of infections

- Definition
- Classification and mechanism of action of antimicrobial agents
- Chemoperophylaxis.
- Classification, spectrum of activity, dose, routes of administration and adverse effects of penicillin, cephalosporins, aminoglycosides, tetracyclines, chloramphenicol, antitubercular drugs.

XII. Miscellaneous.

- IV fluids- various preparations and their usage.
- Electrolyte supplements
- Immunosuppressive agents
- New drugs included in perfusion technology.
- Drugs used in metabolic and electrolyte imbalance.

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 2nd Year

Sub: - MEDICINE RELEVANT TO OPERATION THEATRE TECHNOLOGY

THEORY (Paper-3.b) F.M.-35 (Hrs.-1.5 Hrs)

- Drugs used for the Treatment of
- Diabetes Mellitus
- Hypertension
- Ischemic heart disease
- Obesity
- Elderly Patient
- Pregnancy
- Shock
- COPD
- Chronic renal failure
- Chronic liver disease/failure
- Anemia
- Pediatric patient Infant/Neonate
- Epilepsy
- CVA

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 2nd Year

Sub: - APPLIED PHARMACOLOGY & MEDICINE RELEVANT TO O.T. TECHNOLOGY

THEORY (Paper-3.a & 3.b) F.M.-35 (Hrs.-1.5 Hrs)

PRACTICAL (Combined Internal Practicals for Paper 3.a & 3.b

1. Preparation and prescription of drugs of relevance.
2. Experimental pharmacology directed to show the effects of commonly used drugs of relevance and interpretation of few charts.
3. Demonstration and Identification of different drugs used in O.T.

NO UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 2nd Year

SUBSDIARY SUBJECT: - COMPUTER SKILLS

THEORY PAPER - 4 F.M.-20 (Hrs.-1.5 Hrs)

&

PRACTICAL F.M.-15

Basic Computer course (BCC)

1. **Communication using the Internet:** Basic of computer networks; LAN, WAN; Concept of Internet; Application of Internet; connecting to internet; What is ISP; Knowledge the Internet connectivity related troubleshooting.
2. **WWW and Web Browser:** World Wide Web; Web Browsing software, Search Engines; Understanding URL; Domain name; IP Address; Using e-governance website.
3. **Communications and collaboration:** Basics of electronic mail; Getting and email account; Sending and receiving emails; Accessing sent emails; Using Emails; Document collaboration; Instant Messaging; Netiquettes.
4. **Making Small Presentation:** Basics of presentation software; Creating Presentation/handouts.

INTERNAL AND UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 2nd Year

SUBSDIARY SUBJECT: - PUBLIC HEALTH

THEORY PAPER - 5 F.M.-20 (Hrs.-1.5 Hrs)

&

PRACTICAL F.M.-15

1. Concepts in Health & Disease
2. Basics in Epidemiology
3. Nutrition and Health
4. Environment and Health
5. Communication in Health
6. Demography and Family Planning with National Population Policy 2000
7. Essential Medicine and Rational use of Drugs (RUD)
8. Health care Delivery System with National Health Policy 2000
9. Health Planning and Management
10. Hospital waste Management
11. Disaster Management
12. National Rural Health Mission
13. National Health Programmes in India

INTERNAL AND UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 3rd Year

SUBJECT: - MEDICINE

THEORY (Paper-1) F.M.-70- (Hrs.-3 Hrs)

DERMATOLOGY – Acne, Scabies, Boil, Carbuncle

CARDIOVASCULAR SYSTEM

1. Introduction of Hypertension

RESPIRATORY SYSTEM

1. PULMONARY TUBERCULOSIS
2. Introduction OF BRONCHIAL ASTHMA
3. Introduction OF CHRONIC BRONCHITIS
4. Introduction OF PNEUMOCOCCAL PNEUMONIA

EXCRETORY SYSTEM

1. Introduction OF RENAL FAILURE

NERVOUS SYSTEM

1. Introduction of MENINGITIS
2. Introduction of ENCEPHELITIS

HAEMATOLOGY

1. Introduction and clinical feature OF IRON DEFICIENCY ANAEMIA, MEGALOBLASTIC ANAEMIA

GASTRO INTESTINAL SYSTEM

1. MANAGEMENT OF DIARRHOEA and VOMITING

ENDOCRINOLOGY

1. Introduction and clinical feature OF DIABETES MELLITUS
2. Introduction and clinical feature OF HYPOTHYROIDISM

NUTRITIONAL DEFICIENCY DISEASES

Clinical feature of the following deficiency diseases- protein, energy, Vitamin A, Vitamin B Complex, Vitamin C, and Vitamin D

COMMON DISEASES

- **Typhoid**
- **Malaria**
- **Kala-azar**
- **Dengue fever**

Note:- Short term posting in Medicine Department for practical knowledge.

