

**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, carpal, metacarpal & phalanges
- Lower Limb : hipbone, femur, tibia, fibula, tarsus, metatarsus & phalanges
- Skull : name the bone of skull and sutures between them
- Thorax : ribs and their articulations
- Vertebral Column : cervical, thoracic, lumbar, sacral and coccygeal vertebrae

**2) Surface Markings 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
- Great vessels of the heart
- Valves of the heart

**C) Digestive Organs :**

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

*[Handwritten signatures and marks]*



BACHELOR OF OPERATION THEATRE TECHNOLOGY

1<sup>st</sup> Year

**Sub:- ANATOMY**

**Practical (Only INTERNAL)**

1. Labelled 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

CS

MSD

h

Am

h

MS

Contd.....pg.no.--04

**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
- Supra-renal glands

**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

*[Handwritten signatures and marks]*

**BACHELOR OF OPERATION THEATRE TECHNOLOGY**

**1<sup>st</sup> Year**

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

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 respirations, 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.**

Contd.....pg.no.---05

*[Handwritten signatures and marks at the bottom of the page]*

BACHELOR OF OPERATION THEATRE TECHNOLOGY

1<sup>st</sup> Year

**Subject :- PHYSIOLOGY      PRACTICAL (Only INTERNAL)**

Labelled diagrams of different Vital Organs & System

Labelled diagrams of Corpuscles

Blood grouping Rh Typing

Determination of Vital Capacity.

Auscultations of Heart Sound

Blood pressure Recording

Pulse Rate, Heart Rate

BMI

NO UNIVERSITY PRACTICAL EXAMINATION

8

Pr

Pr

Pr

Pr

Contd.....pg.no---06

**BACHELOR OF OPERATION THEATRE TECHNOLOGY**

**1<sup>st</sup> Year**

**Sub :- Pathology**

**THEORY (Paper-3)**

**F.M.-70**

**(Hrs.-3hrs)**

- 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 & E staining.
- Maintenance of records and filling of the slides.
- Bio medical waste management.
- Preparation of Museum specimens.

*[Handwritten signatures and scribbles]*

BACHELOR OF OPERATION THEATRE TECHNOLOGY

1<sup>st</sup> 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 Eosinophil Count, PCV, RBC indices, ESR Estimation, Platelet Count
- Blood grouping Rh Factor Tube Method Slide Method
- 1. Bleeding Time, Clotting Time, PT, APTT, TT, Platelet Count & Platelet Function Test
- Histopathology Section cutting and H & E Staining

NO UNIVERSITY PRACTICAL EXAMINATION

*[Handwritten signatures and marks]*

BACHELOR OF OPERATION THEATRE TECHNOLOGY

1<sup>st</sup> Year

Sub :- Microbiology THEORY (Paper---(4-a)) F.M.-35 (Hrs.-1.5hrs)

**COURSE CONTENTS :**

1. Introduction and brief history of Microbiology
  - Historical Aspect
  - 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

Contd.....pg.no.---10

BACHELOR OF OPERATION THEATRE TECHNOLOGY

1<sup>st</sup> 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**

**Microscopic Stool Exam**

**NO UNIVERSITY PRACTICAL EXAMINATION**

8  
R

P

M

M

Contd.....pg.no.--11

**BACHELOR OF OPERATION THEATRE TECHNOLOGY**

**1<sup>st</sup> Year**

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

**(1) PHYSICAL BIOCHEMISTRY**

1. Introduction of Biochemistry
2. Elementary knowledge of inorganic chemistry :- Atomic weight, molecular weight, equivalent weight, acid, bases.
3. Definition and preparation of solutions :- percent solution, Molar solution, Normal solution and Buffer Solution etc.
4. Definition and preparation of Reagent.
5. Unit of measurement
6. PH indicators: pH paper, universal and other indicators, pH measurement : different methods.
7. Ionization of water buffer PH value of solution using.

