PATIENT PREPARATION (THEORY)
Course Code: SUR.501T
Credit Hours: 2
Semester: I

- Deep breathing exercises.
  - Exercises, physiotherapy.
  - Chest physio postural drainage
- Counselling soft surgical diet.
  - Weight reduction & diet.
- Bowel preparation
- Medications.
  - Drugs to be discontinued/ stopped.
  - Drugs to be continued.
- Oral & dental hygiene
- Pre medications goals.
  - Anti-anxiety.
  - Antibiotics.
  - Anti-sialagogues.
  - Antacids.
  - Pro-kinetics.
  - Anti-emetics.
  - Sedatives & tranquillizers.
- Prosthetics, jewellery.
- Consent

PATIENT PREPARATION (PRACTICAL)
Course Code: SUR.501P
Credit Hours: 3

- Demonstrations as per theory syllabus

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
		TOTAL MARKS		**100**

SCHEME OF EXAMINATION - PRACTICALS

	Particulars	**Marks**
INTERNAL	Log Book	10
	Clinical Posting(attendance)	20
	Internal (1^{st} ,2^{nd} Hourly & mid-term)	20
EXTERNAL	Viva-voce	50
	TOTAL MARKS	**100**

RECOVERY ROOM AND DAY CARE (THEORY)
Course Code: SUR.502T
Credit Hours: 2
Semester: I

- Purpose, size, layout, design, location, environment.
- Type of patients and average length of stay (ALOS).
- RR team members and duties & Role of technologist.
- Equipment and instruments required for recovery room, care and maintenance.
- Monitoring in RR and other activities.
- Complications seen in post-operative period with their appropriate management.
- Type of procedures done on day care basis.
- Day care unit and its set up (DCU).
- Patient assessment, preparation in DCU.
- Post-operative care and discharge.

RECOVERY ROOM & DAY CARE (PRACTICAL)
Course Code: SUR.502P
Credit Hours: 4

- Demonstrations as per theory syllabus

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
TOTAL MARKS				**100**

SCHEME OF EXAMINATION - PRACTICALS

	Particulars	Marks
INTERNAL	Log Book	10
	Clinical Posting(attendance)	20
	Internal (1st ,2nd Hourly & mid-term)	20
EXTERNAL	Viva-voce	50
TOTAL MARKS		**100**

ANAESTHESIA EQUIPMENTS & TECHNOLOGY (THEORY)
Course Code: ANE.503T
Credit Hours: 3
Semester: I

UNIT- I : Medical Gas Supply

- Compressed gas Cylinders
- Colour coding
- Cylinders and Cylinder valves
- Cylinder storage
- Diameter index safety system
- Medical gas pipeline system and station outlets
- Air compressors
- Oxygen concentrators
- Alarms and safety devices

UNIT- II : Gas Administration Devices

- Simple oxygen administration devices
- Methods of controlling gas flow
- Reducing valves
- Flow meters
- Regulators
- Flow restrictors

UNIT- III: Oxygen Therapy

- Definition
- Causes and responses to hypoxemia
- Clinical signs of hypoxemia
- Goals of oxygen therapy
- Evaluation of patients receiving oxygen therapy
- Hazards of oxygen therapy

UNIT- IV : Anesthesia Machine

- Hanger and yoke system
- Cylinder pressure gauge, pin index
- Pressure regulator
- Flow meter assembly
- Vaporizers – Types, hazards, maintenance, filling and draining.

UNIT- V : **Breathing System**

- General considerations
- Classification and breathing system
- Mapleson system
- Jackson Rees system of Bain circuit
- Non breathing valves – Ambu valves
- Others

UNIT- VI : **Gas Analyzers Pulse Oximeter CO_2 Monitor**

- Pulse oximeters
- Capnographs

UNIT- VII : **Manual Resuscitators**

- Types of resuscitator bags
- Methods of increasing oxygen delivery capabilities while using oxygen with resuscitator bags.

