SCHEME & SYLLABUS

B. Sc.-Anesthesia and Operation Theater Technology

National Higher Education Qualifications Framework (NHEQF) Level = 6

(Choice Based Credit System)

Program Code: UG057

Department of Life Sciences and Allied Health Sciences, UIS

SANT BABA BHAG SINGH UNIVERSITY

2024

ABOUT THE DEPARTMENT

The department of Life Sciences formerly known as the Department of Natural Sciences was established in the year 2015 with only two UG programmes. Over the years this department has flourished and is offering various programmes and courses at graduate, post-graduate and doctorate level in field of Botany, Zoology, Biotechnology, Biochemistry, Microbiology, Laboratory Sciences and Anesthesia and Operation Theater Technology. The department is nurtured by the highly qualified and dedicated Faculty, honored by various international and national awards. The department is blessed to have specialized faculties in various fields of Life Sciences viz. Plant physiology, Plant Biochemistry, Plant Microbe interaction, Stress Physiology, Chemical ecology, Microbial Physiology, Industrial Microbiology, Clinical microbiology, Microbial Biotechnology, Animal Biotechnology, Fisheries, Parasitology, Molecular biology, Entomology, Sericulture, Animal toxicology, Endocrinology, Biochemistry and Biodiversity

SALIENT FEATURES OF THE DEPARTMENT

- Research oriented curriculum designed to enable students to acquire all the skills needed to collect and analyze the data.
- The Institute drawing upon its strength of highly qualified well trained faculty, state of art infrastructure and innovative teaching methodology.
- Elective courses that brides the gap between industry requirements and academia.
- The department is disseminating various educational missions via e-learning platform in the form of SWAYAM, Virtual lab etc.
- The department is equipped with a number of instruments and facilities like, UV-Visible Spectrophotometer, High Speed Centrifuge, Deep Freezer, Laminar Air flow, Air Samplers, Autoclave, Incubator, Photo actometer, Air condition Labs, Wi-Fi, Library etc.
- The department has organized a large number of conferences, seminars, symposia and workshops. National and International eminent scientists of the country have been associated with the Department as visiting and honorary professors.
- The university's Operation Theater Lab is equipped with state-of-the-art facilities, featuring a comprehensive range of new surgical instruments, anesthesia machines, ICU equipment, and other essential tools. This well-designed lab provides students with hands-on experience using dummies and mannequins, simulating real-life scenarios for surgical and anesthesia procedures. With access to the latest medical technology, the lab supports multidisciplinary training in surgery, anesthesia, and ICU care; ensuring students are well-prepared for real-world clinical environments. The lab offers a safe and controlled space for practical learning, fostering skill development under expert guidance.

B. Sc. Anesthesia and Operation Theater Technology

B.Sc. AOTT is a route for the medical, and diploma students of 10+2 to join the community of Anaesthesia and Operation Theatre Technology professionals. The program is designed to build theoretical knowledge and practical skill sets for performing & developing efficient and resource-optimized medical-surgical procedures.

VISION
To bridge the gap between demand and supply for Life Science and Allied Healthcare Professional with grooming young generations, empowering them to become socially responsible leaders

MISSION
To radiate the knowledge of Life Science and Allied Health Science through quality education by using latest technology, modern infrastructure and the framework needed for the development of professionals.

ELIGIBILITY CRITERIA
10+2 Medical/2 years Diploma in OTT, AOTT with 50% marks.

DURATION
4 Years

CAREER PATHWAYS

Anesthesia and Operation Theater Technology students can pursue careers as **Anesthesia Technicians** or **Operation Theater Technologists**, assisting in surgeries, managing anesthesia equipment, and supporting patient care in critical settings, with opportunities for specialization or further studies in critical care, emergency response, or advanced anesthesia practices .The program is designed to meet the growing requirement of qualified professionals in field of Health care industry and education B.Sc. graduates are hired both by Government and private organizations. They may join Post Graduation Courses further.

- Government Jobs: Prepare students for various government jobs such as at govt. hospitals, military and other public sectors etc.
- Higher Studies: This pathway prepares students for Higher Studies and helps in the search also.

PROGRAMME EDUCATIONAL OBJECTIVE (PEO)

PEO1: To educate graduates in basic and advanced areas of Anesthesia and Operation other related subjects along with sensitizing them to the scope for research.

PEO2: To empower the students with analytical and research skills.