**(2) GENERAL BIOCHEMISTRY**

1. Aim and scope of Biochemistry
2. Collection and Recording of Biochemical Specimen, separation of serum/plasma preservation and disposal of Biological material.
3. Chemical examination of urine :Qualitative, Sugar, Protein, Bile Salt, Bile Pigment, Ketones Bodies
4. Chemical examination of Stool :Occult Blood.
5. Chemical examination of other Body fluids : CSF, Pleural Fluid, Ascitic Fluid etc.
6. 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, Globulin, 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

Contd.....pg.no---12



**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

S

RS

Handwritten signature

Handwritten signature

Handwritten signature

Handwritten signature

BACHELOR OF OPERATION THEATRE TECHNOLOGY

1<sup>st</sup> Year

Subject :- **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**

Contd.....pg.no.---14

BACHELOR OF OPERATION THEATRE TECHNOLOGY

1<sup>st</sup> Year

SUBSIDIARY SUBJECT ----- COMMUNICATIVE SKILLS (ENGLISH)

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

**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 conferences.

**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 OPERATION THEATRE TECHNOLOGY

1<sup>st</sup> Year

**SUBSIDIARY SUBJECT - COMPUTER SKILLS**

THEORY F.M.-20 (Hrs.-1.5hrs)

&

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 Systems; 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.

CS

Handwritten signature

Handwritten signature

Handwritten signature

Contd.....pg.no.--16

**BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 2<sup>nd</sup> Year**

**SUBJECT- 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 effects of Hypertension.
- Aneurysms - Definition, classification, Pathology and complications.
- Pathophysiology of Heart failure.
- Cardiac hypertrophy - causes, Pathophysiology & Progression to Heart Failure.
- Ischaemic heart diseases- Definition, Types. Briefly Pathophysiology, Pathology & Complications of various types of IHD.
- Valvular Heart diseases- causes, Pathology & complication. Complications of artificial valves.
- Cardiomyopathy - Definition, Types, causes and significance.
- Pericardial effusion- causes, effects and diagnosis.
- Congenital heart diseases - Basic defect and effects of important types of congenital heart diseases.

**II. HAEMATOLOGY**

- Anaemia - Definition, morphological types and diagnosis of anaemia. Brief concept about Haemolytic anaemia and polycythaemia.
- Leukocyte disorders- Briefly leukaemia, leukocytosis, agranulocytosis etc.,
- Bleeding 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 diseases - Definition and types. Briefly causes, Pathology and complications of each type of COPD.
- Briefly concept about obstructive versus restrictive pulmonary disease.
- Pneumoconiosis- Definition, types, Pathology and effects in brief.
- Pulmonary congestion and edema.
- Pleural effusion - causes, effects 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.

CS  
PE  
Amp  
pr  
Ar  
Contd.....pg.no.---17

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 2<sup>nd</sup> Year

**SUBJECT- APPLIED PATHOLOGY Paper-I(a)**

**PACTICAL 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. Interpretation & diagnosis of the following charts.  
a. hematology Chart - AML, CML, Hemophilia, neutrophilia, eosinophilia.  
b. Urine Chart - ARF, CRF, Acute glomerulonephritis.
3. Estimation of Hemoglobin.      4. Estimation of Bleeding & Clotting time.
5. Frozen Section Technique    6. Cytological Technique      7. Calculate Analysis

**UNIVERSITY PACTICAL EXAMINATION**

Handwritten signatures and initials at the bottom of the page, including a large 'S' on the left and several scribbled-out names in the center and right.

**BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 2<sup>nd</sup> Year**

**SUBJECT- APPLIED MICROBIOLOGY  
THEORY (Paper---(1-B)) F.M.-35 (Hrs.-1.5hrs)**

1. Health care associated infections and Antimicrobial resistance: Infections that patients acquire during the course of receiving treatment for other conditions within a healthcare setting like Methicillin Resistant Staphylococcus aureus infections, Infections caused by Clostridium difficile, Vancomycin resistant enterococci etc. Catheter related bloodstream infections, Ventilator associated pneumonia, Catheter Related urinary tract infections, Surveillance of emerging resistance and changing flora. The impact and cost attributed to Hospital Associated infection.
2. Disease communicable to Healthcare workers in hospital set up and its preventive measure: Occupationally acquired infections in healthcare professionals by respiratory route ( tuberculosis, varicella-zoster, respiratory syncytial virus etc ), blood borne transmission ( HIV, Hepatitis B, Hepatitis C, Cytomegalovirus, Ebola virus etc), oro faecal 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 bacterial pathogens including Streptococcus pneumoniae, Haemophilus influenzae, 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.