UNIT- VIII: Artificial air ways (oral and Nasal endotracheal tubes, Tracheostomy tubes)

- Parts of airway and features
- Types, sizes and methods of insertion
- Indications for use
- Care of long term airways and complications
- Protocol for tracheostomy decannulation
- Face masks – Types, sizes and its usage.

UNIT- IX :Methods of Cleaning and Sterilization of Anesthetic Equipments

UNIT- XI: Minimum Standards for Anesthesia

- Patient assessment and preparation
- Checking the drugs and equipment
- Keeping the airway clear
- Be ready to control ventilation
- Monitor pulse and BP

ANAESTHESIA EQUIPMENTS & TECHNOLOGY (PRACTICAL)
Course Code: ANE.503P
Credit Hours: 4

- Observation & Demonstration of Preparation of Anaesthetic Equipments, drugs & techniques
- Instrumental trolley setting for common anaesthetic procedures.
- Methods of sterilisation in OT- Autoclaving, Fumigation
- Identification & knowledge of Equipments for anaesthesia.

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
		TOTAL MARKS		**100**

SCHEME OF EXAMINATION - PRACTICALS

	Particulars	Marks
INTERNAL	Log Book	10
	Clinical Posting(attendance)	20
	Internal (1^{st} ,2^{nd} Hourly & mid-term)	20
EXTERNAL	Viva-voce	50
	TOTAL MARKS	**100**

HUMAN VALUES AND ETHICS
Course Code: HVE.501T
Credit Hours: 2
Semester: I

UNIT -I

Introduction to Value Education: Understanding the need, basic guidelines, content and process for Value Education, Self-exploration—its content and process; 'Natural Acceptance' and Experiential Validation—as the mechanism for self-exploration.

UNIT - II

Continuous Happiness and Prosperity: A look at basic human aspirations, Right understanding, Relationship and Physical Facilities — the basic requirements for fulfillment of aspirations of every human being, Understanding Happiness and Prosperity come — A critical appraisal of the current scenario, Method to fulfill the above human aspirations: Understanding and living in harmony at various levels.

UNIT -III

Harmony in the Human Being: Understanding human being as a coexistence of the sentient 'I' and the material 'Body', Understanding the needs of Self ('I') and 'Body' Sukh and Suvidha. Body as an instrument of 'I': Being the doer. seer and enjoyer, understanding the characteristics and activities of 'I' and harmony in 'I', understanding the harmony of 'I' with the Body: Sanyam and Svasthya; correct appraisal of physical needs, meaning of prosperity in detail, programs to ensure Sanyam and Svasthya.

UNIT -IV

Harmony in the Family and Society: Understanding harmony in the Family — the basic unit of human interaction, Understanding values in human-human relationship; meaning of Nyaya and program for its fulfillment to ensure Ubhaya —tripti; Trust; vrs-vasa) and Respect (Sammana) as the foundational values of relationship. Understanding the meaning of VI-S-vasa; Difference between intention and competence, Understanding the meaning of Sammana, Difference between respect and differentiation; the other salient values in relationship.

UNIT – V

Harmony in the society: Understanding the harmony in the society (society being an extension of family): Sarnadhana, Samriddhi, Abhaya. Sah-astirva as comprehensive Human Goals, Visualizing a universal harmonious order in society — Undivided Society (Akhand Sarnal), Universal Order (Sarvabhauma Vyavasthal-from family to world family.

UNIT – VI

Harmony in the Nature (Existence): Understanding the harmony in the Nature, Interconnectedness and mutual fulfillment among the four orders of nature—recyclability and self-regulation in nature.

UNIT – VII

Understanding Sah-astitva: Co-existence of mutually interacting units in all-pervasive space, Holistic perception of harmony at all levels of existence

UNIT – VIII

Implications of the Holistic Understanding — A Look at Professional Ethics: Natural acceptance of human values, Definitiveness of Ethical Human Conduct, Basis for Humanistic Education, Humanistic Constitution and Universal Human Order, Competence in Professional Ethics. Ability to utilize the professional competence for

augmenting universal human order, Ability to identify the scope and characteristics of people-friendly and eco-friendly production systems, technologies and management models, Case studies of typical holistic technologies, management models and production systems.

