Syllabus for: Bachelor of Science in Anesthesia Technology (BSc.AT)

FUNDAMENTALS OF HUMAN ANATOMY & PHYSIOLOGY (THEORY) Course Code: ANA/PHY.101T Credit Hours: 3

Semester: I

SECTION I: HUMAN ANATOMY

UNIT-I : Structure & function of human body (2 Lectures) - Definitions, Subdivisions of Anatomy, Terms of location and position, Fundamental Planes,

organization of human body. Cell (structure & function). Tissues (Epithelium, Connective, Muscular, Nervous)

UNIT-II : Locomotion and support

- Skeletal system: Types of bones, Bones and their parts, Divisions of skeleton
- *Joints:* classification, types of movements with examples.

UNIT- III : Nervous system

- *Central nervous system*: Spinal Cord (anatomy, functions), reflex- arc, meninges.
- *Brain:* Hind Brain, Midbrain, Forebrain.

UNIT-IV : Sensory System

Anatomical introduction to skin & Sense organs: Eye, Ear ,Nose

UNIT-V : Circulatory system

 Heart: size, location, coverings, chambers, blood supply, the blood vessels. General plan of circulation, pulmonary circulation. Names of arteries and veins and their positions.

UNIT- VI : Respiratory system

- Organs of Respiratory System. Brief knowledge of parts and position
- Conducting portion: Nose, nasal cavity, Para nasal air sinuses, Larynx, trachea, bronchial tree.
- *Respiratory portion:* Pleura and lungs.

UNIT- VII: Digestive system

- Components of Digestive system, Anatomy of organs of digestive system, mouth, tongue, teeth,
- salivary glands, liver, biliary apparatus, pancreas.

UNIT- VIII: Excretory system

Kidneys: location, gross structure, excretory ducts, ureters, Urinary bladder, Urethra.

UNIT- IX: Reproductive system

- Male Reproductive System: Testis, Duct system.
- *Female Reproductive System:* Ovaries, Duct system

UNIT- X : Endocrine system

Positions, Hormones secreted and their functions- Pituitary, Thyroid – Endocrine glands: parathyroid, Adrenal glands, Gonads & Islets of pancreas

(2 Lectures)

(2 Lectures)

(2 Lectures)

(2 Lectures)

(2 Lectures)

(2 Lectures)

(2 Lectures)

(2 Lectures)

(2 Lectures)

SECTION II: HUMAN PHYSIOLOGY

Unit I – Cell	(1 Lecture)
Cell membrane& cytoplasmic organelles- Functions	
Unit II – Blood	(4 Lecture)
Composition and function of blood	
Blood Cells- Types, structure and functions	
Blood group- ABO Blood group & Rh factor, Blood groups and uses of blood group	oing. Rh incompatibility
Blood Clotting: Definition, Mechanism of haemostasis, Physiology of clotting mech	hanism.
Anemia- Definition, Types and Clinical features of anemia.	
Unit III – Cardiovascular System	(3 Lecture)
Functions of heart and blood vessels	
Heart rate :- Definition and factors affecting it	
Cardiac cycle: Definition and events in the cardiac cycle, Heart sounds	
Unit IV - Respiratory System	(2 Lecture)
Functions of Respiratory organs	
Mechanism of Respiration: Inspiration & expiration, Muscles of Inspiration & Mus	cles of expiration,
Accessory muscles of Respiration	
Lung Volumes and Capacities: Vital Capacity, Tidal Volume, Residual Volume	
Unit V – Gastrointestinal system	(3 Lecture)
Functions of various parts of GIT	
Digestion & absorption of carbohydrates, fats, protein in various parts of GIT	
Functions of Saliva, Gastric Juice, Bile, Pancreatic Juice	
Functions of Liver, Gall Bladder and Pancreas	
Movements of Small Intestine and large Intestine	
Unit VI - Excretory System	(4 Lecture)
Functions of kidney, ureters, urinary bladder and urethra	
Nephron & Function of various parts	
Mechanism of Urine Formation	
Unit VII – CNS	(4 Lecture)
Introduction: Organization and function of the nervous system	
Central Nervous System: General Description- Cerebral hemisphere (cerebrum);	Basal ganglia, Thalamus;
Hypothalamus, Brain stem: Medulla; Pons, Mid Brain; Reticular formation, G	Cerebellum, Spinal Cord:
Structure and function; Ascending (sensory) tracts; Descending (motor) tracts, Ce	rebrospinal fluid (CSF)
Peripheral nervous System: Somatic nervous system: Spinal nerves; Reflexes:	Mono and Polysynaptic
reflex; Cranial nerves	
Autonomic nervous system (ANS): Sympathetic, parasympathetic	
Unit VIII - Muscular System	(4 Lecture)
Structure & Functions of skeletal muscle, smooth muscle & Cardiac muscle	
Skeletal Muscle: -Action Potential, Excitation contraction coupling, Muscle tone, N	leuro- Muscular Junction
Unit IX – Endocrine System	(5 Lecture)
Hormones: GH, Thyroid Hormones, Parathyroid Hormones, Insulin, Glucocorticoid	ls, Mineralocorticoids,
ADH, oxytocin, Testosterone – their source & actions	

FUNDAMENTALS OF HUMAN ANATOMY & PHYSIOLOGY (PRACTICAL) Course Code: ANA/PHY.101P Credit Hours: 1.5

- Identification and description of all anatomical structures.
- Demonstration through slides, models, charts etc..
- Measurement of pulse, blood pressure
- Identification/counting of blood cells by study of peripheral blood smear
- Determination of blood groups, bleeding/clotting times. Estimation of Hb