Handwritten signatures and marks at the bottom of the page, including the text "Contd.....pg.no.---19".

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 2nd Year

**SUBJECT- 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 theater and major operation theater 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

8  
R2

Ans

for  
m

Contd.....pg.no.---20

h

**BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 2<sup>nd</sup> Year**

**SUBJECT- 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 instruments-for caps haemostatic, needle, holders, Knife, blade, scissor, use/ abuse, care during surgery.  
Disinfectants and of there instruments and Sterilization- Definition, Methods cleaning agents detergents, Mechanical washing, ultrasonic cleaner, lubrication inspection and pitfalls  
Various methods of chemical treatment- formalin, glutaraldehyde etc, thermal. Hot Air oven- dry heat, Autoclaving, steam 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 Anaesthetic equipments 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. Anaesthesia Service,  
History, pre-operative, Intra operative & post operative care
3. General Anaesthesia Techniques
4. Local Anaesthesia 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, behaviour during surgery, etc.,
11. Helping Surgeons and others to wash up and drape for operation, holding out cap, mask, gown and gloves for surgeons 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 Dressings, 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 haemorrhoidectomy, excision of fistula etc,
  - (c) Laparotomy instruments---appendicectomy, intestinal obstruction etc,
  - (d) Arrest of haemorrhage and operative procedure connected with wounds etc.
  - (e) Operations on genito-urinary system like supra pubic cystostomy hydrocele haematocele varicocele phimosis circumcision and vasectomy etc





**BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 2<sup>nd</sup> Year**

**SUBJECT- GENERAL PHARMACOLOGY  
THEORY (Paper---(3-a)) F.M.-35 (Hrs.-1.5hrs)**

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

**I. Autonomic nervous system.**

- Anatomy & functional organization.
- List of drugs acting on ANS including dose, route of administration, indications, contra indications and adverse effects.

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

a. Antihypertensives

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

b. Antiarrhythmic drugs

c. Cardiac glycosides

d. Sympathetic and nonsympathetic inotropic agents.

e. Coronary vasodilators.

f. Antianginal and anti failure agents

g. Lipid lowering & anti atherosclerotic drugs.

h. Drugs used in Haemostasis - anticoagulants Thrombolytics and antithrombolytics.

i. Cardioplegic drugs- History, Principles and types of cardioplegia.

j. Primary solutions - History, principles & types.

k. Drugs used in the treatment of shock.

**III. Anaesthetic agents.**

- Definition of general and local anaesthetics.
- Classification of general anaesthetics.
- Pharmacokinetics and Pharmacodynamics of inhaled anaesthetic agents.
- Intravenous general anaesthetic agents.
- Local anaesthetics - 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 and opioid analgesics

**V. Antihistamines and antiemetic-**

Classification, Mechanism of action, adverse 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.

Contd.....pg.no.---23

8

100

11

12

13

14

**VII. Pharmacological protection of organs 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 complications. 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
- Combination of antimicrobial agents
- Chemoprophylaxis.
- Classification, spectrum of activity, dose, routes of administration and adverse effects of penicillin, cephalosporins, aminoglycosides, tetracyclines, chloramphenicol, antitubercular drugs.

**XIII. 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.

*[Handwritten signatures and marks]*

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 2<sup>nd</sup> Year  
SUBJECT- MEDICINE RELEVANT TO OPERATION THEATRE TECHNOLOGY  
THEORY (Paper---(3-B)) F.M.-35 (Hrs.-1.5hrs)

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

8













BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 2<sup>nd</sup> Year  
SUBJECT- APPLIED PHARMACOLOGY & MEDICINES RELATED TO O.T. TECHNOLOGY  
Paper-III (a) and (b)

PRACTICALS (Combined Internal Practicals for Paper III 'a' & '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

Handwritten signatures and initials are present at the bottom of the page, including a large 'S' on the left, several illegible signatures in the center, and a signature on the right.