UNIT – IX

Strategy for transition *frori* the present state to Universal Human Order: (a) At the level of individual: as socially and ecologically responsible engineers, technologists and managers, (b) At the level of society as mutually enriching institutions and organizations.

UNIT -X

Introduction to Medical Ethics (Deontology): (a) Relationship of health workers with their patients, relatives of patients and their co-workers. (b) History of Deontology (c) Principles and practice of Deontology.

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
		TOTAL MARKS		**100**

RESEARCH METHODOLOGY AND BIOSTATISTICS
Course Code: RMB.501T
Credit Hours: 3
Semester: I

UNIT-I: Research Design

Concept and Importance in Research – Features of a good research design – Exploratory Research Design – concept, types and uses, Descriptive Research Designs – concept, types and uses.

Experimental Design: Concept of Independent & Dependent variables.

UNIT-II: Qualitative and Quantitative Research:

Qualitative research – Quantitative research – Concept of measurement, causality, generalization, replication. Merging the two approaches.

UNIT-III: Measurement

Concept of measurement– what is measured? Problems in measurement in research – Validity and Reliability. Levels of measurement – Nominal, Ordinal, Interval, Ratio.

Definition & Calculations of mean(by both direct and shortcut method and step deviation method) mode and Median(individual observation, discrete observation and continuous observation .

UNIT-IV: Sampling

Concepts of Statistical Population, Sample, Sampling Frame, Sampling Error, Sample Size, Non Response. Characteristics of a good sample. Probability Sample – Simple Random Sample, Systematic Sample, Stratified Random Sample & Multi-stage sampling. Determining size of the sample – Practical considerations in sampling and sample size.

UNIT-V: Data Analysis

Data Preparation – Univariate analysis (frequency tables, bar charts, pie charts, percentages), Bivariate analysis – Cross tabulations and Chi-square test including testing hypothesis of
association.

UNIT-VI: Interpretation of Data and Paper Writing

Layout of a Research Paper, Journals in Medical Lab technology, Impact factor of Journals, When and where to publish ? Ethical issues related to publishing, Plagiarism and Self-Plagiarism.

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
		TOTAL MARKS		**100**

ENVIRONMENTAL STUDIES
Course Code: EVS.501T
Credit Hours: 2
Semester: I

UNIT-I

Introduction to ecology and environment; Definition, scope and importance of environment and environmental science. Structure of Environment – layers of atmosphere, hydrosphere – water budget, groundwater and ocean, lithosphere – soil formation and profile. Concept of ecology and ecosystem; types of ecosystem (Forest, pond, lakes, river, desert and grass land); energy flow of ecosystem; food chain and food web; ecological pyramids and succession

UNIT- II

Natural resources; Forest resources–uses and exploitation, deforestation and conservation; Renewable, Nonrenewable and alternate energy resources; Mineral resources - Use and exploitation, environmental effects of extracting and using mineral resources; water resources–uses and exploitation; Human resources and food resources; Bioresources–biodiversity value, threats and conservation, hot spots of biodiversity and endangered species, red data book; soil erosion and desertification.

UNIT- III

Environmental pollution; Air, water, soil and noise – sources, effects and consequences; marine and thermal pollution; Greenhouse effect, acid rain, ozone depletion, nuclear winter, photochemical smog, London smog Solid waste management–sources of waste generation, collection, segregation and disposal. Waste hierarchy and Integrated solid waste management Pollution control methods–sewage treatment plant, water treatment plant, air pollution control methods

UNIT-IV

Natural disasters; Earthquakes, floods, tsunamis, cyclones, droughts, landslides and tsunamis**.**

UNIT-V

Environmental laws, conventions and protocols; Water (Prevention and control of Pollution) act; Air (Prevention and Control of Pollution) Act; Environment Protection Act; Forest Conservation act; Kyoto protocol, Montreal protocol, Stockholm convention, Rio summit 1992 and convention on biodiversity, Cartagena protocol, IPCC.