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		τοτμ	AL MARKS	50

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

CONCEPTUAL MICROBIOLOGY & PATHOLOGY (THEO Course Code: MIC/PAT.102T Credit Hours: 3 Semester: I	DRY)
SECTION I : MICROBIOLOGY	
UNIT- I: Origin and Evolution of Microbiology	(3 Lectures)
 Introduction, History & scope of Microbiology 	
- General characteristics of Microorganisms: Bacteria, viruses, fungi.	
UNIT - II: Study of Common Lab Instruments	(3 Lectures)
- Microscope: Types , principles & uses	
- Autoclave, Hot air oven, Incubator, Laminar air flow, Colony counter : Pr	inciples & uses
UNIT III: Morphology of Bacteria & Viruses	(3 Lectures)
- Bacterial anatomy: Cell Wall, Cell membrane, Capsule, Flagella, Nucleola	, Bacteriai Spore.
- Structure of viruses, concepts of replication & cultivation	Simple staining Gram staining
Acid-fast staining Negative staining & Albert staining	Simple staming, Gram staming,
INIT- IV: Growth & Nutrition of bacteria:	(3 Lectures)
- Culture media and Culture methods	(0 2000103)
- Bacterial Growth: Growth Curve, Generation Time, Environmental factor	rs affecting growth.
- Bacterial nutrition: Nutritional groups, Common Nutritional requirement	ts
UNIT- V: Control of Microbial Growth	(3 Lectures)
- Sterilization and disinfection	
UNIT-VI: Immunity & Infection	(3 Lectures)
 Immunity: Types of immunity, Antigens & Antibodies, Prophylactic Immu 	unization
 Infection: Types, Various routes & modes of transmission, Nosocomial Ir 	fections
UNIT-VII: Biomedical Waste & Management	(2 Lectures)
- Waste categories, Waste treatment & disposal	
SECTION II : PATHOLOGY	
UNIT-I: Introduction	(1 Lectures)
 Definition, important terminology, different branches 	
UNIT-II: Cell Injury and Cellular Adaptations	(4 Lectures)
 Cell Injury: types of cell injury, etiology of cell injury, morphology of cell 	injury, cellular swelling.
- Cell Death: types- Autolysis, Necrosis, Apoptosis & Gangrene.	
– Cellular Adaptations: Atrophy, Hypertrophy, Hyperplasia & Dysplasia.	
UNIT-III: Inflammation	(3 Lectures)
– Acute inflammation - vascular event, cellular event, inflammatory cells.	
 Chronic Inflammation - general features 	
UNIT-IV: Hemodynamic Disorders	(3 Lectures)
 Edema, hyperemia, congestion, hemorrhage, thrombosis, ischemia & information in the second sec	farction.
UNIT-V: Neoplasia	(2 Lectures)
 Definition, difference between benign tumor and malignant tumor. 	(2 Lestures)
UNIT-VI: mealing Definition different photos of booling factors influencing would bealing	(2 Lectures)
– Demicion, unterent phases of nearing, factors influencing wound healing	Б.

CONCEPTUAL MICROBIOLOGY & PATHOLOGY (PRACTICAL) Course Code: MIC/PAT.102P Credit Hours: 1.5

Microbiology

- Handling and maintenance of instruments required for routine lab work.
- Various staining Techniques: Gram stain, Acid-fast stain, Negative stain, Albert Stain.
- Various culture techniques
- Demonstration of Sterilization methods
- Preparation of commonly used culture media: Nutrient agar, Blood/chocolate agar, MacConkey agar, Sabouraud dextrose agar.

Pathology

- Components & setting of the Compound microscope.
- Focusing of object.
- Use of low & high power objectives of microscope.
- Use of oil immersion lens.
- Care and Maintenance of the microscope.
- Different types microscopy

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
TOTAL MARKS			50	

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

CONCEPTUAL BIOCHEMISTRY (THEORY) Course Code: BIO.103T Credit Hours: 2 Semester: I

Semester	
UNIT -I: Introduction to Biochemistry - Important definitions (Diffusion, Osmosis, Surface Tension, Adsorption	(2 Lectures) Absorption) & scope of
biochemistry	,,,
UNIT -II: Carbohydrate	(3 Lectures)
- Classification with structures	
- Importance of Carbohydrates	
UNIT -III: Lipids	(3 Lectures)
- Classification	
- Importance of Lipids	
UNIT -IV: Proteins	(4 Lectures)
- Amino Acid: Classification and general Properties	
- Importance of Proteins	
- Classification of Protein (in brief)	
UNIT -V: Nucleotides	(4 Lectures)
- Nucleoside & Nucleotide	
- General structures of Purine and pyrimidine	
- Brief discussion of DNA & RNA	
- Structure of DNA	
UNIT -VI: Electrolytes	(3 Lectures)
- Source, function & deficiency symptoms of Sodium, Potassium, Calcium	n, phosphorus, Iron, Zinc &
Chloride in human body.	
UNIT - VII: Analytical Chemistry	(5 Lectures)
Concepts of : Percent, Morality, Molality, Normality	
- SI Units: Deci, Centi, Milli, Micro, Nano, Pico, Kilo, Mega, Giga & Angstro	om
- Normal Values & Interpretations:	
 Electrolytes: Sodium, Potassium, Calcium, Iron, Chloride 	
 Renal Function Test: Urea, Creatinine, Uric Acid, Glucose 	
 Urine Analysis: Composition, Colour, Volume, pH, Specific Gravity, Turb 	lidity
 Liver Function Test : SGO1, SGP1, Bilirubin, Albumin, Globulin & Alkaline 	e Phosphatase
 Carbohydrates: Fasting , Random, GTT Carbohydrates: Fasting , Random, GTT 	
Lipid Profile : Cholesterol, Triglycerides, HDL,LDL, VLDL	
	(2 Lectures)
 Definition, Classification of acids and bases. 	
 Privilear and chemical properties with examples. 	
 Armenius concept of acids and bases. Classification of acids and bases. 	
Classification of acids and bases.	
- ph, Butter Solutions	

CONCEPTUAL BIOCHEMISTRY (PRACTICAL) Course Code: BIO.103P Credit Hours: 1.5

- Preparation of common lab reagents.
- General description of equipment's used in Biochemistry Lab.
- Working & Uses of: Spectrophotometer, Water bath, Centrifuges, Analytical Balances, pH meter, Colorimeter.

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		TOTA	L MARKS	50

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

HUMAN VALUES & PROFESSIONAL ETHICS Course Code: PMS.104T Credit Hours: 2 Semester : I

UNIT-I: Need, Basic Guidelines, Content and Process for Value Education (10 Lectures)

- Understanding the need, basic guidelines, content and process for Value Education
- Self Exploration-what is it? its content and process; 'Natural Acceptance' and Experiential Validation- as the mechanism for self exploration
- 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 with their correct priority
- Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario
- Method to fulfill the above human aspirations: understanding and living in harmony at various levels

UNIT-II: Understanding Harmony in the Human Being - Harmony in Myself!

- Understanding human being as a co-existence of the sentient 'l' and the material 'Body'
- Understanding the needs of Self ('I') and 'Body' Sukh and Suvidha
- Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer)
- Understanding the characteristics and activities of 'l' and harmony in 'l'
- Understanding the harmony of I with the Body: Sanyam and Swasthya; correct appraisal of Physical needs, meaning of Prosperity in detail
- Programs to ensure Sanyam and Swasthya Practice Exercises and Case Studies will be taken up in Practice Sessions.