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 2<sup>nd</sup> Year

**SUBSIDIARY SUBJECT - COMPUTER SKILLS**

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

**&**

**PRACTICAL F.M.-15**

**Basic Computer Course (BCC)**

**SECOND YEAR**

1. **Communication using the Internet:** Basic of Computer networks; LAN, WAN; Concept of Internet; Applications of Internet; connecting to internet; What is ISP; Knowing the Internet; Basics of internet connectivity related troubleshooting.
2. **WWW and Web Browsers:** World Wide Web; Web Browsing softwares, Search Engines; Understanding URL; Domain name; IP Address; Using e-governance website.
3. **Communications and collaboration:** Basics of electronic mail; Getting an 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**

CS  
[Signature]

[Signature]

[Signature]

Contd.....pg.no---27

[Signature]

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 2<sup>nd</sup> Year

**Subsidiary Subject:- Public Health**

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

&

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 Drug (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

*[Handwritten signatures]*

*[Handwritten signatures]*

Contd.....pg.no.--28

*[Handwritten signature]*

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 3<sup>rd</sup> Year

**SUBJECT- MEDICINE**

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

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 features OF IRON DEFICIENCY ANAEMIA, MEGALOBlastic ANAEMIA

GASTRO INTESTINAL SYSTEM

1. MANAGEMENT OF DIARRHOEA and VOMITING

ENDOCRINOLOGY

1. Introduction and Clinical features OF DIABETES MELLITUS
2. Introduction and Clinical features OF HYPOTHYROIDISM

NUTRITIONAL DEFICIENCY DISEASES

Clinical features of the following deficiency diseases – protein, energy, Vitamin A, Vitamin B Complex, Vit. C and Vit. D

COMMON DISEASES

- Typhoid
- Malaria
- Kala-azar
- Dengue fever

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

NO UNIVERSITY PRACTICAL EXAM

Contd.....pg.no.---29

Handwritten signatures and initials at the bottom of the page.

**BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE** 3rd Year

**SUBJECT - OPERATION THEATRE TECHNOLOGY- CLINICAL THEORY (Paper-2) F.M.-70 (Hrs.-3hrs)**

- 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, gowning & gloving
- Decontamination & disinfections
- Sterilization Assembly & packing
- Thermal sterilization, Chemical sterilization, Radiation sterilization, Surgical instrumentation
- Fabrication, Classification Lay out of ICU
- Powered surgical instruments
- Handling instruments
- Specialized surgical equipment---laparoscope, gastrocope, sigmoidoscope, hysteroscope, colposcope . Laser. Electro cautery, Ultrasonography, Microsurgery, Generalsurgery,
- Various operating positions- Lithotomy Trendelenberg and kidney position, Consent and Risk bond for anaesthesia and surgery, Instuments 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 issues 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 and 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 heart, circulation of blood
  - (h) Gross Anatomy of brain, meninges, cranial contents
- General Surgery-**
- Basic Surgical incisions, surgical biopsies, herniorrhaphy (Inguinal, epigastric, femoral, paraumbilical, incisional), abdominal laparotomy
- Breast tumours and abscess, wounds, ulcers, Tetanus and gas gangrene
- Manageent of HIV, HbsAg and HCV cases for operations

Handwritten signatures and initials are present at the bottom of the page, including a large 'S' on the left, several cursive signatures in the center, and a signature on the right.

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 3<sup>rd</sup> Year

**SUBJECT - OPERATION THEATRE TECHNOLOGY- CLINICAL**

**PAPER-II Practical F.M.- 50**

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

UNIVERSITY PRACTICAL EXAMINATION

85

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten mark]*

*[Handwritten signature]*

*[Handwritten signature]*

Contd.....pg.no.---31

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 3<sup>rd</sup> Year

**SUBJECT- OPERATION THEATRE TECHNOLOGY---APPLIED**

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

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 equipments

Vascular equipments

Monitors

Boyl's apparatus

Anaesthesia techniques

Historical background

Types of Anaesthesia

Choice of Anaesthesia

General Anaesthesia

Indication of general anaesthesia

Endotracheal intubation

Maintenance

Monitoring

Emergency

Balanced Anaesthesia

Care of Anaesthetized patient

Post-anaesthesia care

Oxygen therapy

Care of transport of patient after anaesthesia

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 born

Tracheostomy and care

Local & regional anaesthesia

Spinal and epidural anaesthesia

Intravenous anaesthesia agents

Inhalation anaesthetic agents

Complication of general anaesthesia

Complication of local/regional anaesthesia

Blood transfusion, Blood loss monitoring, Hazards of B.T

Lay out of ICU

Contd.....pg.no---32

*[Handwritten signatures and marks at the bottom of the page]*

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 3<sup>rd</sup> Year  
**SUBJECT- OPERATION THEATRE TECHNOLOGY---APPLIED**  
PRACTICAL Paper-III F.M.-50