UNIT- VI

Social issues and the environment; Rain water harvesting; wasteland reclamation; environmental ethics; sustainable development; population growth, industrialization, urbanization, family, child and women welfare programmes, human health and environment; Role of Information Technology in Environment; value education; sustainable development

UNIT- VII

Field work; Visit to local polluted site, biogas plant, waste management site, wastewater treatment plant, wildlife sanctuary; Study of simple ecosystems-pond, river etc.

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
		TOTAL MARKS		**100**

ANAESTHESIA & CRITICAL CARE
Course Code: ANE.504T
Credit Hours: 2
Semester: II

Unit-I Monitoring techniques in ICU practice

- Invasive blood pressure (BP) monitoring
- Transesophageal doppler (TED)
- Measurement of central venous pressure (CVP)
- Pulmonary artery catheterization
- Arterial blood gas (ABG) analysis
- Intracranial pressure (ICP) measurement
- Intra-abdominal pressure (IAP) measurement

Unit- II Ventilator Life Support in ICU

- Working principles of ventilator in ICU
- Types of ventilators
- Mechanical ventilation modes and settings
- Ventilation induced lung injury
- Ventilation monitoring
- Non-conventional ventilation
- Weaning from the ventilator

Unit- III

- Intubation and tracheostomy
- Spirometry
- Data analysis
- Acute lung injury (ALI) and adult respiratory distress syndrome (ARDS)
- Fluid control and therapy
- Drug side effects

Unit- IV Supportive care

- Control of infection
- Transport of critically ill
- Investigations

ANAESTHESIA & CRITICAL CARE (PRACTICAL)
Course Code: ANE.504P
Credit Hours: 3

- Demonstrations as per theory syllabus

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
TOTAL MARKS				**100**

SCHEME OF EXAMINATION - PRACTICALS

	Particulars	Marks
INTERNAL	Log Book	10
	Clinical Posting(attendance)	20
	Internal (1st ,2nd Hourly & mid-term)	20
EXTERNAL	Viva-voce	50
TOTAL MARKS		**100**

CENTRAL STERILE SERVICES DEPARTMENT (CSSD) PROCEDURES (THEORY)
Course Code: SUR.504T
Credit Hours: 2
Semester: II

- Cleaning and dusting: methods of cleaning, composition of dust.
- General care and testing of instruments: forceps, haemostatic, needle holders, knife, blade, scissor, use/ abuse, care during surgery.
- Disinfectants of instruments and sterilization- definition, methods, cleaning agents, detergents, mechanical washing, ultrasonic cleaner, lubrication.
- Thermal, hot air oven, dry heat, autoclaving, steam sterilization water etc, UV treatment.
- Various methods of chemical treatment: formalin, glutaraldehyde
- Sterilization of equipments: arthroscope, gastroscope, suction apparatus, anesthetic equipment including endotracheal tubes.
- Materials used for wrapping and packing assembling pack contents. Types of packs prepared. Method of wrapping and making use of indications to show that a pack of container has been through a sterilization process date stamping.
- OT Sterilization including laminar air flow.
- Fumigation of OT: Principle & procedure
- Waste disposal collection of used items, reception protective clothing and disinfections safe guards
- Troubleshooting: coloured spots and corrosion, staining, dust deposit.

CENTRAL STERILE SERVICES DEPARTMENT (CSSD) PROCEDURES (PRACTICAL)
Course Code: SUR.504P
Credit Hours: 3

- Demonstrations as per theory syllabus

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
		TOTAL MARKS		**100**

SCHEME OF EXAMINATION - PRACTICALS

	Particulars	Marks
INTERNAL	Log Book	10
	Clinical Posting(attendance)	20
	Internal (1st ,2nd Hourly & mid-term)	20
EXTERNAL	Viva-voce	50
TOTAL MARKS		**100**

APPLIED PHARMACOLOGY (THEORY)

Course Code: PHR.505T

Credit Hours: 2

Semester: II

UNIT – I Anesthetic agents:

- Definition and classification of general anaesthetics
- Pharmacokinetics and pharmacodynamics of general anaesthetics, inhaled anaesthetic agents etc.
- Local anaesthetics- classification, mechanism of action. Preparation, dose and routes of administration, side effects and management.