PEO3: Apply Ethical and Professional Standards: Uphold ethical practices, adhere to safety standards, and work collaboratively with healthcare teams.

PEO4: Engage in Continuous Learning and Development: Pursue further studies, certifications, and specialization opportunities to advance skills and adapt to advancements in anesthesia and surgical technology.

PROGRAMME OUTCOMES (PO)

PO1. Knowledge of Anesthesia and OT Practices: Gain comprehensive understanding of anesthesia techniques, equipment, and operation theater protocols.

PO2. Technical Proficiency: Develop hands-on skills to prepare, maintain, and troubleshoot anesthesia and OT equipment, ensuring patient safety during procedures.

PO3. Patient Monitoring: Effectively monitor and interpret vital signs, adjusting patient care under supervision to maintain stability during surgeries.

PO4. Infection Control: Apply sterilization and infection control standards to prevent contamination and ensure a safe operating environment.

PO5 Communication and Teamwork: Work collaboratively with surgical teams, demonstrating clear communication and professionalism in high-stress environments.

PO6: Critical Thinking and Problem-Solving: Analyze and respond to dynamic situations in the OT, utilizing critical thinking skills to ensure seamless operations.

PO6. Ethical and Professional Responsibility: Uphold ethical standards, patient confidentiality, and compassion in all interactions.

PO7. Adaptability to Advancements: Stay updated with evolving anesthesia and OT technologies, demonstrating willingness to engage in continuous learning.

PO8. Emergency Response: Demonstrate readiness to assist in critical situations, providing timely support in life-saving interventions.

PROGRAMME SPECIFIC OUTCOMES (PSO)

PSO1. Students will become patent to work in Hospital Operation Theatres, Critical Care Units and Emergency sections.

PSO2. The students will acquire in-depth knowledge of Anesthesia, Surgery, Critical care and pain management.

PSO3. Students will be able to have all the relevant knowledge of Anesthesia & Surgery and will be able to do various procedures required.

PSO4. This Program will create a great source of manpower which can aid in our health sector especially in Trauma, Emergency, and ICU & Operation Theatres.

PSO5. Students will be able to explore new areas of research in both Anesthesia & Surgery and can also go for higher studies.

PSO6. Students will be able to integrate knowledge various types of Surgical Procedures & Anesthetic procedures along with their in-depth knowledge.

PSO7. Students will be skilled in problem solving, critical thinking and will be able to assist the Surgeon or Anesthetist.

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33.	AOT266	Advanced Surgical Techniques	IV
34.	AOT270	Introduction to Gynecology and Obstetrics	IV
35.	AOT272	Medicine Relevant to OTAT	IV
36.	AOT274	Dietary Management of Common Diseases	IV
37.	AOT276	Hematology	IV
38.	MLT284	Medical Terminology and Record Keeping	IV
39.	AOT264	Advanced Anaesthesia Techniques – Practical	IV
40.	AOT268	Advanced Surgical Techniques- Practical	IV
41.	AOT278	Hospital Visit – II	IV
42.	PT262/ 264/266	Physical Training – IV (NSO/NCC/NSS)	IV
43.	AOT361	Basic Intensive Care and Resuscitation	V
44.	AOT365	Specialized Anaesthesia - I	V
45.	AOT369	Surgical & Para surgical Equipments & Techniques	V
46.	AOT371	Basics of First AID	V
47.	EVS200	Environmental Education	V
48.	COM317	Generic Skills & Entrepreneurship	V
49.	MLT282	Introduction To National Delivery System in India	V
50.	AOT363	Basic Intensive Care and Resuscitation- Practical	V
51.	AOT367	Specialized Anaesthesia - I Practical	V
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Course Scheme
B. Sc. Anesthesia and Operation Theater Technology
(Semester-I-VI)
SEMESTER I

I. Theory Subjects

S. No	Sub Code	Subject Name	Contact Hours (L: T:P)	Credits (L:T:P)	Total Contact Hours	Total Credits Hours	Course Type
1	AOT161	Human Anatomy & Physiology-I	4:0:0	4:0:0	4	4	CC
2	AOT165	Fundamentals of Microbiology	4:0:0	4:0:0	4	4	CC
3	AOT169	Fundamentals of Biochemistry	3:0:0	3:0:0	3	3	CC
4	AOT171	Principles of Anaesthesia	4:0:0	4:0:0	4	4	CC
5	AOT175	Health Care and Patient Safety	3:0:0	3:0:0	3	3	CC
6	AOT177	Medical Laws and Ethics	2:0:0	2:0:0	2	2	Foundation Course
7	AEC0010	Communication Skill in English-I	2:0:0	2:0:0	2	2	AEC