PRACTICAL and CLINICAL DUTIES-----

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

UNIVERSITY PRACTICAL EXAMINATION

8

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

Contd.....pg.no.—33

*[Handwritten signature]*

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 3<sup>rd</sup> 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 matrlal--Standard and recommendations.
- 6) Surgical instruments maintenance.
- 7) Preparation and supplies for terminal sterilization.
- 8) Water quality and its importance 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 materials.
- 16) Recorde maintannance in CSSD.
- 17) Laundry function in CSSD.
- 18) Intradepartmental communications.

**Note:- Practical training in hospitals.**

**NO UNIVERSITY PRACTICAL EXAMINATION**

48

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

Contd.....pg.no---34

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 3<sup>rd</sup> 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

3<sup>rd</sup> 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

Contd.....pg.no.---35

CS

hwp

hc

hs

✓

ss

h

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 4<sup>TH</sup> Year  
SUBJECT- OPERATION THEATRE TECHNOLOGY---ADVANCE ANAESTHESIOLOGY  
THEORY (Paper-1) F.M.-70 (Hrs.-3hrs)

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 born  
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 blockade  
Regulation of respiration  
C.S.F  
Cardiopulmonary 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 & children &  
Resuscitation of new born  
Formation & excretion of urine  
Acid-base homeostasis  
Physiology of endocrine glands  
Reticulo Endothelial system, Immunity & Allergy, Pain management  
Anaesthesia for Medical diseases and Obesity

CS

Amo

pr

BS

✓

Contd.....pg.no---36

✓

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 4TH Year  
SUBJECT- OPERATION THEATRE TECHNOLOGY--ADVANCE ANAESTHESIOLOGY  
PAPER-I F.M.-50

**Practicals and clinical duties-----**

- 1) Demonstration and identification of anaesthetic drugs and Equipments
- 2) Clinical OT Posting in Specialised deptt
- 3) ICU Posting
- 4) Casualty Posting

Note:- Practical training in hospitals.

UNIVERSITY PRACTICAL EXAMINATION

*[Handwritten mark]*

*[Handwritten mark]*

*[Handwritten mark]*

*[Handwritten mark]*

*[Handwritten mark]*

*[Handwritten mark]*

Contd.....pg.no....37

**BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 4<sup>th</sup> Year**

**SUBJECT – OPERATION THEATRE TECHNOLOGY ADVANCED SURGERY – Part-1  
THEORY (Paper-2) F.M.-70 (Hrs.-3hrs)**

• **G.I. Surgery-**

Endoscopies, Vagotomy and Pyloroplasty , Gastrectomy, Pancreaticoduodenotomy (Whipple's Procedure), 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 labour/Abnormal presentation/

3<sup>rd</sup> stage complications – Atonic PPH, Traumatic PPH, Inversion of uterus, Retained Placenta /Rupture of uterus/cord prolapsed/Vacuum and Forceps, LSCS, Perineal tear / Hysterotomy/Obstetric hysterectomy/Internal Iliac Ligation/Exploration for ectopic Pregnancy /Abortions and Cervical circlage/Vesicular mole/Ectopic pregnancy/Twin pregnancy/MTP – MTP act – Legal and ethical aspect, Methods, complications,

Management/Check curettage, Manual removal of placenta, Vaginal exploration for cervical & vaginal tears/Tubectomy – 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**

**Orthopaedic surgery:** Open reduction & internal fixation of different types of fractures; bone grafting types and procedure; arthroscopy; external fixation; POP and traction; Individual operations on joints; osteotomies: indications, types, steps; Joint replacements

Plaster of Paris cast -Introduction, types

Indications & Contraindications of plaster application cast and slabs

Principles and Technique of plaster application-Basics including the requirements of plaster room