UNIT -II Pharmacotherapy of Respiratory disorders:

- Introduction- modulators of bronchial smooth muscle tone
- Mucokinetic and mucolytic agents
- Use of bland aerosols in respiratory care

UNIT – III

Diuretics classification, mechanism of action, adverse effects and complications, preparation, dose and routes of administration.

UNIT –IV

Pharmacology of thyroid hormones, glucocorticoids, anabolic steroids, calcitonin, insulin and oral hypoglycemic agents

UNIT – V Miscellaneous:

- IV fluids- various preparations and their usage
- Drugs used in metabolic and electrolyte imbalance
-

APPLIED PHARMACOLOGY (PRACTICAL)

Course Code: PHR.505P

Credit Hours: 2

- Demonstration of various techniques as per theory syllabus

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
		TOTAL MARKS		**100**

SCHEME OF EXAMINATION - PRACTICALS

	Particulars	Marks
INTERNAL	Log Book	10
	Clinical Posting(attendance)	20
	Internal (1^{st} ,2^{nd} Hourly & mid-term)	20
EXTERNAL	Viva-voce	50
TOTAL MARKS		**100**

PATIENT CARE EDUCATION (THEORY)
Course Code: SUR.505T
Credit Hours: 2
Semester: II

- Verify the patient's identity by asking the patient and /or by checking the wrist band.
- Verify the radiographic procedure requested by checking the procedure requisition form.
- Review the principles of body machines applicable to patient care.
    - Demonstrate procedures for patient transfer such as table to table, table to wheelchair, wheelchair to bed, bed to stretcher.
    - Describe the procedures for turning patients who have severe trauma. Unconsciousness, disorientation, or amputated limbs.
    - Radiographic procedures prior to surgery.
    - Demonstrate the procedure for scrubbing, donning gowns and gloves, removing gowns and gloves and handling sterile instrument.
    - Discuss procedure for handling and disposing of infectious wastes.
    - Describe the vital signs used to assess patient's condition.
    - Demonstrate the clinical measurement and recording to temperature, pulse blood pressure and respiration.
    - Describe the symptoms of cardiac arrest, anaphylactic shock, convulsion, seizure, haemorrhage, apnea, emesis, aspiration, fractures and diabetic coma/insulin reaction and their care.
    - Describe the use of medical equipment and supplies in treating medical emergencies.
    - Preanesthetic check-up: Physical examination, history, air way assessment and examining the reports of relevant laboratory tests.
    - history, trough.
      Physical examination, examining the reports of relevant laboratory tests.
    - Recognize anaesthetic problems in high-risk patients and selet further investigation.
    - Advise preanesthetic medication and preparation, including advice for withholding food and fluids.
    - Obtain patient / guardian consent for anaesthesia.
    - Conduct complete check for oxygen supply, other gasses supply.
      Conduct complete check for anaesthesia machine for its proper functioning,
    - Including oxygen fail safe alarm/ devices, detect leaks in the flow meter.
    - Manage fluid and electrolyte administration in peri operative period.
    - Maintain acid base balance in perioperative period.
    - Understand the indications, contraindications and complications of general anaesthesia spinal and epidural block.
    - Recognize Difficult intubation situations and manage them.

