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 (2 Lectures)

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

UNIT- III : Nervous system (2 Lectures)

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

UNIT-IV : Sensory System (2 Lectures)

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

UNIT-V : Circulatory system (2 Lectures)

- *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 (2 Lectures)

- 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 (2 Lectures)

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

UNIT- VIII: Excretory system (2 Lectures)

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

UNIT- IX: Reproductive system (2 Lectures)

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

UNIT- X : Endocrine system (2 Lectures)

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

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 grouping. Rh incompatibility

Blood Clotting: Definition, Mechanism of haemostasis, Physiology of clotting mechanism.

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 & Muscles 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, Cerebellum, Spinal Cord: Structure and function; Ascending (sensory) tracts; Descending (motor) tracts, Cerebrospinal 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, Neuro- Muscular Junction

Unit IX – Endocrine System **(5 Lecture)**

Hormones: GH, Thyroid Hormones, Parathyroid Hormones, Insulin, Glucocorticoids, 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 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**

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**

CONCEPTUAL MICROBIOLOGY & PATHOLOGY (THEORY)
Course Code: MIC/PAT.102T
Credit Hours: 3
Semester: I

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 : Principles & uses

UNIT III: Morphology of Bacteria & Viruses (3 Lectures)

- *Bacterial anatomy:* Cell wall, Cell membrane, Capsule, Flagella, Nucleoid, Bacterial Spore.
- Structure of viruses, Concepts of replication & cultivation
- Study of bacteria: Preparation of Stains, various Staining techniques (Simple staining, Gram staining, Acid-fast staining, Negative staining & Albert staining).

UNIT- IV: **Growth & Nutrition of bacteria: (3 Lectures)**

- Culture media and Culture methods
- *Bacterial Growth:* Growth Curve, Generation Time, Environmental factors affecting growth.
- Bacterial nutrition: Nutritional groups, Common Nutritional requirements

UNIT- V: Control of Microbial Growth (3 Lectures)

- Sterilization and disinfection

UNIT-VI: Immunity & Infection (3 Lectures)

- *Immunity:* Types of immunity, Antigens & Antibodies, Prophylactic Immunization
- *Infection:* Types, Various routes & modes of transmission, Nosocomial Infections

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 & infarction.

UNIT-V: Neoplasia (2 Lectures)

- Definition,difference between benign tumor and malignant tumor.

UNIT-VI: Healing (2 Lectures)

- Definition, different phases of healing, factors influencing wound healing.

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**

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**

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

UNIT -I: Introduction to Biochemistry **(2 Lectures)**

- Important definitions (Diffusion, Osmosis, Surface Tension, Adsorption , 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, 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 & Angstrom
- **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, Turbidity
  - *Liver Function Test :* SGOT, SGPT, Bilirubin, Albumin, Globulin & Alkaline Phosphatase
  - *Carbohydrates:* Fasting , Random, GTT
  - *Lipid Profile :* Cholesterol, Triglycerides, HDL,LDL, VLDL

UNIT -VIII: Acids & Bases **(2 Lectures)**

- Definition, Classification of acids and bases.
- Physical and chemical properties with examples.
- Arrhenius concept of acids and bases.
- Classification of acids and bases.
- pH, Buffer 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 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**

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 & 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! (10 Lectures)

- Understanding human being as a co-existence of the sentient 'I' 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 'I' and harmony in 'I'
- 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 (10 Lectures)

- 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 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**

INTRODUCTION TO OPERATION THEATRE TECHNOLOGY (THEORY)
Course Code: SUR.105T
Credit Hours: 3
Semester: I

UNIT- I **(11 Lectures)**

- *Environment:* Structure of the Operation Theatre, Anaesthesia Room, Sterilizer Room, Recovery Room, Store Room, Changing Room, Scrub Room.
- *Control of Infection :* Theatre Dress, Cap and Mask, Scrubbing Technique, Donning a Gown, Gloving, Theatre Cleaning

UNIT- II **(14 Lectures)**

- *Sterilization and Disinfection of OT & Equipments:* Definition, Methods , cleaning agents detergents, Mechanical washing, ultrasonic cleaner, lubrication inspection and pitfalls,
- Various methods of chemical treatment- formalin, glutaraldehyde etc.
- Hot Air oven, Autoclaving, UV treatment.