II. Practical Subjects

1	AOT163	Human Anatomy & Physiology-I Practical	0:0:2	0:0:1	2	1	CC
2	AOT167	Fundamentals of Microbiology Practical	0:0:2	0:0:1	2	1	CC
3	AOT173	Principles of Anaesthesia Laboratory	0:0:4	0:0:2	4	2	CC
4	PT161/ 163/ 165	Physical Training- 1 (NSO/NCC/NSS)	0:0:2	0:0:0	2	0	PT-1
Total					**32**	**26**	

Total Contact hrs: 32
Total Credit Hours: 26

SEMESTER II

I. Theory Subjects

S. No	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credits Hours	Course Type
1	AOT162	Human Anatomy & Physiology-II	4:0:0	4:0:0	4	4	CC
2	AOT166	Basic Anaesthetic Techniques and Complications	4:0:0	4:0:0	4	4	CC
3	AOT170	Central Sterile Services Department (CSSD)	3:0:0	3:0:0	3	3	CC
4	AOT172	General Pathology	3:0:0	3:0:0	3	3	CC
5	AOT174	Community health	2:0:0	2:0:0	2	2	SECC
6	AEC0011	Communication in English Skills -II	2:0:0	2:0:0	2	2	AEC

II. Practical Subjects

1	AOT164	Human Anatomy & Physiology- II Laboratory	0:0:2	0:0:1	2	1	CC
2	AOT168	Basic Anesthetic Techniques and Complications Laboratory	0:0:4	0:0:2	4	2	CC
3	PT162/ 164/ 166	Physical Training-2 (NSO/NCC/NSS)	0:0:2	0:0:0	2	0	PT-II
Total					**26**	**21**	

Total Contact hrs: 26
Total Credit Hours: 21

SEMESTER III

NOTE: LATERAL ENTRY

I. Theory Subjects

S. No	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credits Hours	Course Type
1	AOT261	Basic Concepts of Pharmacology	4:0:0	4:0:0	4	4	CC
2	AOT265	Instrumentation In Operation Theater Technology	3:0:0	3:0:0	3	3	CC
3	AOT269	General Anesthesia	4:0:0	4:0:0	4	4	CC
4	AOT271	Basics of Surgical Procedures	4:0:0	4:0:0	4	4	CC
5	AOT273	Hospital Waste Management	2:0:0	2:0:0	2	2	SECC
7	SSC001	Gender Equity	3:0:0	3:0:0	3	3	AECC

II. Practical Subjects/Clinical Posting

1	CSE213	Basics of Computer Practical	0:0:3	0:0:1.5	3	1.5	ID
2	AOT263	General Anesthesia Practical	0:0:2	0:0:1	2	1	CC
3	AOT267	Instrumentation In Operation Theater Technology Practical	0:0:2	0:0:1	2	1	CC
4	AOT275	Hospital Visit-I	0:0:6	0:0:3	6	3	SECC
4	PT262/ 263/ 265	Physical Training-2 (NSO/NCC/NSS)	0:0:2	0:0:0	2	0	NC
Total					**35**	**26.5**	

Total Contact hrs: 35
Total Credit Hours: 26.5

SEMESTER IV

I. Theory Subjects

S. No	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credits Hours	Course Type
1	AOT262	Advanced Anaesthesia Techniques	4:0:0	4:0:0	4	4	CC
2	AOT266	Advanced Surgical Techniques	4:0:0	4:0:0	4	4	CC
3	AOT270	Introduction To Gynecology and Obstetrics	4:0:0	4:0:0	4	4	CC
4	AOT272	Medicine Relevant to OTAT	4:0:0	4:0:0	4	4	CC
5	AOT274	Dietary Management of Common Diseases	2:0:0	2:0:0	2	2	CC
6	AOT276	Hematology	2:0:0	2:0:0	2	2	CC
7	MLT284	Medical Terminology and Record Keeping	2:0:0	2:0:0	2	2	AECC