NO UNIVERSITY PRACTICAL EXAM

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY
DEGREE 3rd Year

SUBJECT: - OPERATION THEATRE TECHNOLOGY-CLINICAL

THEORY (Paper-2) F.M.-70- (Hrs.-3 Hrs)

Layout of Operation theatres
OT Pollution and Environmental control
Peripheral Support areas, O.T. waste management
Operating room-maintenance of Preoperative, operating and Recovery room
Special procedure rooms, Septic theatre
Potential sources of injury to the cadaver & patient
Laying Tables for surgeon and various surgical trolleys
O.T. store ---indenting, storekeeping, accounting and audit
Principles of asepsis & sterile technologies
Surgical scrub, growing & gloving
Decontamination & disinfections
Sterilization Assembly & packing
Thermal sterilization, Chemical sterilization Radiation sterilization, surgical instrumentation
Fabrication, Classification Layout of ICU
Powered surgical instruments
Handling instruments
Specialized surgical equipment---Laparoscope, gastrocope , sigmoidoscope, hysteroscope, colposcope. Laser.Electro cautery, Ultrasonography, Microsurgery, Generalsurgery, Variuos operating positions-Lithotomy Trendelenberg, and Kidney position, Consent and Risk bond for anaesthesia and surgery, Instruments for Robotic surgery, positioning, prepping and draping the patient for-General surgery, breast procedures Abdominal surgery
Liver Procedures, Splenic procedures, Pancreatic Procedures
Ethical and Legal Issue in operation theatre and anaesthesia
Moral of employee in OT, Human relations, Public relation
Elective, Emergency and Ambulatory surgery
Admission and transfer procedures, maintenance of Operation records

Revision of human body anatomy---

a) Cavities of body content
b) Anatomy of head, neck airways and lungs
c) Anatomy of oral cavity, salivary glands, tongue
d) Anatomy of upper and lower extremities
e) Anatomy of G.I.T. renal
f) Anatomy of female and male genital organs
g) Anatomy of hearts, circulation of blood
h) Gross Anatomy of brain, meninges, cranial contents

General Surgery-

Basic Surgical incisions, surgical biopsies, hermiorrharaphy (Inguinal, epigastric, femoral, paraumblical, incisions), abdominal laparotomy
Breast tumours and abscess, wounds, ulcers, Tetanus and gas gangrene Management of HIV, HbsAg and HCV cases for operations

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY
DEGREE 3rd Year

SUBJECT: - OPERATION THEATRE TECHNOLOGY-CLINICAL

PRACTICAL (Paper-2) F.M.-50 (Hrs.-3 Hrs)

1. Demonstration of O.T. instruments
2. Clinical O.T. posting in different departments

UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY
DEGREE 3rd Year

SUBJECT: - OPERATION THEATRE TECHNOLOGY-APPLIED

THEORY (Paper-3) F.M.-70- (Hrs.-3 Hrs)

Respiratory Physiology and PFT
Preoperative preparation of the patient
Diagnostic procedures
Pathological examination
Radiological examination
Endoscopy
Gas cylinders+ Medical Gas pipeline system
Preanaesthetic checkout drill including consent
Anaesthesia circuits
Airway equipements
Monitors
Boyl's apparatus
Anaesthesia techniques
Historical background
Types of Anaesthesia
Indication of general anaesthesia
Endotrachel intubation
Maintenance
Monitoring
Emergency
Balanced Anaesthesia
Care of Anaesthetized patient
Post-anaesthesia care
Oxygen therapy
Care of transport of patient after anaesthesia
Use and maintenance Defibrillator, cardiac pacemaker, heart-lung machine, cautery
Anaesthesia in camps field areas, remote areas
Anaesthesia in radiology and patient
Management of unconscious patient
Respiratory failure and care
Resuscitatioon of new born
Tracheostomy and care
Local & regional anaesthesia
Spinal and epidural anaesthesia
Intravenous anaesthesia agents
Complication of general anaesthesia
Complication of local/regional anaesthesia
Blood transfusion, blood loss monitoring, Hazards of B.T.