UNIT-III: Understanding 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 Ubhay-tripti; Trust (Vishwas) and Respect (Samman) as the foundational values of relationship

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		τοτμ	AL MARKS	50

(10 Lectures)

(10 Lectures)

INTRODUCTION TO ANESTHESIA TECHNOLOGY (THEORY) Course Code: ANE.105T Credit Hours: 3 Semester: 1

UNIT- I

Brief History of Anesthesia

UNIT- II

- Anaesthesia- General Terminologies
- Pharmacological classification of general anesthesia
- IV inducing drugs, inhalational drugs, muscle relaxants
- Reversals

UNIT- III

- Brief Introduction to Patient preparation for anesthesia, pre operative assessment and premedication with its role, Common drugs used for premedication.

UNIT- IV

 Introduction to General Principles of anaesthetic drugs – Pharmacological classification of drugs. Route of drug administration, precautions in administration, principles of drug toxicity, prevention and treatment of poisoning adverse drug reaction , Sedatives & Hypnotics-Barbiturates morphine and others

UNIT- V

 Analgesics - Definition and classification, Routes of administration, dose, frequency of administration, Side effects and management

UNIT- VI

(12 Lectures)

- Duty of the Anaesthesia technician Assessment, Implementation, Evaluation, of the patient
- Preparing Boyles Machine
- Checking the required equipments & drugs for anesthesia
- Assisting the anaesthesist
- Position for Anaesthesia & Surgery
- Preparation of Patient for anesthesia

INTRODUCTION TO ANESTHESIA TECHNOLOGY (PRACTICAL) Course Code: ANE.105P Credit Hours: 1.5

- Demonstration of various equipments & Techniques as per the theory syllabus
- Observation of patient preparation for anesthesia & pre anaesthetic management.
- Preparation of Anaesthesia Staff

9

(10 Lectures)

(2 Lectures)

(12 Lectures)

(12 Lectures)

(12 Lectures)

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		TOTA	AL MARKS	50

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

ENGLISH FOR PROFESSIONALS Course Code: PMS.106T Credit Hours: 2 Semester: I

UNIT-I: Grammar

- Narration.
- Voice change (Use of passive voice particularly in scientific and official writing).
- Use of articles and preposition.
- The language of Doctor and Patient.
- General description and Medical description.
- Medical terminology roots.
- Prefixes and suffixes.
- Medical abbreviations.
- Punctuation
- Common errors in English.

UNIT-II: Writing Skills

- Precis writing.
- Report writing (with special stress on scientific/technical reports, preparing field/observation report).
- Letter writing/application writing (Social, business letter, applying for a job, for higher studies, Preparing curriculum vitae, subscribing to a journal, letters to the Editor).

Essay writing UNIT-III: Spoken English

(10 Lectures)

(10 Lectures)

- Advertisements/Posters
- Telegrams & short post cards
- Note & notice
- Front Desk management, Fixing appointments, getting information Managing medical representatives, able to answer FAQs, lab reports writing, telephoning in a hospital: the object is to practice influent conversation.

SCHEME OF EXAMINATION

Type of Questions	Total No. of Questions	No. of Questions to be attempted	Marks (Each Question)	Subtotal
SEC -A (Grammar)	25	20	1	20
SEC -B (Essay writing)	3	1	10	10
SEC-C(Precis writing)	1	1	5	10
SEC-D(Letter writing)	2	1	5	10
			TOTAL MARKS	50

(10 Lectures)

COMMUNICATION AND SOFT SKILLS

Course Code: PMS.107T

Credit Hours: 2

Semester: I

UNIT-I	: Introduction to Communication Purpose of Communication	(5 Lectures)
- - -	Process of Communication Importance of Communication in Business Barriers to Communication Measures to Overcome the Barriers to Communication.	
UNIT-	II: Types of Communication	(5 Lectures)
-	Verbal Communication: Importance of verbal communication and a communication	Advantages of verbal
-	Non Verbal Communication: Importance of written communicatio Non-verbal Communication	n and Significance of
UNIT- - - - - -	III: Communication Network Scope and Types of Communication Network Formal and Informal Communication Network Upward Communication Downward Communication Horizontal Communication Diagonal Communication.	(5 Lectures)
UNIT-I' - - - -	V: Letter and Resume Writing Types of Letter – Formal/Informal Importance and function of Letter Writing Business Letters / Elements of Structure Resume and Covering Letter Guidelines for making a Result – Oriented Resume/ Helpful Hints	(5 Lectures)
UNIT-I' - - - -	V: Interview preparation Types of Interview Preparing for an Interview Attending an Interview Employers Expectation General Etiquette	(5 Lectures)
UNIT-I' - - -	V: Group Discussion and Presentation Process of Group Discussion Guidelines Helpful Expressions Evaluation	(5 Lectures)
UNIT-\ - - - -	/I: Presentation Skills Importance of Presentation skills Organizing Contents/ Structural Elements of a Presentation Conce Visual Aids and Voice & Picture Integration Guidelines to make Presentation Interesting Body Language	(5 Lectures) rning Data

(Note: Every student shall be given 15 minutes of presentation time)

Type of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	(Each Question)	
SEC -A (Fill ups)	10	10	1	10
SEC -B (Short Essay)	6	5	4	20
SEC-C (Long Essay)	3	2	5	10
SEC-D (Letter writing)	2	1	10	10
			TOTAL MARKS	50

SCHEME OF EXAMINATION

ENVIRONMENTAL STUDIES Course Code: PMS.108T Credit Hours: 2 Semester: II

UNIT-I : Natural Resources

- Renewable and non-renewable resources :Natural resources and associated problems.
- *Forest resources :* Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people.
- Water resources : Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
- Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
- Food resources : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
- Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies.
- Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.
- Role of an individual in conservation of natural resources.
- Equitable use of resources for sustainable lifestyles.

UNIT-II : Ecosystems

- Concept of ecosystems, Structure and function of an ecosystem.
- Producers, consumers and decomposers.
- Energy flow in the ecosystem.
- Ecological succession.
- Food chains, food webs and ecological pyramids.
- Introduction, types, characteristic features, structure and function of the following ecosystem:
 Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

UNIT-III: Biodiversity and its Conservation

- Introduction Definition: genetic, species and ecosystem diversity.
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.
- Endangered and endemic species of India
- *Conservation of biodiversity:* In-situ and Ex-situ conservation of biodiversity.

UNIT-IV: Environmental Pollution

- Definition, Cause, effects and control measures of : Air pollution, Water pollution, Soil pollution, Noise pollution, Thermal pollution
- Role of an individual in prevention of pollution.
- Disaster management: floods, earthquake, cyclone and landslides.