PATIENT CARE EDUCATION (PRACTICAL)
Course Code: SUR.505P
Credit Hours: 3

- Demonstrations as per theory syllabus

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
		TOTAL MARKS		**100**

SCHEME OF EXAMINATION - PRACTICALS

	Particulars	Marks
INTERNAL	Log Book	10
	Clinical Posting(attendance)	20
	Internal (1^{st} ,2^{nd} Hourly & mid-term)	20
EXTERNAL	Viva-voce	50
	TOTAL MARKS	**100**

OCCUPATIONAL THERAPY
Course Code: PMS.501T
Credit Hours: 2
Semester: IV

UNIT - I: Safety and Health Management

Occupational Health Hazards, Promoting Safety, Safety and Health training, Stress and Safety.

Ergonomics - Introduction, Definition, Objectives, Advantages.

Ergonomics Hazards - Musculoskeletal Disorders

UNIT - II: Radiation and Industrial Hazards

Types and effects of radiation on human body, Measurement and detection of radiation intensity. Effects of radiation on human body, Measurement – disposal of radioactive waste, Control of radiation

Different air pollutants in industries, Effect of different gases and particulate matter ,acid fumes , smoke, fog on human health. Industrial Hygiene.

UNIT –III: Electrical Hazards

Safe limits of voltages, distance from lines, etc., Joints and connections, Overload and Short circuit protection, Earthing standards and earth fault protect Effects of shock on human body. Electrical equipment in hazardous atmosphere, Control of hazards due to static electricity,

UNIT – IV: Fire and Other Hazards

General causes and classification of fire, Detection of fire, extinguishing methods, fire fighting installations with and without water.

Machine guards and its types, automation. High pressure hazards, safety, emptying, inspecting, and repairing.

UNIT –V: Vibration and Noise

Vibrations, its impact on human health, abatement Sources, effects of noise on man, Measurement and evaluation of noise, Silencers, Practical aspects of control of noise

UNIT-VI: Theories & Principles of Accident Causation & Prevention

The effect of accident, unsafe act, unsafe condition, unpredictable performance, Human factors contributing to accidents - causes for unsafe acts,

Incident, accident, injury, dangerous occurrences, unsafe acts, unsafe conditions, hazards, oversight, mistakes, etc.

Accident Prevention: Principles of accident prevention, Accident and Financial implications.

UNIT-VII: First Aid

Body structure and Functions, Position of causality, the unconscious casualty, fracture and dislocation, Injuries in muscles and joints, Bleeding, Burns, Scalds and accidents caused by electricity, Respiratory problems, Rescue and Transport of Casualty. Cardiac massage, poisoning, wounds.

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
		TOTAL MARKS		**100**

HEALTH CARE EDUCATION MANAGEMENT
Course Code: PMS.502T
Credit Hours: 2
Semester: II

Unit- I Educational Technology

- Define educational technology
- Recognize the scope of educational technology
- Explain the functions of educational technology
- Appreciate the division and sources of educational technology
- Appreciate the contribution of educational technology
- Interpersonal Relations
- Define therapeutic communication
- Describe the development of interpersonal relationship
- Phases of therapeutic relationship
- Appreciate cultural influences in therapeutic relationship

Unit- II Educational Objectives

- Define educational objectives
- State the purposes of educational objectives
- Appreciate the data sources for formulation of educational objectives
- List the characteristics of educational objectives
- Health care careers
- Health Care Systems
- Careers in Health Care
- Personal and Professional Qualities of a Health Care Worker
- Basics of health care
- Promotion of Safety
- Infection Control
- Vital Signs
- First Aid

Unit- III Methods of Clinical Teaching

- Realize the outcomes of clinical teaching
- Describe clinical teaching models
- Identify factors influencing clinical teaching
- State the purposes of clinical teaching
- Information, Education and Communication for Health
- Define health education.
- Recognize the scope of health education.
- Narrate the aims and objectives of health education.
- Describe the models of health education.
- Explain the principles of health education.