II. Practical Subjects/Clinical Posting

1	AOT264	Advanced Anaesthesia Techniques-Practical	0:0:2	0:0:1	2	1	CC
2	AOT268	Advanced Surgical Techniques - Practical	0:0:2	0:0:1	2	1	CC
3	AOT278	Hospital Visit-II	0:0:6	0:0:3	6	3	SECC
4	PT262/ 264/ 266	Physical Training-2 (NSO/NCC/NSS)	0:0:2	0:0:0	2	0	NC
Total					**34**	**27**	

Total Contact hrs: 34
Total Credit Hours: 27

SEMESTER V

I. Theory Subjects

S. No	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credits Hours	Course Type
1	AOT361	Basic Intensive Care and Resuscitation	4:0:0	4:0:0	4	4	CC
2	AOT365	Specialized Anaesthesia - I	4:0:0	4:0:0	4	4	CC
3	AOT369	Surgical & Para surgical Equipments & Techniques	3:0:0	3:0:0	3	3	CC
4	AOT371	Basics of First Aid	2:0:0	2:0:0	2	2	CC
5	EVS200	Environment Education	4:0:0	4:0:0	4	4	SECC
6	COM317	Generic Skills & Entrepreneurship	2:0:0	2:0:0	2	2	ID
7	MLT282	Indian Knowledge System-Introduction To National Delivery System in India	2:0:0	2:0:0	2	2	VAC

II. Practical Subjects/Clinical Posting

1	AOT363	Basic Intensive Care and Resuscitation Practical	0:0:2	0:0:1	2	1	CC
2	AOT367	Specialized Anaesthesia – 1 Practical	0:0:2	0:0:1	2	1	CC
3	AOT373	Hospital Visit-III	0:0:8	0:0:4	8	4	SECC
Total					**33**	**27**	

Total Contact hrs: 33
Total Credit Hours: 27

SEMESTER VI

I. Theory Subjects

S. No	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credits Hours	Course Type
1	AOT362	Specialized Anaesthesia & Surgery	4:0:0	4:0:0	4	4	CC
2	AOT366	Specialized Anaesthesia - II	4:0:0	4:0:0	4	4	CC
3	AOT370	Nutrition	2:0:0	2:0:0	2	2	CC
4	AOT372	Specialized Surgery	3:0:0	3:0:0	3	3	CC
5	AOT374	Research Methodology & Biostatics	3:0:0	3:0:0	3	3	SECC

II. Practical Subjects/Clinical Posting

1	AOT364	Specialized Anaesthesia & Surgery -Practical	0:0:3	0:0:1.5	3	1.5	CC
2	AOT368	Specialized Anaesthesia – II Practical	0:0:3	0:0:1.5	3	1.5	CC
3	AOT376	Seminar	0:0:2	0:0:0	2	1	AECC
4	AOT378	Hospital Visit-IV	0:0:6	0:0:3	6	3	SECC
Total					**30**	**23**	

Total Contact hrs: 30
Total Credit Hours: 23

COURSE SCHEME SUMMARY

Semester	L	T	P	Contact hrs/ wk	Credits
1	22	0	10	32	26
2	18	0	8	26	21
3	20	0	15	35	26.5
4	22	0	12	34	27
5	21	0	12	33	27
6	16	0	14	30	23
7	INTERNSHIP-I			26	26
8	INTERNSHIP-II			26	26
Total	**119**	**0**	**71**	**242**	**202.5**

.

Total Contact hours for I-VIII semester: 242
Total Credit Hours for I-VIII semester: 202.5

FIRST SEMESTER

Human Anatomy and Physiology-I

Course Code	AOT161
Course Title	Human Anatomy & Physiology – I
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	• To identify and elate basic concepts of structure and function of cells, tissues and organs. • To understand the anatomical organization, coordination and integ rated functions of human body.
Course Outcomes	At the conclusion of the course, the students will: 1. Know about different a n atomical structures of Human Body. 2. Knowledge about Cellular &Tissue level organization. 3. Understanding about Skeletal system & Bones. 4. Knowledge about Neurons & Nervous System. 5. To study about Endocrine System & Hormones. 6. To study about the special senses of human body.

UNIT-I

Introduction to Human Body: Definition and scope of anatomy and physiology, levels of structural organization and body systems, basic life processes, homeostasis, basic anatomical terminology.

Cellular Level of Organization: Structure and functions of cell, transport across cell membrane, cell division, cell junctions, General principles of cell communication, intracellular signaling pathway activation by extracellular signal molecule.