UNIT-V : Social Issues and the Environment

- Water conservation, rain water harvesting, watershed management
- Resettlement and rehabilitation of people; its problems and concerns.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust
- ACTS: Environment Protection Act, Air (Prevention and Control of Pollution) Act, Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act

(4 Lectures)

(3 Lectures)

(7 Lectures)

(4 Lectures)

(10 Lectures)

UNIT-VI : Human Population and the Environment

(2 Lectures)

- Population explosion Family Welfare Programme.
- Human Rights & Value Education.
- Women and Child Welfare.

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		TOTA	AL MARKS	50

ANAESTHESIA EQUIPMENTS & TECHNOLOGY (THEORY) Course Code: ANE.109T Credit Hours: 4 Semester: II

UNIT-	I : Medical Gas Supply	(6 Lectures)
_	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	(6 Lectures)
_	Simple oxygen administration devices	
_	Methods of controlling gas flow	
_	Reducing valves	
_	Flow meters	
_	Regulators	
_	Flow restrictors	
UNIT-	III: Oxygen Therapy	(6 Lectures)
-	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 :Anaesthesia Machine	(6 Lectures)
_	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	(6 Lectures)
-	General considerations	
_	Classification and breathing system	
_	Mapleson system	
-	Jackson Rees system of Bain circuit	
_	Non breathing valves – Ambu valves	
_	Others	
UNIT-	VI : Gas Analysers Pulse Oximeter CO ₂ Monitor	(5 Lectures)
_	Pulse oximeters	
—	Capnographs	

UNIT- VII : Manual Resuscitators (5 Lectures) 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) (10 Lectures) 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 (2 Lectures) **UNIT- XI: Minimum Standards for Anesthesia** (8 Lectures) 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.109P Credit Hours: 2

- 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 anesthesia.

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
TOTAL MARKS 50				

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

CENTRAL STERILE SERVICES DEPARTMENT (CSSD) PROCEDURES (THEORY) Course Code: SUR.110T Credit Hours: 4 Semester: II

- General care and testing of instruments: forceps, haemostatic, needle holders, knife, blade, scissor, use/ abuse, care during surgery.
 (6 Lectures)
- Disinfectants of instruments and sterilization- definition, methods, cleaning agents, detergents, mechanical washing, ultrasonic cleaner, lubrication.
 (6 Lectures)
- Thermal, hot air oven, dry heat, autoclaving, steam sterilization water etc, UV treatment.
 - (5 Lectures)

(4 Lectures)

- Various methods of chemical treatment: formalin, glutraldehyde (4 Lectures)
- General instrument care
 - Sterilization of equipments: arthroscope, gastroscope, imago lamp, apparatus, suction apparatus, anaesthetic equipments including endotracheal tubes. (6 Lectures)
 - Materials used for wrapping and packing assembling pack contents. Types of packs prepared.
 Inclusion of trays and galliparts in packs. Method of wrapping and making use of indications to show that a pack of container has been through a sterilization process date stamping. (6 Lectures)
 - OT Sterilization including laminar air flow.

(5 Lectures) (5 Lectures)

- Fumigation of OT: Principle & procedure
- Waste disposal collection of used items from user area, reception protective clothing and disinfections sage gaurds.
 (5 Lectures)
- Trouble shooting: colored spots and corrosion, staining, dust deposit, recent amendment in EPA with reference to waste disposal. (5 Lectures)

CENTRAL STERILE SERVICES DEPARTMENT (CSSD) PROCEDURES (PRACTICAL) Course Code: SUR.110P Credit Hours: 2

- Conducted as per theory syllabus

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		TOTA	AL MARKS	50

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

PRINCIPLES OF ANESTHESIA (THEORY) Course Code: ANE.111T Credit Hours: 4 Semester: II

UNI UNI	T-I: Medical Gas Supply Compressed gas cylinders Colour coding Cylinder valves; pin index. Gas piping system Alarms & safety devices. T-II: Anaesthesia Machine Hanger and yoke system	(10 Lectures) (10 Lectures)
_	Pressure regulator	
-	Flow meter assembly	
-	Vapourizers - types, hazards, mail\tenance, filling and draining, o	etc.
UNI 	T-III: Breathing System General considerations: humidity & heat Common components - connectors, adaptors, reservoir bags Capnography Pulse oximetry Methods of humidification. Classification of breathing system Mapleson system - a b c d e f Jackson Rees system, Bain circuit Non rebreathing valves - ambu valves	(12 Lectures)
UN 	T-IV: Face Masks & Airway Laryngoscopes Types, sizes Endotracheal tubes - Types, sizes. Cuff system Eixing, removing and inflating cuff, checking tube position comp	(10 Lectures)
 UN 	Tixing, removing and inflating cuff, checking tube position comp T-V: Anaesthesia Ventilator and Working Principles T-VI: Monitoring ECG Temperature NIBP /IBP	(8 Lectures) (10 Lectures)
_	LVF	

PRINCIPLES OF ANESTHESIA (PRACTICAL) Course Code: ANE.111P Credit Hours: 2

- Conducted 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	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
TOTAL MARKS 50				50

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

BASIC ANESTHETIC TECHNIQUES & COMPLICATIONS (THEORY) Course Code: ANE.112T Credit Hours: 4 Semester: II

UNIT-I:

(12 Lectures)

(12 Lectures)

(12 Lecture)

 To study the indications, instruments, technique, precautions & complications of various method of anesthesia & the anaesthetic agents in details :

UNIT- II:

- General Anaesthesia
- Short review about stages of anaesthesia
- Modern Anaesthesia Balanced G/A
- Induced hypotensive GA
- Induced Hypothermic GA

UNIT- III:

- Local anesthesia
 Regional anesthesia:
- Bier's block
- N. blocks
- Field blocks
- Topical analgesia
 Neuraxial Anaesthesia:
- Spinal
- Epidural
- Candal
- Combined spinal and epidural

UNIT- IV:

(14 Lectures)

- General principles- Pharmacological classification of drugs, route of administration, precautions in administration, drug toxicity, adverse drug reaction.
- Inhalational agents: General principles and individual agents.
- Pre anaesthetic medication.
- Gases used in Anaesthesia- Sedatives and hypnotics, barbiturates.
- Intravenous Anaesthetics.
- Muscle relaxants.
- Difficult Airway, LMA,
- Post Operative care after anesthesia.
- Complication of various types of anesthesia
- Tracheal Intubation Oral / Nasotracheal /LMA

BASIC ANESTHETIC TECHNIQUES & COMPLICATIONS (PRACTICAL) Course Code: ANE.112P Credit Hours: 2

- Conducted as per theory syllabus

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
TOTAL MARKS 50				

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

BIOSTATISTICS & COMPUTER APPLICATIONS Course Code: PMS.201T Credit Hours: 2 Semester: III