Compartment syndrome and other complications of plaster cast

Follow up of patients with plaster cast

Fractures and dislocations-classification, basic scheme of management

Fracture healing and factors affecting the same Complications of fractures

Open fractures and its management principles

Synthetic cast materials and their usage

Upper Limb casts / Plaster U cast, Above- below elbow Casts

Above knee and below knee casts and walking heel application / POP Boot and boot

Wedging, windows, reinforcements / Hanging,

Crutches, measurement and use / Traction in Orthopedics

Care of patients on tractions, plaster Thomas splint / Braun's splint and its use

Basics of Orthotics / Bandaging, slings, strappings, RJ Bandage

Amputations: Types and operative steps

Faciomaxillary: Craniofacial corrections; faciomaxillary Operations

Operations on spine & spinal cord: Laminectomy, Tumours

Handwritten signatures and initials at the bottom of the page.

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 4<sup>th</sup> Year

PAPER-II SUBJECT - OPERATION THEATRE TECHNOLOGY ADVANCED SURGERY-

Part-1

Paper 2 F.M.-50

Practical and Clinical duties-----

- 1) Demonstration and identification of various surgical and anaesthetic instruments and equipments
- 2) Clinical OT Posting in different deptt. as
  - a) Urosurgery b) Neurosurgery c) Plastic surgery d) Eye and ENT surgery e) Cardiac surgery

UNIVERSITY PRACTICAL EXAMINATION

*[Handwritten signatures and marks]*

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 4<sup>th</sup> Year

SUBJECT-OPERATION THEATRE TECHNOLOGY--ADVANCE SURGERY--PART-2

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

Operation Theatre Techniques for Specialty Surgery:-

Preparation, nursing requirement, equipments including instruments, Sutures & etc  
Anaesthesia techniques, patient positioning & recovery

• **Paediatric surgery:**

Hydrocephalus, meningocoele, meningomyelocoele, TO fistula, Hirschsprung's disease, ano-rectal malformations, congenital hernia, pyloric stenosis, duodenal atresia, diaphragmatic hernia, omphalocele, hypospadias

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

• **Urologic surgery**

*Genito-urinary procedures:* Cystectomy, 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, stereotaxic surgery, Cerebral abscess & AVM*

*Nerve surgeries: Classification & Management of nerve injuries, Cervical & lumbar sympathectomies, carpal tunnel syndrome*

• **Thoracic surgery**

Thoracotomy, thoracoplasty, intercostal 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 patient

Cardiac drugs used in cardiac surgery

Anaesthesia risk in cardiac surgery

Functioning & maintenance of cardiac monitors

Basics of one-lung anaesthesia including double-lumen Tubes

Operations on TOF including shunts

Myocardial revascularization

Pacemakers

Cardiac catheterization

*[Handwritten signatures and marks]*

- **Plastic and reconstructive surgery**

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

- **Ophthalmic surgery**

Operations for chalazion, pterygium, entropion, extropion, cataract, iridectomy, glaucoma Surgery , anterior & posterior segment surgery, Lasers, ocular microsurgery, intraocular lens implantation,

Emergencies in eye

Instruments & drugs: Specific instruments used in Ophthalmic surgery

- **Otorhinolaryngologic and head and neck surgery**

Instruments & drugs: Specific instruments used in ENT Surgery

Handwritten signatures and marks at the bottom of the page, including a large 'S' on the left, several illegible signatures in the center, and the text 'Contd.....pg.no-41' on the right with a signature below it.

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 4<sup>th</sup> Year  
SUBJECT-OPERATION THEATRE TECHNOLOGY--ADVANCE SURGERY--PART-2  
PAPER-3 F.M.-50

**Practical and Clinical duties-----**

- 3) Demonstration and identification of various surgical and anaesthetic instruments and equipments
- 4) Clinical OT Posting in different deott as
  - b) Urosurgery b) Neurosurgery c) Plastic surgery d) Eye and ENT surgery e) Cardiac surgery.