Tissue Level of Organization: Classification of tissues, structure, location and functions of epithelial, muscular and nervous and connective tissues

UNIT- II

Skeletal System: Divisions of skeletal system, types of bone, salient features and functions of bones of axial and appendicular skeletal system. Organization of skeletal muscle, physiology of muscle contraction, neuromuscular junction

Joints: Structural and functional classification, types of joints movements and its articulation

UNIT-III

Cardiovascular System: Composition and functions of blood, anatomy and physiology of Heart, circulation of blood, External structure of heart, internal structure of heart, blood flow through the heart, Cardiac cycle and conducting system of Heart, the blood pressure, Brain circulation and arteries and veins

UNIT-IV

Special Senses: Structure and functions of eye, ear, nose, skin and tongue and their disorders.

Endocrine System: Classification of hormones, mechanism of hormone action, structure and functions of pituitary gland, thyroid gland, parathyroid gland, adrenal gland, pancreas, pineal gland, thymus and their disorders.

Text & Reference Books:

S. No	Name/Title	Author	Publisher
1	Anatomy & Physiology - Ross and Wilson	Anne Waugh & Allison Grant	Churchill Living Stone
2	Anatomy and Physiology: Understanding the HumanBody	Robert Clark	Jones & Bartlett publishers
3	Principles of Anatomy& Physiology	Tortora & Bryan	WILEY
4	Understanding HumanAnatomy and Physiology	Willium Davis	Mc Graw Hill

Fundamentals of Microbiology

Course Code	AOT165
Course Title	Fundamentals of Microbiology
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	To introduce basic principles and core concepts of microbiology, including the evolution and diversity of microbes; cell structure and function; metabolism; information flow and the role of microbes.
Course Outcomes	At the conclusion of the course students will: 1. Gain an understanding of the Morphology and Physiology of Bacteria. 2. Develop a working knowledge of different types of culture media and culture methods. 3. Understand the various methods of sterilization and disinfection, including heat, radiation, filtration, chemical methods, antisepsis, and asepsis. 4. Learn about Nosocomial infection and its prevention & control. 5. Understand the rationale behind various assays used in immune diagnosis of diseases and will be able to transfer knowledge of immunology in clinical perspective 6. Uunderstand the medical importance of mycology and virology, its classification

UNIT-I

Morphology Of Bacteria: (Structure, size, shape, arrangement cell wall, flagella, spore, capsule, fimbria)

Physiology of Bacteria: (Bacterial growth curve, Temp, O_2, CO_2, micro and macro nutrient growth requirements), Culture Media & Culture Methods, Antimicrobial sensitivity tests, Sterilization and Disinfections: Definition, Dry heat Sterilization, Moist heat Sterilization, Chemical disinfectants, Gaseous disinfection, Test for disinfection / Sterilization control.

UNIT-II

Infection: Classification, Sources of infection, Modes of transmission.

Nosocomial infection including biomedical waste management: Definition, Classification, Significance, Prevention and control, biomedical waste management.

UNIT-III

Applied Microbiology: Pyrexia of unknown origin, Meningitis, Zoonotic infections, Hepatitis, HIV infection and AIDS, Food poisoning, Diarrhea, Urinary tract infections, Pulmonary Tuberculosis

Immunology: Immunity, Antigen, Antibody, Hypersensitivity.

UNIT-IV

Mycology: General Properties of fungi. (General characters, classification, Morphology, Reproduction).

Virology: General Properties of Viruses. (General character, classification based on Genome, Capsid, Envelope & replication and cultivation of virus)

Text & Reference Book:

S. No	Name	Author(S)	Publisher
1	Practical Medical MicrobiologyVolume 1 and Volume 2	Mackie & Mac Cartney	Churchill Living Stone
2.	Text book of Microbiology.	Anantha nereyan and Paniker	Universities Press
3.	Medical Microbiology	Paniker & Satish Gupte,	Universities Press
4.	Text book of Microbiology	Michael J.elczar, JR. E.C.S Chan & Noel R. Krieg	Tata McGraw Hill
5.	Text book of Microbiology	D.R Arora & B. Arora	CBS Publishers

Fundamentals of Biochemistry

Course Code	AOT169
Course Title	Fundamentals of Biochemistry
Type of course	Theory
L T P	3 0 0
Credits	3
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	The course aims to provide students with a basic understanding of principles of bioenergetics and enzyme catalysis, metabolism of dietary and endogenous carbohydrate, lipid, and protein and major mechanisms of metabolic control.
Course Outcomes	At the conclusion of the course the students will: 1. Understand the key role of macro nutrients (carbohydrates, proteins, lipids) in human body. 2. Acquire a detailed understanding of enzymes, including their classification, mechanisms of action, factors influencing their activity, the role of coenzymes and pattern of disease. 3. Accesses the roles of vitamins and minerals in human health. 4. Learn the principles of metabolic rate and balanced diet and its importance for overall health. 5. Gain knowledge about the role of acids and bases in maintaining pH balance in biological systems 6. Recognize the nomenclature of organic and inorganic reference.