SECTION-I: BIOSTATISTICS

(15 Lectures)

- Introduction to data and statistics
- Presentation of data:
 - Bar diagram
 - Histogram
 - Frequency polygon
 - Frequency curve, Cumulative frequency curve.
- Measure of central tendency:
 - Mean
 - Median
 - mode (individual, discrete and continuous data).
 - Measure of variability:
 - Range
 - Standard deviation
 - Variance and coefficient of variation

SECTION-II: COMPUTER APPLICATIONS (15 Lectures)

- Computer: General Introduction, History of computer development and respective generation: Need to use computers, Applications in Laboratory and in general.
- Input and Output Device
- Memory
- Personal Computer
- Data Representation and Number System
- Software
- Data Communication
- Internet, Cyber etiquette
- Microsoft Office: PowerPoint Presentations, Microsoft word, excel sheet

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		τοτμ	AL MARKS	50

APPLIED MEDICINE (THEORY) Course Code: MED.202T Credit Hours: 3 Semester: III

Description of the following diseases & their management :

—	Diabetes mellitus	(4 Lectures)
_	Hypertension	(4 Lectures)
_	Ischaemic heart disease	(4 Lectures)
_	Obesity	(4 Lectures)
_	Elderly patient	(4 Lectures)
_	Pregnancy	(3 Lectures)
_	Shock	(4 Lectures)
_	COPD	(4 Lectures)
_	Chronic renal failure	(4 Lectures)
_	Chronic liver disease/failure	(4 Lectures)
_	Anaemia	(4 Lectures)
_	Epilepsy	(4 Lectures)
_	CVA	(2 Lectures)

APPLIED MEDICINE (PRACTICAL) Course Code: MED.202P Credit Hours: 1.5

- Conducted as per theory syllabus

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
TOTAL MARKS			50	

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

APPLIED PHARMACOLOGY (THEORY) Course Code: PHR.203T **Credit Hours: 3** Semester: III

UNIT-I: Autonomic Nerves System

 List of drugs acting on ANS including dose, route of administration, indications, contra indications and adverse effects.

UNIT-II: Cardiovascular Drugs

- Mode of action, side effects and therapeutic uses of the following drugs:
- Anti hypertensives
- Anti arrhythmic drugs.
- Cardiac glycosides
- Coronary vasodilators
- Drugs used in haemostais: anticoagulants thrombolytics and anti thrombolytics.
- Drugs used in the treatment of shock.

UNIT-III: Anaesthetic agents.

- Definition of general and local anaesthetics
- 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.

UNIT-IV: Analgesics

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

UNIT-V: Antihistamines and Antiemetics

 Classification, mechanism of action, adverse effects, preparations, dose and routes and administration.

UNIT-VI: CNS Stimulants & Depressants

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

UNIT-VII: Pharmacotherapy of Respiratory Disorders

Pharmacotherapy of bronchial asthma.

Pharmacotherapy of cough.

Mucokinetic and mucolytic agents.

UNIT-VIII: Corticosteroids

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

UNIT-IX: Diuretics

- Mode of action of diuretics
- Preparations, dose and routes of administration.

(4 Lectures)

(6 Lectures)

(6 Lectures)

(6 Lectures)

(4 Lectures)

(6 Lectures)

(4 Lectures)

(3 Lectures)

(6 Lectures)

APPLIED PHARMACOLOGY (PRACTICAL) Course Code: PHR.203P Credit Hours: 1.5

- Conducted 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	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		TOTA	AL MARKS	50

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

GENERAL ANESTHESIA (THEORY) Course Code: ANE.204T Credit Hours: 4 Semester: III

UNIT-I (6 Lectures) Introduction.- General priciples- Pharmacological classification of drugs, route of administration, precautions in administration UNIT- II (6 Lectures) Drug toxicity, adverse drug reaction & Management UNIT- III (6 Lectures) Inhalational agents: General principles and individual agents. **UNIT-IV** (6 Lectures) Pre anesthetic medication. UNIT- V (6 Lectures) Gases used in Anaesthesia **UNIT-VI** (6 Lectures) Intravenous / inhalational or volatile Anaesthetics UNIT- VII (6 Lectures) Muscle relaxants, analgesics UNIT- VIII (6 Lectures) Difficult Airway, LMA **UNIT-IX** (6 Lectures) Complications of General Anaesthesia- intraoperative, immediate, post operative & delayed. UNIT- X (6 Lectures) Post Operative care after anesthesia.

GENERAL ANESTHESIA (PRACTICAL) Course Code: ANE.204P Credit Hours: 2

 Demonstration of equipments procedure & pre-anesthetic , during anesthesia & post anaesthetic management & precautions

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of Questions	No. of Questions to be attempted	Marks Assigned	Subtotal
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		ΤΟΤΑ		50

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

ANESTHESIA TECHNOLOGY-I (THEORY) Course Code: ANE.205T Credit Hours: 4

Semester: III

UNIT- I

(10 Lectures)

- Pre operative preparation
- Pre Anaesthetic Assessment
- History of present assessment
- Past history with emphasis on previous illness and surgery
- Personal history Smoking, alcohol
- Physical examination General and systemic
- Informed consent

UNIT- II

(8 Lectures)

- Premedication: Aims
- Opioids/sedatives
- Antihistaminics
- Antacids/anti emetics
- Others anti-cholinesterases

UNIT- III

(10 Lectures)

- Investigations : Preparations, Identification, Consent, NPO, Prosthesis
- Lab results:
- Biochemistry Blood, glucose, Urea, Creatinine
- Hematology Hemogram, Prothrombin Time, Partial thromboplastin time, BT,CT
- Urine- Complete urine analysis
- ECG, Chest X-ray , ABG
- Criteria used for accepting the case for surgery

UNIT- IV

(5 Lectures)

- Equipment Checking the machine, laryngoscopes, tubes, airways etc. suction apparatus, oxygen Cylinder, anaesthetic drugs and emergency drugs.
- Monitoring system
- Testing Machine: Gas supply, Flow meters, O₂ bypass, Valves, Vaporizer

UNIT- V

(5 Lectures)

- Induction Anaesthesia
- Endotracheal intubation, confirming the tube position and securing the tube
- Maintenance of anesthesia
- Fluid / Blood and electrolyte balance
- Reversal from anesthesia drugs used

UNIT- VI

(5 Lectures)

 Intubation: Choice of ETT, Choice of Laryngoscope, Techniques of intubation, Complications, Difficult intubation

Syllabus for: Bachelor of Science in Anesthesia Technology (BSc.AT)

UNIT- VII

(7 Lectures)

– Emergency Drugs: Atropine, Epinephrine, Isoprenaline, Ephedrine, Aminophylline, Hydrocartisone, Dopamine, Norepinephrine, Dobutamine.