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 3rd Year

SUBJECT: - OPERATION THEATRE TECHNOLOGY-APPLIED

PRACTICAL (Paper-3) F.M.-50 (Hrs.-3 Hrs)

1. Demonstration and identification of anaesthetic drugs and equipments.
2. Clinical O.T. posting
3. I.C.U. Posting

UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 3rd Year

SUBSIDIARY SUBJECT: - CENTRAL STERILE SUPPLY DEPT. (CSSD)

THEORY (Paper-4.a) F.M.-35 (Hrs.-1.5 Hrs)

1. Role of CSSD in health care, planning, Layout
2. Infection control and hygiene
3. Packing material-textiles and surgical linen management.
4. Packaging shelf life and assembly of sets
5. Dressing material – Standard and recommendations.
6. Surgical instruments maintenance.
7. Preparation and supplies for terminal sterilization.
8. Water quality and its important in CSSD
9. Different methods of sterilization.
10. Endoscopic sterilization
11. Trouble shooting in sterilization.
12. Quality assurance in CSSD
13. Safety in CSSD.
14. Supply of sterile instruments.
15. Receiving of used material.
16. Record maintenance in CSSD.
17. Laundry function in CSSD
18. Intradepartmental communication.

Note:- Practical Training In Hospitals.

NO UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY
DEGREE 3rd Year

SUBSIDIARY SUBJECT: - HOSPITAL WASTE MANAGEMENT

THEORY (Paper-4.b) F.M.-35 (Hrs.-1.5 Hrs)

1. Introduction to Biomedical wastes
2. Classification and categories of hospital wastes
3. Routs of transmission of disease by biomedical waste
4. Safety measures
5. The laws regarding biomedical waste treatment
6. Collection and segregation of biomedical wastes
7. Transportation and storage of biomedical wastes
8. Disposable techniques
9. Awareness and education
10. Persons at risk, rag pickers

Note:- Practical Training in Hospitals.

NO UNIVERSITY PRACTICAL EXAMINATION

Seminar Topics in O.T. Technology
3rd Year

1. O.T. Sterilization
2. Importance of O.T. Technology in outdoor and indoor surgery
3. Recent advancement in Autoclaving
4. Care and maintenance of anaesthesia instruments lighting and life saving equipments

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY
DEGREE 4th Year

SUBJECT: - OPERATION TECHNOLOGY---ADVANCE ANAESTHESIOLOGY

THEORY (Paper-1) F.M.-70- (Hrs.-3 Hrs)

Uses and maintenance Defibrillator, cardiac pacemaker, heart-lung machine, cautery
Anaesthesia in camps field areas, remote areas
Anaesthesia in radiology and endoscopy
Management of unconscious patient
Management of head injury patient
Respiratory failure and care
Resuscitation of new care
Tracheostomy and care
Anaesthesia Machine & central gas supply
Difficult intubation
Labour analgesia
Induced hypotension
Pulse-Oximetry, E.C.G., Temperature, C.V.P., Cardiac output
Drugs for Monitored anaesthesia care
Fluid and electrolyte balance
Reversal of neuromuscular blockage
Regulation of respiaration
C.S.F
Cardiapulmonary resuscitation
I.C.U, N.I.C.U, Management
Blood loss monitoring, hazards of B.T.
Casualty Management of Patient (Shock, Hemorrhage, Dehydration, Burn, Accident, etc.)
Disaster Management
Management of unconscious patient
Management of adult/children on ventilators
Management in Intensive Cardiac care
Respiratory failure and care
Intensive care of Neurosurgical patients including head injury
Intensive care of cardio thoracic operated pts
Overview of Intensive care of neonate & Allergy, Pain management
Anaesthesia for Medical diseases and Obesity

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 4th Year

SUBJECT: - OPERATION THEATRE TECHNOLOGY---ADVANCE ANAESTHESIOLOGY

PRACTICAL (Paper-1) F.M.-50

Practical and clinical duties----------

1. Demonstration and identification of anaesthetic drugs and equipments.
2. Clinical O.T. posting in specialized deptt.
3. I.C.U. Posting
4. Casualty Posting

Note: - Practical Training in Hospitals.

UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY
DEGREE 4th Year

SUBJECT: - OPERATION THEATRE TECHNOLOGY ADVANCED SURGERY Part-1

THEORY (Paper-2) F.M.-70 (Hrs.-3 Hrs)

- **G.I Surgery-**

Endoscopies, Vagotomy and Pyloroplasty, Gastrectomy, Pancreatectomy, Drainage of Pancreatic Cyst (pseudocyst), Resections of Small Bowel, Sigmoid Colon and rectum; Hemi & total Colectomy; Colostomy: Closure of colostomy, Rectopexy & abdominoperineal resection, Drainage of abscess(es) in the region of the liver, Hepatic Resection, liver transplant, Splenectomy; L-R Shunt, Surgery on adrenal gland.