UNIT I

Overview of macronutrients:

Carbohydrates: Classification, Structure and functions of Carbohydrates

Proteins: Classification, Properties and their roles in our body

Lipids: Sources, types and function of each class of lipids

Introduction to metabolism

UNIT II

Enzymes: Definition, Nomenclature, Classification, Factors affecting enzyme activity, Active site. Coenzyme, Enzyme Inhibition, Units of enzymes, Isoenzymes and Enzyme pattern in diseases

Vitamins & Minerals- Fat soluble vitamins (A, D, E, K), water soluble vitamins, B-complex vitamins, principal elements (Calcium, Phosphorus, Magnesium, Sodium, Potassium, Chlorine and Sulphur), trace elements, calorific value of foods, Basal Hormones

UNIT III

Metabolic Rate (BMR), Respiratory Quotient (RQ), Specific Dynamic Action (SDA), Balanced diet, Marasmus and Kwashiorkor.

Acids and bases- Definition, pH, Henderson – Hassel Balch equation, Buffers, Indicators, Normality, Molarity, Molality

UNIT IV

Applied Chemistry: Nomenclature of compounds containing Halogen, Alcohols and Phenols, Ethane, Propane, Ether, Aldehydes, Ketones, Carboxylic acid, Cyanides, Isocyanides, Nitrogen compounds and amines

Text & Reference Books:

S. No.	Name/Title	Author	Publisher
1	Biochemistry	Thomas M. Devlin	John Wiley & Sons
2	Harper's Bio Chemistry	Robert K Murray, David A Bender, Kathleen M. Gotham, Peter J Kennelly, victor W. Rodwell & P. Anthony Weil.	McGraw Hill
3	Principles of Biochemistry	Gerhard Meisenbe g and William H. Simmons	McGraw Hill
4	Text book Biochemistry	Gerhard Meisenbe g and William H. Simmons	Elsevier HS
5	Text book Biochemistry	M N Chaterjee and R. Shinde	Jaypee Brothers Publishers(P) Ltd.

Principles of Anaesthesia

Course Code	AOT171
Course Title	Principles of Anaesthesia
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	The objective is to equip students with foundational knowledge and practical skills in using anesthesia equipment, monitoring patient vitals, and operating the anesthesia workstation safely and effectively.
Course Outcomes	At the conclusion of the course, the students will: 1. Get familiar with the environment and structure of Operation Theater. 2. Know about Basic Science of Anaesthesia work station and medical gas supply. 3. Understanding the importance of breathing system and various techniques used in anesthesia 4. Understanding the various Equipments used in Anesthesia 5. Know About Basic the basics of anesthesia monitoring.

UNIT- I

Introduction To Operation Theater: Structure of the Operation Theatre, Anaesthesia Room, Sterilizer Room, Recovery Room, Store Room, Changing Room, Scrub room.

Control Of Infection: Source of Infection, Cause of Infection, Prevention of Infection in OT, Theatre Dress, Cap and Mask, Scrubbing Technique, Donning a Gown, Gloving, Theatre Cleaning

UNIT- II

Anaesthesia Workstation: Hanger and yoke system, Cylinder pressure gauge, Pressure regulator, Flow meter assembly, Vaporizers - types, hazards, maintenance, filling and draining, etc.

Medical Gas Supply: Compressed gas cylinders, Color coding, Cylinder valves; pin index., Gas piping system, Recommendations for piping system, Alarms & safety devices.