UNIT- VIII

(5 Lectures)

IV Infusion: Site of cannulations, Finding a vein, Technique of venipuncture.

UNIT- IX

(5 Lectures)

Patient Protection : eyes, ears, skin, lips, tongue, teeth, Veins, arteries, Peripheral nerves

ANESTHESIA TECHNOLOGY-I (PRACTICAL) Course Code: ANE.205P Credit Hours: 2

- Conducted as per theory syllabus

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		TOTA	AL MARKS	50

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

ANESTHESIA TECHNOLOGY-II (THEORY) Course Code: ANE.206T Credit Hours: 4 Semester: IV

UNIT- I	(2 Lectures)
 History of anesthesia in detail 	
UNIT- II	(7 Lectures)
 Methods of anesthesia 	
 Minimum alveolar anaesthetic concentration 	
 Stages of anesthesia 	
- Inhalational Anesthesia: ether, Halothane, Isoflurane	, Sevoflurane, Nitrous oxide,
 Narcotic drugs 	
- Opioids analgesics: Morphine, Pethidine, Fentanyl, E	Buprenorphine, Tramadol.
UNIT- III	(6 Lectures)
 Difficult intubation 	
 Muscle relaxants 	
 Neuromuscular blockers: Suxamethorium, Pancu 	ronium,Vecuronium,Atracurium,Rocuronium
UNIT- IV	(3 Lectures)
Reversal agents	
UNIT- V	(4 Lectures)
Intravenous anaesthetic agents: Thiopentone, Propofol,	Ketamine
UNIT- VI	(9 Lectures)
 Intraoperative management 	
 Confirm the identity of the patient 	
 Transferring the patient 	
 Recovery room – setup, things needed expected 	l problems
 Post operative complications and management 	
– CPR	
 Monitoring during anesthesia and surgery 	
UNIT- VII	(7 Lectures)
 Nerve blockers: Benzodiazapines, Phenothazines 	5
 Neuromuscular transmission 	
 Nerve stimulators 	
 Reversal of neuromuscular blockage 	
UNIT- VIII	(4 Lectures)
 Regional anesthesia : Spinal Anesthesia, Epidura 	Il Anaesthesia
	(6 Lectures)
Drugs acting on sympathetic nervous system: Adrenaline	e,Noradrenaline,Dopamine,Dobutamine,Milrinone
Isoprenaline	
Local andesthetic agents : Lignocalne, Bupivacalne	in (12 Loctures)
Complications and accidents during anestnes	ia (12 Lectures)
— пуетсаршеа	

- Increased airway pressure
- Decreased airway pressure

- Deep anesthesia
- Thermal & electrical injuries
- Monitoring instruments
- Related to airway : Difficult intubations, Airway Trauma
- Cardiovascular System: Hypotension, Hypertension, Tachycardia, Bradycardia, Arrhythmias, Ischemia & infarction

ANESTHESIA TECHNOLOGY-II (PRACTICAL) Course Code: ANE.206P Credit Hours: 2

– Demonstration of various techniques of anaesthesia as per the 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	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		TOTA	AL MARKS	50

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

ANAESTHESIA FOR SPECIALITY SURGERIES (THEORY) Course Code: ANE.207T Credit Hours: 4 Semester: IV

UNIT-	: Neuro Anaesthesia	(10 Lectures)
_	Glassgow coma scale	
_	Premedication	
_	Special investigation - CT, Angiography and MRI	
_	Induction of a patient	
_	Reinforced Endotracheal tubes	
_	Postioning in neuro surgery	
_	Air embolism	
_	Reversal of the patient	
UNIT-I	I: Obstetric Anaesthesia	(9 Lectures)
_	Risks for anesthesia, Precautions to be taken	
_	Regional vs general anesthesia	
_	Resuscitation of the new born, apgar score	
_	Reversal and extubation	
_	Rupture uterus	
_	Ectopic Pregnancy	
UNIT-I	II: Pediatric Anaesthesia	(8 Lectures)
-	Theatre setting	
_	Premedication - modes	
_	Induction	
_	Intubation - Securing the EIT, IV fluids and drug dosing	
_	Maintenance	
_	Reversal & extubation – Problems	
_	Transferring / ICU management	
_	Post operative pain management	
UNIT-I	V: ENT Anaesthesia	(6 Lectures)
_	Anaesthesia for adenotonsillectomy	
_	Anaesthesia for mastoidectomy	
-	Bronchoscopy and oesophagoscopy	
UNIT-	V: Cardiac Anaesthesia	(10 Lectures)
_	Arrhythmias ,Angina ,Dyspnoea	
_	Angiography	
_	Premedication	
_	Monitoring for vitals	
_	Induction of cardiac patient, precautions to be taken	
_	Cardiopulmonary bypass	
_	Weaning of CPB	
_	Transferring the patient to ICU.	
_	Care to be taken	
	L C Ll management	

- I.C.U management.
- Chest tube management

UNIT-VI: Anaesthesia for Trauma & Shock

- Resuscitation
- Preop investigation I assessment
- Circulatory management
- Management of anesthesia
- Rapid sequence induction

UNIT-VII: Thoracic Anaesthesia

- Pulmonary function tests
- bed side , Vitallograph
- Preoperative preparation
- Premedication
- Intubation
- Double lumen tubes
- monitoring
- Pain management
- Extubation
- ICU management

(10 Lectures)

ANAESTHESIA FOR SPECIALITY SURGERIES (PRACTICAL) Course Code: ANE.207P Credit Hours: 2

Conducted as per theory syllabus

Types of Questions Total No. of No. of Questions to Marks Subtotal Questions be attempted Assigned SEC -A: MCQ'S 10 10 10 1 SEC -B: Very Short Answer Questions 7 2 5 10 SEC -C: Short Answer Questions 6 4 5 20 10 SEC -D: Long Answer Questions 2 1 10 TOTAL MARKS 50

SCHEME OF EXAMINATION - THEORY

SCHEME OF EXAMINATION - PRACTICALS

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

(7 Lectures)

INTRODUCTION TO OBSTETRICS & GYNECOLOGY (THEORY) Course Code: OBG.208T Credit Hours: 4 Semester: IV

UNIT-I: Obstetrics

- Normal delivery, forceps delivery, episiotomy, Caesarian Section, Instruments of common obstetrics procedures or surgery eg. Episiotomy, forceps delivery, Embryotomy, IUCDs, LSCS; Laproscopy Instruments & Procedure, Caesarian Section
- Twin pregnancy Diagnosis & management
- Birth control methods & Procedures
- Medical termination of pregnancy.
- Instruments & Techniques of MTP

UNIT- II : Gynecology

- Clinical methods in gynaecological examination
- Common diseases of vulva, vagina
- Disorders of menstruation
- Various operative positions

INTRODUCTION TO OBSTETRICS & GYNECOLOGY (PRACTICAL) Course Code: OBG.208P Credit Hours: 2

- Identification of various instruments & understanding the procedures.
- Demonstration of equipment & surgical techniques in Obstetrics & Gynaecology.