UNIT- III **(15 Lectures)**

- Duty of the OT Staff - Assessment, Implementation, Evaluation, Preparing Mayo Trolley, assisting the surgeon.
- Anaesthesia Service, history, pre-operative, intra operative & post operative care
- General anesthesia techniques
- Local anesthesia techniques
- Blood transfusion
- Monitoring in the operation theatre
- Positioning of patient
- Preparation of Operation Site,
- *Incisions:* Incisions to Expose abdominal viscera
- *Suture Materials:* Absorbable, No absorbable, Adhesive Skin Closure, Staples, Suture & Needles

UNIT- IV **(10 Lectures)**

- Disposable Materials, Radiation Sources, Hazards.

UNIT- V **(10 Lectures)**

- General Instruments
- Instrument planning for various surgical procedure and auxiliary instrumentation.

INTRODUCTION TO OPERATION THEATRE TECHNOLOGY (PRACTICAL)
Course Code: SUR.105P
Credit Hours: 1.5

- Observation & Demonstration of Preparation of OT for surgery,
- Preparation of OT Staff,
- Methods of sterilisation in OT- Autoclaving, Fumigation
- Identification of General set of instruments.

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**

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**

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

UNIT-I: Grammar **(10 Lectures)**

- 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 **(10 Lectures)**

- 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)**

- 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**

COMMUNICATION AND SOFT SKILLS
Course Code: PMS.107T
Credit Hours: 2
Semester: I

UNIT-I: Introduction to Communication **(5 Lectures)**

- Purpose of Communication
- 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 Advantages of verbal communication
- Non Verbal Communication: Importance of written communication and Significance of Non-verbal Communication

UNIT-III: Communication Network **(5 Lectures)**

- Scope and Types of Communication Network
- Formal and Informal Communication Network
- Upward Communication
- Downward Communication
- Horizontal Communication
- Diagonal Communication.

UNIT-IV: Letter and Resume Writing **(5 Lectures)**

- 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

UNIT-IV: Interview preparation **(5 Lectures)**

- Types of Interview
- Preparing for an Interview
- Attending an Interview
- Employers Expectation
- General Etiquette

UNIT-IV: Group Discussion and Presentation **(5 Lectures)**

- Process of Group Discussion
- Guidelines
- Helpful Expressions
- Evaluation

UNIT-VI: Presentation Skills **(5 Lectures)**

- Importance of Presentation skills
- Organizing Contents/ Structural Elements of a Presentation Concerning Data
- Visual Aids and Voice & Picture Integration
- Guidelines to make Presentation Interesting
- Body Language

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

SCHEME OF EXAMINATION

Type of Questions	Total No. of Questions	No. of Questions to be attempted	Marks (Each Question)	Subtotal
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**

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

UNIT-I : Natural Resources (10 Lectures)

- *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 (4 Lectures)

- 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 (3 Lectures)

- 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 (7 Lectures)

- *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 (4 Lectures)

- 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

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
			TOTAL MARKS	**50**

INSTRUMENTATION IN OPERATION THEATRE TECHNOLOGY (THEORY)
Course Code: SUR.109T
Credit Hours: 4
Semester: II

- The Surgical Patient **(2 Lectures)**
- Instruments used for Preparing the Surgical Patient **(2 Lectures)**
- Incision Making Instruments **(2 Lectures)**
- Haemostatic instruments **(2 Lectures)**
- Retractors **(2 Lectures)**
- Dissecting Forceps **(3 Lectures)**
- Scissors **(3 Lectures)**
- Tissue- Holding Forceps **(3 Lectures)**
- Wound closures sutures **(3 Lectures)**
- Surgical needles and needle Holder **(3 Lectures)**
- Modern Techniques of wound closure **(3 Lectures)**
- Drains and their Purposes **(3Lectures)**
- Thyroid Surgical Instruments **(2 Lectures)**
- Bowel Surgical Instruments **(3 Lectures)**
- Biliary Tract surgical Instruments **(3 Lectures)**
- Anorectal surgical Instruments **(3 Lectures)**
- Urological surgical Instruments **(3 Lectures)**
- Orthopaedic Instruments **(3 Lectures)**
- Ruber Instruments **(3 Lectures)**
- Instruments used for E.N.T. surgeries **(3 Lectures)**
- Ophthalmological Instruments **(3 Lectures)**
- Gynecological and obstetrical instruments **(3 Lectures)**