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
TOTAL MARKS				**100**

ADVANCE ANAESTHESIA TECHNIQUE (THEORY)

Course Code: ANE.507T

Credit Hours: 2

Semester: III

Unit- I

- Vascular cannulation
- Central neuraxial blockade
  - Potential benefits of central neuraxial block
  - Mechanism of action, spread, uptake &elimination
  - Ultrasound for central neuraxial blockade
- Peripheral nerve blocks
- Post anaesthesia care
- Ultrasound in ICU
  - FAST
  - Volume assessment
  - Thoracic ultrasound

Unit- II

- Review of modern technology in anaesthesia
  - Ultrasound
  - Fiberoptics
  - X-ray
- Smart Pumps and Computer-Controlled Drug Infusion Delivery
- Anaesthesia information management systems
- Clinical information systems in critical care
- Decision support system

Unit- III

- General anaesthesia
  - Types and techniques
  - Awareness during anaesthesia
  - Complications
  - The long term effects of general anaesthesia
  - Management of general anaesthesia
  - Anesthesia and childre

Unit- IV **12 hours**

- Emergency anaesthesia guidelines
  - Incidence and risk factor
- Anaesthetic emergencies
  - Airway emergencies
  - Anaphylaxis
  - Local anaesthetic toxicity
  - Malignant hyperthermia
- The principles and conduct of anaesthesia for emergency surgery
  - Choice of anaesthetic technique
  - Management and protection of the airway including pulmonary aspiration
  - The rapid sequence induction: evolution over time
  - Management of ventilation
  - Maintenance of anaesthesia

ADVANCE ANAESTHESIA TECHNIQUE (PRACTICAL)
Course Code: ANE.507P
Credit Hours: 3

- Demonstrations as per theory syllabus

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
TOTAL MARKS				**100**

SCHEME OF EXAMINATION - PRACTICALS

	Particulars	Marks
INTERNAL	Log Book	10
	Clinical Posting(attendance)	20
	Internal (1st ,2nd Hourly & mid-term)	20
EXTERNAL	Viva-voce	50
TOTAL MARKS		**100**

SUBSPECIALITY ANAESTHESIA & TECHNIQUE (THEORY)

Course Code: ANE.506T

Credit Hours: 2

Semester: III

Unit-1

- Paediatric anaesthesia
- Neurosurgical anaesthesia
- Anaesthesia for plastic and reconstructive surgery

Unit-2

- Anaesthesia for cardiothoracic and vascular surgery
- Anaesthesia for head and neck surgeries
- Anaesthesia for ophthalmic procedures

Unit-3

- Anaesthesia for genitourinary surgeries
- Anaesthesia for orthopaedic surgeries
- Anaesthesia for obstetrics and gynaecological procedure

Unit-4

- Anaesthetic considerations in organ donation and transplant procedures
- Pain management
- Legal aspects of anaesthesia

SUBSPECIALITY ANAESTHESIA & TECHNIQUE (PRACTICAL)

Course Code: ANE.506P

Credit Hours: 3

Semester: III

- Demonstrations as per theory syllabus

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
TOTAL MARKS				**100**

SCHEME OF EXAMINATION - PRACTICALS

	Particulars	Marks
INTERNAL	Log Book	10
	Clinical Posting(attendance)	20
	Internal (1st ,2nd Hourly & mid-term)	20
EXTERNAL	Viva-voce	50
TOTAL MARKS		**100**

SUBSPECIALITY SURGICAL TECHNIQUE (THEORY)
Course Code: ANE.508T
Credit Hours: 4
Semester: III

Unit-I

- Principles of laparoscopic surgery
- Advantages and disadvantages
- Safety issues and indications
- Postoperative care
- Principles of robotic surgery
- Advantages and disadvantages
- Safety issues and indications
- Postoperative care
- Neck and spine
- The accurate assessment of spinal cord injuries
- The basic management of spinal trauma and major pitfalls

Unit- II

- Trauma to the face and mouth
- Classification of facial fractures
- Diagnosis and management of fractures
- Plastic and reconstructive surgery
- The spectrum of plastic surgical techniques
- The various skin grafts
- The principles and use of flaps
- Plastic surgery to manage difficult and complex tissue loss
- Elective orthopaedics
- Upper limb – pathology, assessment and management
- Hip and knee
- Foot and ankle
- Paediatric orthopaedics