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		TOTA	AL MARKS	50

SCHEME OF EXAMINATION - PRACTICALS

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

(30 Lectures)

(30 Lectures)

COMMUNITY HEALTH Course Code: PMS.210T Credit Hours: 2 Semester: IV

- General concepts of health and diseases with reference to natural history of disease with prepathogenic and pathogenic phase. The role of socio-economic and cultural environment in health and diseases-Epidemiology and scope. (3 Lectures)
- Public health administration-An overall view of the health Administration set up at centre and state level. (3 Lectures)
- The National Health Programmes- National Health programmes including tuberculosis, malaria, MCH and HIV/AIDS.
 (3 Lectures)
- Health problems in vulnerable groups-Pregnant and lactating women and infants and school going children-occupational groups, geriatrics.
 (3 Lectures)
- Occupational Health- Definition, scope-Occupational diseases, prevention of occupational diseases and hazards. (3 Lectures)
- Social security and other measures for the protection of occupational hazards, accidents and disease. Details of compensation acts.
 (3 Lectures)
- Family planning objectives of National family planning methods. A general idea of advantages and disadvantages of the method.
 (3 Lectures)
- Mental Health- community aspects of mental health; role of physiotherapists, therapists in mental health problems such as mental retardation etc.
 (3 Lectures)
- Communicable disease-An overall view of the communicable disease. Classification according to the principal mode of transmission. Role of insects and their vectors. (3 Lectures)

(3 Lectures)

International health agencies.

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		τοτμ	AL MARKS	50

NUTRITION Course Code: PMS.211T Credit Hours: 2 Semester: IV

_	Introduction to science of nutrition	
-	Food pattern and its relation to health	(2 Lectures)
—	Factors influencing food habits, selection and food stuffs	(3 Lectures)
_	Food selection, storage & preservation	(3 Lectures)
_	Classification of nutrients – macronutrients and micronutrients	(3 Lectures)
—	Proteins – types, sources requirements and deficiencies of proteins	(3 Lectures)
_	Carbohydrates sources, requirements & efficiency	(3 Lectures)
—	Fats – types, sources, requirements, deficiency and excess of fats	(3 Lectures)
-	Water - sources of drinking water, requirements, preservation of water	(2 Lectures)
-	Minerals – types, sources, requirements deficiencies of minerals	(3 Lectures)
_	Vitamins – types, sources, requirements deficiencies of vitamins	(3 Lectures)
—	Planning diets including renal diets	(2 Lectures)

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		TOTA	AL MARKS	50

OCCUPATIONAL SAFETY & HEALTH Course Code: PMS.212T Credit Hours: 2 Semester: IV

UNIT - I : Safety and Health Management

i. Occupational Health Hazards, Promoting Safety, Safety and Health training, Stress and Safety. ii. Ergonomics - Introduction, Definition, Objectives, Advantages.

Ergonomics Hazards - Musculoskeletal Disorders and Cumulative Trauma Disorders.

- Organizing for safety, Health and Environment.
- Organization: Structure, Function and responsibilities
- Safety Committee: Structure and function

UNIT - II : Radiation and Industrial Hazards

i. 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 ii. Industrial noise -Sources, and its control, Effects of noise on the auditory system and health, Measurement of noise,

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

iv. Vibration - effects, measurement and control measures

v. Industrial Hygiene.

UNIT – III: Electrical Hazards

Safe limits of amperages, voltages, distance from lines, etc., Joints and connections, Overload and Short circuit protection, Earthing standards and earth fault protection, Protection against voltage fluctuations, Effects of shock on human body Hazards from Borrowed nutrals, Electrical equipment in hazardous atmosphere, Criteria in their selection, installation, maintenance and use, Control of hazards due to static electricity,

UNIT - IV : Fire and Other Hazards

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

ii. Machine guards and its types, automation. High pressure hazards, safety, emptying, inspecting, repairing, hydraulic and nondestructive testing, hazards and control in mines.

UNIT -V: Vibration and Noise

Activities related to 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 (5 Lectures)

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

ii. Safety and psychology -Theories of motivation and their application to safety. Consequences of accident, accident prevention programmers, Role of safety

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

(5 Lectures)

(5 Lectures)

(3 Lectures)

(3 Lectures)

37

(4 Lectures)

Accident Prevention : Theories / Models of accident occurrences, Principles of accident prevention, Accident and Financial implications.

UNIT-VII: First Aid

(5 Lectures)

i. 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.

ii. Personal Protective Equipments: Need, selection, supply, use, care and maintenance, Personal protective devices for head, ear, face, eye, foot, knee and body protection, Respiratory personal protective devices.

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		TOTA	AL MARKS	50

SCHEME OF EXAMINATION - THEORY

UNIT-I: Monitoring and Diagnostic Procedures in I.C.U.

BASIC INTENSIVE CARE & RESUSCITATION (THEORY) Course Code: ICU.301T Credit Hours: 4 Semester: V

_ _ _ _	Central Venous access Invasive hemodynamic monitoring ECG: monitoring, different types of E.C.G, recording of E.C.G. of the patient <i>Defibrillators :</i> Types, Principles and mechanism of the defibrillator Uses and safe during use . Ventilator: Care and maintenance of ventilators, suction machine, monitoring, St disinfection of ventilators.	ety precaution cerilization and
UNIT-II - - - - - - - - - - - - -	 General Care of Patient in I.C.U. Care of unconscious adult and pediatric patients. Feeding Ryle's tube insertion Suctioning and posturing of semiconscious and unconscious patients Care of mechanically ventilated patient Head Injury Management of tetanus patients. Tracheostomy, humidification Vascular lines - arterial, venous line Radiography 	(15 Lectures)
UNIT-II	I: Fluid Balance and Parenteral Nutrition	(8 Lectures)
UNIT-I\	/: Infectious Diseases in I.C.U.	(7 Lectures)
_ _ _	Antibiotics in I.C.U Oxygen therapy Mechanical ventilation	
UNIT-V UNIT-V	: Acid - Base Disorders I: Cardiovascular Failure	(8 Lectures) (10Lectures)
_	Inotropic support Vasodilator drugs	

 Cardio pulmonary Resuscitation (CPR) -Basic life support, Advance life support- Mouth to Mouth, Mouth to E.T. tube , Ambu bag , Different airways.

