

GURUKUL EDUCATIONAL AND RESEARCH INSTITUTE

DIPLOMA IN OPERATION THEATRE TECHNICIAN

Subject and Syllabus



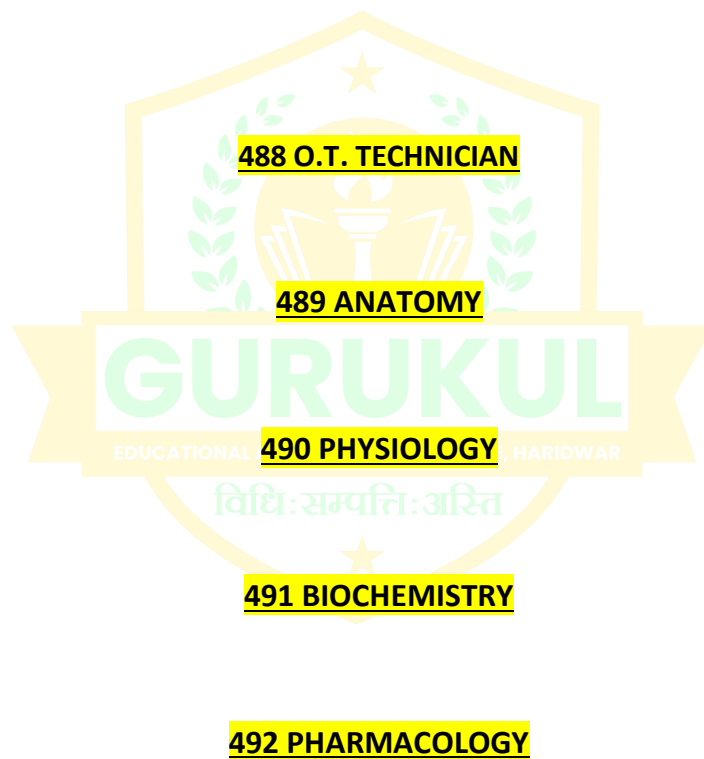
2022-23

Syllabus

DURATION:- 2 YEARS

DIPLOMA IN OPERATION THEATRE TECHNICIAN

1ST YEAR



DIPLOMA IN OPERATION THEATRE TECHNICIAN

2ND YEAR

493 PATHOLOGY

494 MICROBIOLOGY

495 PRINCIPLES AND PRACTICES OF SURGERY

496 STERILIZATION, DISINFECTION AND WASTE DISPOSAL

497 BASICS OF ANESTHESIA & CPR

EDUCATIONAL AND RESEARCH INSTITUTE, HARIDWAR

विधि:सम्पत्ति:अस्ति

1. Introduction to the course: Operation room set up; discipline; liability and responsibility as an Operation Room Assistant.
2. Medicolegal Aspects of Anaesthesia, consent form
3. Basic Principles of Electricity and its application in O.T., I.C.U., and C.S.S.D.
4. Fire and explosion hazards in the Operation Theatre.
5. Basic Sciences (Anatomy and Physiology)
 - Anatomy and Physiology of upper respiratory system.
 - Anatomy and Physiology of lower respiratory system.
 - Anatomy and Physiology of heart
 - Anatomy and Physiology of circulatory system.

- Anatomy and Physiology of upper respiratory system.
- Anatomy and Physiology of G.I.T. and liver.
- Anatomy and Physiology of excretory system
- Anatomy and Physiology of reproductive system.
- Anatomy and Physiology of C.N.System.
- Anatomy of Skeletal System of long bones, vertebrae, cranium and sacrum.
- Anatomy and Physiology of special senses-Ear
- Anatomy and Physiology of Nose.

6. Pharmacology

- Introduction to basic pharmacological principles.
- Applied pharmacology of General Anaesthetics
- Applied pharmacology of drugs used in premedication
- Muscle relaxants and drugs used in reversal of muscle relaxation.
- Drugs used for CPR.
- commonly used I.V. Fluids g. Blood transfusion and blood reactions.

7. Sterilization

- Common types of bacteria, viruses, protozoa
- Effects of bacterial infection, immunity, sensitivity, resistance
- Principles of asepsis, disinfection, sterilization, fumigation, and prevention of cross infection.
- Sterilization and its various methods
- Various types of sterilizers, autoclaves, hot air oven, flush autoclave, working principles, care and maintenance.
- F. Nosocomial infection (Hospital acquired infection).
- C.S.S.D. set up, function, procedures, discipline, storage and safety of articles.
- Universal safety precautions with special reference to AIDS and Hepatitis.

8. General

- Personal hygiene and preoperative preparation of patients.
- Reception of surgical/trauma patients.
- Personal hygiene and first-aid
- Reception of a patient in operation suite, pre and post operative observation.
- Care of an unconscious patient.
- Various positions during operative procedures.
- ABC of resuscitation, cardiac arrest and its management.
- Aseptic, disinfectant

9. Lectures/Demonstrations

- Anaesthesia machine.