- **Gynecological/obstetric surgery**
  - **Obstetric surgery :** Normal labour/Abnormal presentation/3rd stage complication – Atonic PPH, Traumatic PPH, Inversion of uterus, Retained Placenta/Rapture of uterus/ cord rolapsed/Vacuum and Forceps, LSCS, Perineal tear/Hysterotomy/Obsteric hysterectomy/Internal lilac Ligation/Exploration for ectopic Pregnancy/Abortions and Cervical circlage/Vesicular mole/Ectopic pregnancy/MTP-Management/Check curettage, Manual removal of placenta, Vaginal exploration for cervical & vaginal tears/Tuberctomy – Postpartum, Minilaparotomy and lap TL National programme in Obs and Gynae and family planning
  - **Gynaecological operations :** Hysterectomy / Cystectomy /Myomectomy /Sling surgery /SUJ repair/ Sacropexy/Wertheim's/VVF repair/Tuboplasty/Cyto-reduction for ca-ovary/Cx Bx /D&C/Endometrial Bx/Bartholin Cyst excision
- **Orthopedic Surgery**

Orthopedic Surgery: Open reduction & internal fixation of different types of fractures; bone grafting types and procedure; arthroscopy; external fixation; POP and traction; Individual operation on joints; osteotomies: indications, types, steps; Joint replacements
Plaster of paris cast – Introduction, types
Indication & Contraindications of plaster application cast and slabs
Principles and Technique of plaster application-Basic including the requirement of plaster room
Compartment syndrome and other complications of plaster cast
Follow up of patients with plaster cast
Fracture and dislocations-classification, basic scheme of management
Open fractures and its management principles
Synthetic cast material and their usage
Upper Limb caste / Plaster U cast, Above-below elbow Caste
Above knee and below knee casts and walking heel application / POP Boot and boot
Wedging, windows, reinforcements/ Hanging,
Crutches, measurement and use/ Tractions in Orthopedics
Care of patients on traction, plaster Thomas splint/ Braun's splint and its use
Basics of Orthotics/Bandaging, slings, strappings, RJ Bandage
Amputations: Types and operative steps
Faciomaxillary: Cranifacial corrections; faciomaxillary Operations
Operations on spine & spinal cord: Laminectomy, Tumours

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 4th Year

SUBJECT: - OPERATION THEATRE TECHNOLOGY ADVANCED SURGERY Part-1

PRACTICAL (Paper-2) F.M.-50

Practical and clinical duties----------

1. Demonstration and identification of various surgical and anaesthetic instruments and equipments.
2. Clinical O.T. posting in specialized deptt as
   a) Urosurgery b) Neurosurgery c) Plastic surgery d) Eye and ENT surgery e) Cardiac surgery

UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY
DEGREE 4th Year

SUBJECT: - OPERATION THEATRE TECHNOLOGY ADVANCED SURGERY PART-2

THEORY (Paper-3) F.M.-70 (Hrs.-3 Hrs)

Operation Theatre Techniques for Specialty Surgery:-
Preparation, nursing requirement, equipments including, instrument, Suture & etc.
Anaesthesia techniques, patient positioning & recovery

- **Paeditric Surgery:**

Hydrocephalus, meningocoel, meningomyelecoele, TO fistula, Hirschsorung's disease, ano-rectal malfunctions, congenital hernia, pyloric stenosis, duodenal atresea, diaphragmatic hernia, omphalocoele, hypospadiasis

- Vascular surgery
- Organ procurement and transplantation
- Thyroid surgery
- Endoscopic procedures & surgery
- Robotic surgery

- **Urologic surgery**

Genito-urinary procedures: Cyctectomy, Pyelolithotomy, pyeloplasty, ureterolithotomy, nephrolithotomy, renal transplant, operation for vesical fistula, ureterocystostomy, ileal conduit, prostatectomy

- Neurosurgery

Principles of neurosurgical surgeries, positions & draping, brain tumours: pituitary, supratentorial, infratentorial, craniotomy, shunts sterotaxic surgery, Cerebral abscess & AVM
Nerve surgeries : Classification & Management of nerve injuries, Cervical & lumbar sympathectomies, carpal tunnel sundrome