(12 Lectures)

BASIC INTENSIVE CARE & RESUSCITATION (PRACTICAL) Course Code: ICU.301P Credit Hours: 2

- Conducted 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	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		τοτα	L MARKS	50

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

SPECIALIZED SURGICAL TECHNIQUES (THEORY) Course Code: SUR.302T Credit Hours: 4 Semester: V

To Understand the indications & techniques of following:	
UNIT- I	6 Lectures)
Minor surgical procedures	
UNIT-II (7 Lectures)
Dressings & Bandages	
UNIT- III	6 Lectures)
Injections & infusions	
UNIT- IV	7 Lectures)
Lumbar Puncture	
UNIT- V	6 Lectures)
Bone Marrow Biopsy	
UNIT- VI	7 Lectures)
Liver Biopsy	
UNIT- VII	7 Lectures)
Pericardiocentesis	
UNIT- VIII	7 Lectures)
Abdominal paracentesis	
UNIT- IX	(7 Lectures)
Thoracocentesis & Pleural Biopsy	

SPECIALIZED SURGICAL TECHNIQUES (PRACTICAL) Course Code: SUR.302P Credit Hours: 2

– Demonstration of surgical techniques as per the theory syllabus.

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		TOTA	AL MARKS	50

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

ADVANCED ANESTHESIA TECHNOLOGY (THEORY) Course Code: ANE.303T Credit Hours: 4 Semester: V

UNI	T- I	(10 Lectures)
Ana	esthesia & co- existing diseases (Cardiac & pulmona	ry):
_	Ischemic heart disease	
_	Hypertension	
_	Congestive cardiac failure	
_	Arrhythmia & heart blocks	
_	Chronic bronchitis & COPD	
_	Bronchial asthma	
UNI	T- II	(5 Lectures)
Ped	iatric anesthesia	
UNI	T- III	(5 Lectures)
Live	r disease and anesthesia	
UNI	T-IV	(5 Lectures)
Ren	al disease and anesthesia	
UNI	T-V	(5 Lectures)
_	Obesity and anesthesia	
—	Diabetes mellitus and anesthesia	
—	Thyroid disease and anesthesia	
UNI	T- VI	(5 Lectures)
Obs	tetric Anaesthesia: Epidural analgesia, Anaesthesia f	or LSCS, Special situations: pre –eclampsia
UNI	T- VII	(10 Lectures)
_	Anaesthesia for common surgical disorders	
_	Anaesthesia for Thoracic Surgery	
—	Use of double lumen tubes	
_	Anesthesia for bronchoscopy, Thymectomy	
—	Anaesthesia for cardiac surgery : Preparations & mo	nitoring, Heparin & Protamine, Care & use of
	arterial & venous lines, Maintenance of body tempe	rature. Anaesthesia for open heart surgery
_	Transport to ICU	
UNI	T-VIII	(5 Lectures)
Ana	esthesia for special situations : Shock, low cardiac or	utput & cardiac arrest
UNI	T- IX	(6 Lectures)
_	Ventilators – types & methods of ventilation	
-	Humidification	
_	Aerosol therapy	
—	Resuscitation of the Newbern	
UNI	T- X	(4 Lectures)
Ana	esthesia for ophthalmic surgeries.	

ADVANCED ANESTHESIA TECHNOLOGY (PRACTICAL) Course Code: ANE.303P Credit Hours: 2

- Understanding the various techniques & procedures of Anaesthesia 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	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		τοτμ	AL MARKS	50

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

HEALTHCARE Course Code: PMS.305T Credit Hours: 2 Semester: V

UNIT-I: Introduction to Health

- Definition of health, determinants of health, health indicators of India, health team concept.
- National health policy
- National health programmes (Briefly objectives and scope)
- Population of India and family welfare programme in India

UNIT-II: Introduction to Nursing

- What is nursing? Nursing principles, inter-personnel relationships.
- Bandaging: basic turns, bandaging extremities, triangular bandages and their application.
- Nursing position, prone, lateral, dorsal, dorsal recumbent, Fowler's positions, comfort measures, bed making, rest and sleep.
- *Lifting and transporting patients:* lifting patients up in the bed, transferring from bed to wheel chair, transferring from bed to stretcher.
- Bed side management: giving and taking bed pan, urinal.
- Observation of stools, urine, sputum
- Use and care of catheters, enema giving.
- Methods of giving nourishment: feeding, tube feeding, drips, transfusion.
- Recording of body temperature, respiration and pulse.
- Simple aseptic techniques, sterilization and disinfection.
- Surgical dressing: observation of dressing procedures.

UNIT-III: First Aid

- Physical Exam and SAMPLE History
- Documentation and Legal Considerations
- Sudden Illness, Bleeding
- Caring for Shock, Burns, Injuries to muscles, bones, and joints, Splints, Bites and Stings
- Administering Epinephrine
- Assisting with bronchodilators (inhalers)
- Heat/Cold Related Emergencies
- In-line stabilization for head, neck and back injuries
- First Aid Kits, Fire & safety

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		TOTA	AL MARKS	50

(10 Lectures)

(15 Lectures)

(15 Lectures)

DIETARY MANAGEMENT OF COMMON DISEASES Course Code: PMS.306T Credit Hours: 2 Semester: V

UNIT – I

(10 Lectures)

- Diet Therapy: Routine hospital diet, Regular diet, Light diet, Soft Diet, Full liquid diet.
- Diet in fevers and infections Typhoid, Malaria and Tuberculosis.
- Diet in gastro intestinal disorders: Diarrhoea, Constipation, Peptic ulcer

UNIT – II

(20 Lectures)

- Diet in Diabetes mellitus Classification, predisposing factors, Diagnosis, Dietary management.
- Diet in Cardiovascular diseases Dietary management in atherosclerosis and hypertension.
- Diet in diseases of liver and gall bladder.
- Diet in Renal diseases
- Dietary Management in glomerulonephritis
- Dietary Management in Acute and chronic renal failure.

SCHEME OF EXAMINATION - THEORY

Types of Questions	Total No. of	No. of Questions to	Marks	Subtotal
	Questions	be attempted	Assigned	
SEC -A: MCQ'S	10	10	1	10
SEC -B: Very Short Answer Questions	7	5	2	10
SEC -C: Short Answer Questions	6	4	5	20
SEC -D: Long Answer Questions	2	1	10	10
		τοτΑ	AL MARKS	50