INSTRUMENTATION IN OPERATION THEATRE TECHNOLOGY (PRACTICAL)
Course Code: SUR.109P
Credit Hours: 2

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**

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.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, inspection . **(9 Lectures)**
- Thermal, hot air oven, dry heat, autoclaving, steam sterilization water etc, UV treatment. **(5 Lectures)**
- Various methods of chemical treatment: formalin, glutraldehyde **(4 Lectures)**
- Instrument's etching, care of general surgical instruments **(4 Lectures)**
- 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)**
- Fumigation of OT: Principle & procedure **(5 Lectures)**
- Waste disposal collection of used items from user area, reception protective clothing and disinfections sage gaurds. **(5 Lectures)**
- Corrosion and staining **(5 Lectures)**

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

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**

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**

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

UNIT-I: Medical Gas Supply (10 Lectures)

- Compressed gas cylinders
- Colour coding
- Cylinder valves; pin index.
- Gas piping system
- Alarms & safety devices.

UNIT-II: Anaesthesia Machine (10 Lectures)

- Hanger and yoke system
- Cylinder pressure gauge
- Pressure regulator
- Flow meter assembly
- Vapourizers - types, hazards, mail\tenance, filling and draining, etc.

UNIT-III: Breathing System (12 Lectures)

- 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

UNIT-IV: Face Masks & Airway Laryngoscopes (10 Lectures)

- Types, sizes
- Endotracheal tubes - Types, sizes.
- Cuff system
- Fixing, removing and inflating cuff, checking tube position complications.

UNIT-V: Anaesthesia Ventilator and Working Principles (8 Lectures)
UNIT-VI: Monitoring (10 Lectures)

- ECG
- Temperature
- NIBP/IBP
- CVP

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**

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**

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

UNIT-I: (12 Lectures)

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

UNIT- II: (12 Lectures)

General Anaesthesia

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

UNIT- III: (12 Lecture)

- 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
- Malignant Hyperpyrexia & its management resuscitation.

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 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**

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**

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
			TOTAL MARKS	**50**

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

Description of the following diseases & their management :

- Diabetes mellitus **(3 Lectures)**
- Hypertension **(3 Lectures)**
- Ischaemic heart disease **(4 Lectures)**
- Obesity **(4 Lectures)**
- Elderly patient **(4 Lectures)**
- Pregnancy **(4 Lectures)**
- Shock **(4 Lectures)**
- COPD **(4 Lectures)**
- Chronic renal failure **(4 Lectures)**
- Chronic liver disease/failure **(4 Lectures)**
- Anemia **(4 Lectures)**
- Epilepsy **(4 Lectures)**
- CVA **(4 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 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**

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.203T
Credit Hours: 3
Semester: III

UNIT-I: Autonomic Nerves System (4 Lectures)

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

UNIT-II: Cardiovascular Drugs (6 Lectures)

- 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. (6 Lectures)

- 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 (6 Lectures)

- 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 (4 Lectures)

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

UNIT-VI: CNS Stimulants & Depressants (6 Lectures)

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

UNIT-VII: Pharmacotherapy of Respiratory Disorders (6 Lectures)

- Pharmacotherapy of bronchial asthma.
- Pharmacotherapy of cough.
- Mucokinetic and mucolytic agents.

UNIT-VIII: Corticosteroids (4 Lectures)

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

UNIT-IX: Diuretics (3 Lectures)

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

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
			TOTAL MARKS	**50**

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**

GENERAL SURGICAL PRINCIPLES, PROCEDURES & INSTRUMENTS (THEORY)
Course Code: SUR.204T
Credit Hours:4
Semester: III

UNIT-I: GENETAL SURGICAL PRINCIPALES AND INSTRUMENTS (25 Lectures)

1. The Surgical Patient
2. Instruments Used for Preparing the Surgical Patient
3. Incision Making-Methods and Instruments
4. Haemostasis- The Methods and The Means
5. Retractors
6. Dissecting Forceps
7. Scissors
8. Tissue-Holding Forceps
9. Wound Closures-The Traditional Methods and Sutures
10. Surgical Needles and Needle Holder
11. Modern Techniques and Needle Holder
12. Drains and Their Purposes

UNIT-II: SPECIAL SURGICAL PROCEDURES AND INSTRMENTS (25 Lectures)

13. Thyroid Surgery- Methods and Instruments
14. Bowel Surgery – Methods and Instruments
15. Biliary Tract Surgery- Methods and Instruments
16. Anorectal Surgery- Methods and Instruments
17. Urological Surgery-Methods and Instruments
18. Orthopaedic Instruments