- **Thoracic surgery**

Thoracotomy, thoracoplasty, intercostals drainage, Lobectomy, pneumonectomy, Decortication of the Lung
Excision of mediastinal tumours including thymus, Constrictive pericarditis/ pericardiocentesis

- **Cardiac Surgery**

Cardiac Surgery – OT setup
Heart-lung machine & basics of cardiopulmonary bypass
Preoperative preparation of cardiac surgery
Anaesthesia risk in cardiac surgery
Functioning & maintenance of cardiac monitors
Basics of one0lung anaesthesia including double-lumen Tubes
Operations on TOF including shunts
Myocardial revascularization
Pacemakers
Cardiac Catheterization

- **Plastic and reconstructive surgery**

Skin grafting, tendon grafting; free flaps and micro vascular anaesthesia; reconstructive surgery on ears, mammary glands, craniosynostosis, rhinoplasty, abdominoplasty, liposuction, faciomaxillary reconstruction, Scar release operation

- **Opthalmic Surgery**

Operations for chalazion, pterygium, entropion, extropion, cataract, iridectomy, glaucoma surgery, anterior & posterior segment surgery, Lasers ocular microsurgery, intraocular lens implantation,
Emergency in Eye
Intruments & drugs: Specific instruments used in Opthalmic surgery

- **Otorhinolaryngologic and head and neck surgery**

Instruments & drugs: Specific intstruments used in ENT Surgery

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

DEGREE 4th Year

SUBJECT: - OPERATION THEATRE TECHNOLOGY ADVANCED SURGERY PART-2

PRACTICAL (Paper-3) F.M.-50

Practical and clinical duties----------

1. Demonstration and identification of various surgical and anaesthetic instruments and equipments.
2. Clinical O.T. posting in specialized deptt as
   a) Urosurgery b) Neurosurgery c) Plastic surgery d) Eye and ENT surgery e) Cardiac surgery

UNIVERSITY PRACTICAL EXAMINATION

BACHELOR OF SCIENCE IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY
DEGREE 4th Year

SUBSIDIARY SUBJECT: - PAPER - 4

Project Work (F.M.-50)

No University Exam

A project work in Operation Theatre Technology will have to be done in any concerned subject.

NO UNIVERSITY PRACTICAL EXAMINATION

Seminar Topics in O.T. Technology

4th Year

1. Management of Shock
2. Recent advancement in O.T. Technology
3. Discussion on role of O.T. Technician in super specialty cases
4. Discussion on super specialty in anaesthetic technique

Note- Seminar will have to be attended by all the students.

BOOKS FOR ANATOMY (TEXT & REFERENCE)

Name of Books	Author's Name
1) Understanding Human Anatomy & Physiology	William Davis
2) A Text Book of Anatomy	Chaurasia
3) A Text Book of Human Anatomy	T.S. Rangnathan
4) Human Anatomy (Description & Applied)	Fattana
5) Physiology and Anatomy with Practical Consideration ESTER	M. Grishcimer

BOOKS FOR PHYSIOLOGY (TEXT & REFERENCE)

Name of Books	Author's Name
1) Text Book of Physiology	Guyton
2) Human Physiology	Chatterjee
3) Concise Medical Physiology	Choudhary
4) Review of Medical Physiology	Ganong

BOOKS FOR BIO-CHEMISTRY (TEXT & REFERENCE)

Name of Books	Author's Name
1) Bio-chemistry for Medical students	Vasudewan
2) Text Book of Bio-Chemistry	Harper
3) Clinical Chemistry	Kaplan
4) Clinical Chemistry	Varley
5) Clinical Chemistry	Teitz
6) Text Book of Medical Biochemistry	Ramakrishna
7) Biochemistry	Das
8) Practical Biochemistry	K.P. Sinha

BOOKS FOR PATHOLOGY (TEXT & REFERENCE)

Name of Books	Author's Name
1) Laboratory Technology	Ramanic Sood
2) Laboratory Technology	Gwadkor
3) Clinical Pathology & Bacteriology	Sachdev K.N.
4) Text Book of Pathology	Krishna
5) Histopathology Techniques	Culling
6) Histopathology Techniques	Bancroft
7) Cytology	Koss
8) Diagnostic Cytopathology	Winfred Gred
9) Practical Haematology	Dacie & Lewis
10) Text Book of Medical Laboratory for Technician	Satish Gupta

BOOKS FOR MICROBIOLOGY (TEXT & REFERENCE)

Name of Books	Author's Name
1) Medical Microbiology	Anathnarayan & Panikar
2) The Practice of Medical Microbiology	Roberty Cruckshank
3) Parasitology-Interpretation to Clinical Medicine	Chatterjee
4) Medical Mycology	Rippon
5) Medical Mycology	Emmons
6) Medical Parasitology	Ajit Damle

BOOKS FOR COMPUTER (TEXT & REFERENCE)

REFERENCE:

1. A. Mansoor, "Internet and Wed Design Made Easier, "Pragya Publication.
2. B. Ram, " Computer Fundamentals.
3. T.N. Trainer, " Computer" McGraw Hill.