- Electrocautery, suction apparatus.
- Monitor (E.C.G. Pulse) Defibrillators, pace makers, NIBP, SPO2
- Endoscopies, O.T.Lights, tables, fracture table.
- Compressed and medical gas cylinders and pipelines, reducing valves.
- Manifold room duties and responsibilities layout, safety precautions.
- Vaporizers and their upkeep.
- O2 therapy and humidification.
- Anatomy of skeletal system.

10. Pharmacology

- Preparing different concentrations of solutions and drug dilutions.
- Setting up I.V.drips and infusion pumps.
- Technique of I/M, S/C, I/V injections.
- Identification and physical characteristics of commonly used anaesthetic agents.
- Premedicant, muscle relaxants, and I.V.fluids.
- Blood transfusion,: Preparation and storage.

11. Microbiology

- Common antiseptics used in an O.T.preparation of antiseptic solutions in common use.
- Components, parts, care and maintenance of sterilizers
- E.O. gas sterilizers.
- Aseptor, disinfectant
- Cleaning, handling, packing of material for CSSD.
- Methods of fumigation of operation theatre and ICU.
- Sterilization of hospital furniture
- Sterilization of blunt and sharp instruments.
- Sterilization of rubber goods, gloves, polyethylene tubes, gum, elastic equipment.
- Ventilator basic knowledge
- Sterilization of dressings/bandages.
- Sterilization of sutures, ligatures.
- Sterilization of Endoscopes.
- Sterilization of Electrical instruments/cautery.
- Preparation and packing of different surgical and anaesthetic sets.
- Collection, labelling and dispatch of various samples/biopsy material

12. General

- Transportation of unconscious patient.

- Common positions for operative procedures.
- O.T. tables and lighting C arm, microscopes, endoscopes.
- Airway management and IPPR.
- Cardio pulmonary resuscitation.
- First Aid bandages, splints, plasters.
- Preparing POP splints, bandages.
- Collection, handling, dispatching of tissue, fluid, blood, urine samples for laboratory investigations, pathological or microbiological exam.
- Biomedical waste collection, transport, disposal and personal hazards

PAPER –I

UNIT-I

1. Introduction to the course: Operation room set up; discipline; liability and responsibility as an Operation Room Assistant.
2. Medicolegal Aspects of Anaesthesia, consent form
3. Basic Principles of Electricity and its application in O.T., I.C.U., and C.S.S.D.
4. Fire and explosion hazards in the Operation Theatre.
5. O.T. environment (Air flow, temperature, humidity and air-conditioning)

UNIT-II

1. Anatomy and Physiology of Respiratory System.
 - Upper Respiratory System.
 - Lower Respiratory System.
2. Anatomy and Physiology of heart
3. Anatomy and Physiology of circulatory system.
4. Anatomy and Physiology of G.I.T. and liver.
5. Anatomy and Physiology of excretory system.
6. Anatomy and Physiology of reproductive system.
7. Anatomy and Physiology of Central Nervous System.
8. Anatomy of Skeletal System of long bones, vertebrae, cranium and sacrum.
9. Anatomy and Physiology of special senses-Ear, Eye & Nose.

10. Temperature Regulation

PAPER-II

UNIT-III

1. Introduction to basic pharmacological principles, anaphylaxis and drug management
2. Applied pharmacology of General Anaesthetics agents
3. Applied pharmacology of Local Anaesthetics agents
4. Applied pharmacology of drugs used in premedication
5. Essential drugs used in CPBR (Cardio Pulmonary Brain Resuscitation)
6. Commonly used I.V. Fluids (Crystalloids and colloids).
7. Blood transfusion
 - Blood reactions
 - 2 Blood components
8. Analgesics
 - Opioids
 - Non Opioids

UNIT – IV-A

1. Orientation of infective agents
 - Bacteria, viruses, protozoa
 - Effects of bacterial infection, immunity, sensitivity, resistance
2. Asepsis
 - Principles of asepsis
 - Disinfection
 - Sterilization
 - Fumigation and prevention of cross infection.
3. Types of methods Sterilization

PAPER-III

UNIT-IV

1. Nosocomial infection (Hospital acquired infection).
2. C.S.S.D. 3. Universal safety precautions
4. HIV / AIDS and Hepatitis.

UNIT-V

1. Reception of patients
2. Pre-operative preparation of Patient
3. Exact Anaesthetic Technique
4. Post Anaesthetic Care Unit (PACU)
5. Care and transport of unconscious patient
6. Positioning
 - Anesthetic Procedures
 - Operative Procedures
7. O.T. Technician in surgical Assistant

UNIT-VI

1. Airway Management
2. C.P.B.R.