GENERAL SURGICAL PRINCIPLES, PROCEDURES & INSTRUMENTS (PRACTICAL)
Course Code: SUR.204P
Credit Hours: 2

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**

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**

OPERATION THEATRE TECHNOLOGY-CLINICAL (THEORY)
Course Code: SUR.205T
Credit Hours: 4
Semester: III

- Physical facility **(1 Lectures)**
- Layout of operation theatres **(2 Lectures)**
- Operating room. **(2 Lectures)**
- Special procedure rooms **(2 Lectures)**
- Potential sources of injury to the care giver & patient **(2 Lectures)**
- Principles of asepsis & sterile technologies **(2 Lectures)**
- Asepsis, surgical scrub, gowning & gloving **(2 Lectures)**
- Decontamination & disinfections **(2 Lectures)**
- Sterilization assembly & packing **(2 Lectures)**
- Thermal sterilization **(2 Lectures)**
- Chemical sterilization **(2 Lectures)**
- Radiation sterilization **(2 Lectures)**
- Surgical instrumentation **(2 Lectures)**
- Fabrication **(1 Lectures)**
- Classification **(2 Lectures)**
- Powered surgical instruments **(2 Lectures)**
- Handling instruments **(2 Lectures)**
- Specialized surgical equipment **(2 Lectures)**
- Electro cautery **(3 Lectures)**
- Laser **(3 Lectures)**
- Ultra sonography **(3 Lectures)**
- Positioning, preparing and draping the patient **(2 Lectures)**
- General surgery **(2 Lectures)**
- Breast procedures **(2 Lectures)**
- Abdominal surgery **(2 Lectures)**
- Liver procedure **(2 Lectures)**
- Pancreatic procedures **(3 Lectures)**
- Oesophageal procedures **(3 Lectures)**

OPERATION THEATRE TECHNOLOGY-CLINICAL (PRACTICAL)
Course Code: SUR.205P
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**

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**

GENERAL SURGERY (THEORY)
Course Code: SUR.206T
Credit Hours: 4
Semester: IV

UNIT- I **(8 Lectures)**

- History of Surgery, role of the surgeon, importance of team work and anticipating the needs of surgeons.

UNIT-II **(12 Lectures)**

- Tumors, benign and malignant, cysts, ulcers, sinuses, fistula, differential diagnosis of cyst and tumor, wound healing.
- *Shock:* signs and symptoms of internal and external; classification and management;
- *Hemorrhage:* signs and symptoms of internal and external; classification and management;

UNIT- III **(10 Lectures)**

- *Fractures & Dislocation*: Classification of fracture, management, fixation, reduction, Immobilization, principles of closed reduction, artificial prosthesis.

UNIT- IV **(10 Lectures)**

- *Surgical diseases with clinical features & investigation:* Acute appendicitis, urethral strictures, Deep vein thrombosis, Varicose veins, breast, abdomen, renal stones etc.

UNIT- V **(10 Lectures)**

- *Head Injury*: Common manifestation, management of patient, surgical interventions.

UNIT- VI **(10 Lectures)**

- Pre-operative and post-operative care of the surgical patient; Emergency procedures; identification of types of tourniquets reasons for use and duration of application, dangers of use.
- Knowledge of surgical asepsis, skin preparation for invasive procedures

GENERAL SURGERY (PRACTICAL)
Course Code: SUR.206P
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**

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**

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

UNIT-I: Neuro Surgeries **(10 Lectures)**

- Glassgow coma scale
- Premedication
- Special investigation - CT, Angiography and MRI
- Preoperative preparation
- Transport to OT
- Positioning in neuro surgery
- Air embolism
- Post operative surgical care

UNIT-II: Obstetrics and Gynecological Surgeries **(9 Lectures)**

- Pre operative preparation
- Check list
- Regional vs general anesthesia
- Positioning of patient
- Resuscitation of the new born, apgar score
- Post operative care
- Rupture uterus
- Ectopic Pregnancy

UNIT-III: Pediatric Surgeries **(8 Lectures)**

- Theatre setting
- Check list
- Pre operative preparation
- Special instruments and precautions
- Positioning of patient
- Transferring / ICU management
- Post operative pain management

UNIT-IV: ENT Surgeries **(6 Lectures)**

- Adenotonsillectomy ,Post operative care
- Mastoidectomy ,Post operative care
- Bronchoscopy and oesophagoscopy

UNIT-V: Cardiac Anaesthesia **(10 Lectures)**

- Arrhythmias, Angina , Dyspnoea
- Angiography
- Premedication
- Monitoring - invasive and non - invasive
- Getting ready for the case
- Positioning of patient, precautions to be taken
- Cardiopulmonary bypass
- Transferring the patient to ICU.
- Care to be taken
- I.C.U management.