Unit- III

- Elective neurosurgery
- Head injury
- Investigation and treatment for intracranial infection
- Treatment for hydrocephalus
- Management of intracranial haemorrhage
- Management of epilepsy
- Understanding the principles involved in brain death
- Cardiac surgery
- The role of investigation in planning of surgery

- The management of coronary heart disease
- The role of surgery in valvular heart disease
- Special role of surgery in congenital heart disease
- The management of aortic vascular and pericardial disease

Unit- IV

- The thorax
- Investigation of chest pathology
- Surgical oncology as applied to chest surgery
- Vascular surgery
- Investigation for vascular surgery
- Management technique of vascular surgery
- Direct repair by stunting
- Endarterectomy
- Bypass
- Organ Transplantation
- What is organ transplantation
- The transplant process
- Timeline of medical and legal advances in organ transplantation
- Cadaveric organ donation
- Living organ donation
- Alternative organs
- The impact of transplantation

SUBSPECIALITY SURGICAL TECHNIQUE (PRACTICAL)
Course Code: ANE.508P
Credit Hours: 3

- Demonstrations as per theory syllabus

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
TOTAL MARKS				**100**

SCHEME OF EXAMINATION - PRACTICALS

	Particulars	Marks
INTERNAL	Log Book	10
	Clinical Posting(attendance)	20
	Internal (1st ,2nd Hourly & mid-term)	20
EXTERNAL	Viva-voce	50
TOTAL MARKS		**100**

DISASTER MANAGEMENT

Course Code: PMS.504T

Credit Hours: 2

Semester: III

Unit- I Hospital disaster preparedness and response

- Scope
- Coordination and management
- Planning, training
- Information, communication and documentation
- Safety and security
- Human resources
- Triage
- Post disaster recovery
- Patient handling
- Volunteer involvement and management

Unit-II

- First aid for unconsciousness
  - Aims, principles & rules of first aid
  - First aid box
- Trauma management
  - Guidelines, protocols, initial assessment
  - Trauma management in emergency department
- Wound management in emergency practice
  - Management of internal and external bleeding
- Chemical injury
- Management of drowning
- Burn care
  - Prehospital treatment
  - Initial emergency department treatment
  - Airway and respiratory care
  - Fluid resuscitation
- Electrical injury management
  - Pre hospital management
  - Basic life support
  - Further treatment and transfer

Unit-III Cardio pulmonary resuscitation

- Basic life support
  - Algorithm
  - Mouth to mouth ventilation
  - External cardiac compression
- ACLS
  - Defibrillation
  - Vascular access
  - Definitive airway
  - Foreign body obstruction
  - Drugs
- CPR in infants and children

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
		TOTAL MARKS		**100**

HEALTH CARE MANAGEMENT
Course Code: PMS.505T
Credit Hours: 2
Semester: III

Unit-I Management concepts and theories

- Management and organizations
- Management role
- Levels of managers and management skills
- Classical school
- Behaviour school

➢ **Management functions and process**

- Planning
- Organizing
- Staffing
- Directing
- Controlling

Unit- II

➢ **Basics of HRM and sourcing**

- Introduction and relationship between HRM and HRD
- Objectives of HRM
- HR planning: short term and long term
- Productivity analysis in healthcare
- HR policy and procedure
- Recruitment
- Selection
- Placement
- Induction / Orientation

➢ **Training and development**

- Staff training and development
- Career growth and development
- Management development

Unit- III Materials management

- Introduction
- Definition and function
- Goals and objectives of materials management
- Problems and issues in hospitals

➢ **Equipment purchases and maintenance**

Unit- IV Scientific inventory management

- Codification and standardization
- Value analysis
- Inventory control
- Lead time, safety stock and reorder level
- Selective controls
- The biomedical waste (management and handling) rules

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	20	20	1	20
SEC -B: Short Answer Questions	7	5	6	30
SEC -C: Long Answer Questions	7	5	10	50
		TOTAL MARKS		**100**