BOOKS FOR ENGLISH (TEXT & REFERENCE)

REFERENCE:

1. English Grammar Collins, Birmingham University, International Language Data Base, Rupa & Co. 1993.
2. Wren and Martin – Grammar and composition, 1989, Chanda Inter & Co. Delhi.
3. Letters for all Occasions, A S Myers. Pub – Harper Perennial.
4. Spoken English V Shashi Kumar and P V Dhanija Pub by Tata Mcgraw Hill, New Delhi.
5. Journalism Made Simple D Wainwright.
6. Writers Basic Book self Series, Writers Digest series.
7. Interviewing by Joan Clayton Platkon.
8. Penguin Book of Interview.

BOOKS FOR PUBLIC HEALTH (TEXT & REFERENCE)

REFERENCE:

1. Paarks texts book preventive and Social medicine.
2. Text book of Community Medicine.
3. Health Policies and Programme in India.

BOOKS FOR HOSPITAL WASTE MANAGEMENT

1) Hospital waste management and its monitoring,
Madhuri Sharma – J.P. Brother's Medical Publisher(P) Ltd.

BOOKS FOR MEDICINE

Davidson's text book of medicine

BOOKS FOR PHARMACOLOGY

A short text book of pharmacology – Tripathi
Medical Pharmacology – Padmaja Udaykumar – CSB Publishers & Distributors Pvt Ltd.

BOOKS FOR CSSD

Hospital Sterilization – J.P. Publication

Anand Nagaraja Prem

BOOKS FOR OPERATION THEATRE TECHNOLOGY BSC DEGREE COURSE-

2nd Year & 3rd Year

(1) Applied Microbiology – Same as 1st year Microbiology books

(2) Applied Pathology – Same as 1st year Pathology books

(3) Applied Pharmacology – (a) Pharmacology & Pharmacotherapeutic-Satosker
(b) Essentials of Medical Pharmacology – Tripathi
(c) Clinical Pharmacology ----------Laurence

(4) Introduction to OT Technology---Same as 3rd year books

3rd Year & 4th Year

(1) **OPERATION THEATRE TECHNOLOGY CLINICAL----------**

a) Operating Room Technique – Brigden
b) Operating Room Technique ---Berry & Kohn's
c) Hand book of Operation theatre Technique – Japee Publishers
d) The Operating Room Aide – Career Publishers
e) Operating theatre nursing – MC WARREN
f) Surgical Nursing & Technique- CHARLES PLUMLEY CHILDE
g) Perioperative Nursing- LIND SHIELDS HELEN WERDER

(2) **OPERATION THEATRE TECHNOLOGY APPLIED----------**

a) Anaesthesia for Medical Studies---GORDON
b) Clinical use of Anaesthetic drugs---ANDERSON
c) Anaesthesia Recovery and Intensive Care---HOPKINS
d) Text book for Anaesthesia & Operating Technicians----Department of Anaesthesia---Armed Forces Medical Services

(3) **OPERATION THEATRE TECHNOLOGY ADVANCED----------**

a) Operating theatre Technology ----Dr. RASHMI S PATIL
b) Text book of Operating Surgery ----FARQUAR
c) Care of Patients in Surgery ---- ALEXANDER
d) Essential Surgical Technique ----COLIN D JOHNSON
e) Text book of Orthopaedics----S MAHEDHWARI
f) Outlines of Orthopaedics----ADAMS-ELSIEVER
g) POP cast, Traction and Orthotics----STEWART – CHURCHILL LIVINGSTONE

Paediatric surgery:

Hydrocephalus, meningocoele, meningomyelocoele, OT fistula, Hirschsprung's disease, ano-rectal malfunctions, congenital hernia, pyloric stenosis, duodenal atresia, diaphragmatic hernia, omphalocoele, hypospadiasis

Vascular surgery

Organ Procurement and transplantation

Thyroid surgery

Endoscopic Procedures & surgery

Robotic surgery