- Chest tube management

UNIT-VI: Trauma & Shock(Emergency Patient Care) (7 Lectures)

- Resuscitation
- Preop investigation I assessment
- Circulatory management
- Intra operative care
- Post operative care

UNIT-VII: Thoracic Anaesthesia (10 Lectures)

- Pulmonary function tests
- Preoperative preparation
- Positioning of patient
- Double lumen tubes
- monitoring
- Pain management
- ICU management

ANAESTHESIA FOR SPECIALITY SURGERIES (PRACTICAL)
Course Code: ANE.207P
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**

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**

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

UNIT-I: Obstetrics **(30 Lectures)**

- 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 **(30 Lectures)**

- 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 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**

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**

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 pre-pathogenic 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)**
- International health agencies. **(3 Lectures)**

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**

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 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**

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

UNIT - I : Safety and Health Management (4 Lectures)

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 (5 Lectures)

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 (5 Lectures)

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 (3 Lectures)

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 (3 Lectures)

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.

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.

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**

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

UNIT-I: Monitoring and Diagnostic Procedures in I.C.U. (12 Lectures)

- Central Venous access
- Invasive hemodynamic monitoring
- ECG: monitoring, different types of E.C.G, recording of E.C.G. of the patient
- *Defibrillators :* Types, Principles and mechanism of the defibrillator Uses and safety precaution during use .
- Ventilator: Care and maintenance of ventilators, suction machine, monitoring, Sterilization and disinfection of ventilators.

UNIT-II: General Care of Patient in I.C.U. (15 Lectures)

- 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
- Management of asepsis, acute poisoning, critically ill patient, disaster management, Nutrition, Pollution, Monitoring
- Head Injury
- Management of tetanus patients.
- Tracheostomy, humidification
- Vascular lines - arterial, venous line
- Radiography

UNIT-III: Fluid Balance and Parenteral Nutrition (8 Lectures)

UNIT-IV: Infectious Diseases in I.C.U. (7 Lectures)

- Antibiotics in I.C.U
- Oxygen therapy
- Mechanical ventilation

UNIT-V: Acid - Base Disorders (8 Lectures)
UNIT-VI: Cardiovascular Failure (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.

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
			TOTAL MARKS	**50**

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**

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 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**

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**

SURGICAL & PARASURGICAL EQUIPMNETS & TECHNIQUES (THEORY)

Course Code: SUR.303T

Credit Hours: 4

Semester: V

UNIT- I **(11 Lectures)**

- *Operation Table:* Structure, material used in fabrication and advantages of the material care, maintenance and uses.

UNIT- II **(18 Lectures)**

- *Diathermy/ Cautery Machine:* Different type of diathermy and Cautery machines, monopolar, Bio-polar and under water working.
- Types of active and passive electrodes. Care maintenance and uses.
- Prevention of hazards
- *Operation Lights*: Types of Operation lights and other light sources. Structural features, care, cleaning, carbolisation, maintenance and uses
- General Surgical Procedure in all types of surgical instrument like Protoscope, Bronchoscope, Cystoscope.

UNIT- III

Scopy equipment **(15 Lectures)**

- Types of scope: Bronchoscope, fibroptic scope oesophageal scope, laparoscopes, cystoscopes and nephroscope etc.-their structural features, care, maintenance and uses.

UNIT- IV **(16 Lectures)**

Neurosurgery

- Microscope use during this surgery, proper handling & care of equipment.
- Surgical instrument/CVP.
- Laminectomy-Position,post operative care.
- Craniotomy

SURGICAL & PARASURGICAL EQUIPMNETS & TECHNIQUES (PRACTICAL)

Course Code: SUR.303P

Credit Hours: 2

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**

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**

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

UNIT-I: Introduction to Health (10 Lectures)

- 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 (15 Lectures)

- 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 (15 Lectures)

- 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 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**

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 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**