UNIVERSITY PRACTICAL EXAMINATION

SS

MO

h

PS

Contd.....pg.no---42

PS h

BACHELOR OF OPERATION THEATRE TECHNOLOGY DEGREE 4<sup>th</sup> 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**

**4<sup>th</sup> Year**

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

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

Handwritten signatures and initials are present at the bottom of the page, including a large signature on the left and several smaller ones on the right.

**BOOKS FOR ANATOMY (TEXT & REFERENCE)**

| <u>Name Of Books</u>                                   | <u>Author's Name</u> |
|--|----------------------|
| 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 )**

| <u>Name Of Books</u>            | <u>Author's Name</u> |
|---------------------------------|----------------------|
| 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 )**

| <u>Name Of Books</u>                  | <u>Author's Name</u> |
|---------------------------------------|----------------------|
| 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 )**

| <u>Name Of Books</u>                              | <u>Author's Name</u> |
|---|----------------------|
| 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 Greg         |
| 9) Practical Haematology                          | Dacie & Lewis        |
| 10)Text book of Medical Laboratory For Technician | Satish Gupta         |



**BOOKS FOR MICROBIOLOGY (TEXT & REFERENCE)**

| <u>Name Of Books</u>                                | <u>Author's Name</u>    |
|---|-------------------------|
| 1) Medical Microbiology                             | Anathnarayana & 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 Web Design Made Easier," Pragma 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 Shasi Kumar and P V Dhaniya 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 Interviews.

**BOOKS FOR Public Health (TEXT & REFERENCE)**

**Refrence**

- 1) Paarks texts bookpreventive and Social medicine
- 2) Text book of Community medicine
- 3) Health Policies and Programme in India

**BOOKS FOR HOSPITAL WASTE MANAGEMENT**

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

Contd.....pg.no.---45

*Handwritten signatures and scribbles at the bottom of the page, including a large 'S' and several illegible marks.*

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 -  
2<sup>nd</sup> Year & 3<sup>rd</sup> Year

- (1) Applied Microbiology - Same as 1<sup>st</sup> year Microbiology books
- (2) Applied Pathology - Same as 1<sup>st</sup> 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 3<sup>rd</sup> year books  
3<sup>rd</sup> Year & 4<sup>th</sup> 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 - LINDA 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 ---- FARQUARSON'S
- (c) Care of Patients in Surgery ---- ALEXANDER
- (d) Essential Surgical Technique ---- COLIN D JOHNSON
- (e) Text book of Orthopaedics ---- S MAHEDHWARI ---- JAPEE
- (f) Outlines of Orthopaedics ---- ADAMS-ELSIEVER
- (g) POP cast , Traction and Orthotics ---- STEWART - CHURCHILL LIVINGSTONE

**Paediatric surgery:**

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

**Vascular surgery**

**Organ procurement and transplantation**

**Thyroid surgery**

**Endoscopic procedures & surgery**

**Robotic surgery**

Handwritten signatures and initials at the bottom of the page, including 'CG', 'P.S.', 'R', 'S', 'H', and 'K'.

**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 -  
2<sup>nd</sup> Year & 3<sup>rd</sup> Year**

- (1) Applied Microbiology - Same as 1<sup>st</sup> year Microbiology books
- (2) Applied Pathology - Same as 1<sup>st</sup> 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 3<sup>rd</sup> year books

3<sup>rd</sup> Year & 4<sup>th</sup> 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 - LINDA 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 ---- FARQUARSON'S
  - (c) Care of Patients in Surgery ---- ALEXANDER
  - (d) Essential Surgical Technique ---- COLIN D JOHNSON
  - (e) Text book of Orthopaedics ---- S MAHEDHWARI ---- JAPEE
  - (f) Outlines of Orthopaedics ---- ADAMS-ELSIEVER
  - (g) POP cast , Traction and Orthotics ---- STEWART - CHURCHILL LIVINGSTONE

**Paediatric surgery:**

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

**Vascular surgery**

**Organ procurement and transplantation**

**Thyroid surgery**

**Endoscopic procedures & surgery**

**Robotic surgery**

*Seema Sahay*

Dr. Seema Sahay

*Gyatri Sunil*

Dr. Gyatri Sunil

*Ajay Simbka*

Dr. A.K. Simbka

*Vimal Mukesh*

Dr. Vimal Mukesh

*K.K. Mishra*

Dr. K.K. Mishra