UNIT- III

Breathing System: Classification of breathing system, Mapleson system - a b c d e f, Jackson Rees system, Bain circuit, non-rebreathing valves, Ambu valves the circle system and Components (Soda lime, indicators), humidity & heat, Methods of humidification and reservoir bags, Lung volumes, Spirometry, Techniques to check the compliance of respiratory system, Match blow techniques

UNIT-IV

Face Masks & Airway Laryngoscopes: Types, sizes, endotracheal tubes - Types, sizes. Cuff system, Fixing, removing and inflating cuff, checking tube position complications

Basic Monitoring: Capnography, Pulse Oximetry, Basics of ECG

Text & Reference Books:

S. No	Name/Title	Author	Publisher
1	G. Smith & A.R. Aitkenhead's	Text book of Anaesthesia	ELSEVIER
2	Ajay Yadav	Short Textbook of Anaesthesia	JP Brothers
3	Anshul Jain	Essentials of Anesthesia &Critical Care	JAYPEE
4	Arun Kumar Paul	Drugs & Equipments in Anaesthetic Practice	Elsevier

Health care and Patient Safety

Course Code	AOT175
Course Title	Health care and Patient Safety
Type of course	CC
L T P	3 0 0
Credits	3
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	The course provides the students a basic insight into the main featuresof the Indian health care delivery system and how it compares with the other systems of the world
Course Outcomes	At the conclusion of the course, the students will: 1. Know about national policies. 2. Understand the role and responsibilities of healthcare worker in the critical departments and also know the importance of principles and applications of nursing. 3. Familiarize with the safety and health management, 4. Know about the theories & principles of accident prevention.

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

Bandaging*:* basic turns, bandaging extremities, triangular bandages and their application, Nursing position, prone, lateral, dorsal, and 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

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

Ergonomics - Introduction, Definition, Objectives, Advantages, Ergonomics Hazards - Musculoskeletal Disorders and Cumulative Trauma Disorders, Organizing for safety, Health and Environment

UNIT-IV

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

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

Text & Reference Books:

S. No	Name	Author(S)	Publisher
1.	Medical Law and Ethics	Bonnie F Fremgen	Bhalani Publisher
2.	Medical Law and Ethics	Jonathan Herring	Tata McGraw Hill
3.	Medical Law and Ethics	Purosottam Behera	Mittal Publications
4.	Reflections on Medical Law and Ethics in India	Bismi Gopalakrishnan, Mercy Khaute, B. Sandeepa Bhat	Eastern Law House

Medical Laws & Ethics

Course Code	AOT177
Course Title	Medical Laws & Ethics
Type of course	Foundation course
L T P	2 0 0
Credits	2
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	• To improve the quality of patient care by identifying, analyzing, and attempting to resolve the ethical problems that arise in practice. • To develop understanding among students about the latest regulations in the field of medical laws & ethics.
Course Outcomes	At the conclusion of the course the students will: 1. Understand the rights and duties of a healthcare professional as a citizen of India. 2. Understanding how to deal with situations arising out of negligence, malpractices and unethical practices in the context of Indian Legal System. 3. Appreciate and understand the legal framework surrounding medical education and Profession

UNIT I

Medical ethics: Definition - Goal - Scope, Introduction to Code of conduct.

- Basic principles of medical ethics – Confidentiality
- Malpractice and negligence - Rational and irrational drug therapy
- Autonomy and informed consent - Right of patients
- Care of the terminally ill- Euthanasia
- Organ transplantation

UNIT II

Medico legal aspects of medical records – Medico legal case and type- Records and document related to MLC - ownership of medical records - Confidentiality Privilege communication - Release of medical information - Unauthorized disclosure - retention of medical records - other various aspects.

- Professional Indemnity insurance policy.
- Development of standardized protocol to avoid near miss or sentinel events.
- Obtaining an informed consent.

Text & Reference Books:

S.No.	Name/Title	Author	Publisher
1	Medical Law and Ethics	Bonnie F Fremgen	Bhalani Publisher
2	Medical Law and Ethics	Jonathan Herring	Tata McGraw Hill
3	Medical Law and Ethics	Purosottam Behera	Mittal Publications
4	Reflections on Medical Law and Ethics in India	Bismi Gopalakrishnan, Mercy Khaute, B. Sandeepa Bhat	Eastern Law House

Communication skills in English-I

Course Code	AEC0010
Course Title	Communication skills-I
Type of course	Theory
L T P	2 0 0
Credits	2
Course prerequisite	+2in any stream
Course Objective	Objectives of the course is to: 1. Equip the learner with proficiency in reading comprehension. 2. Enable the learner with improved writing skills and command over official/corporate communication. 3. Enhance the learners' range of vocabulary and knowledge of grammar.
Course Outcomes	At the conclusion of the course, the students will: 1. Have fairly good proficiency in reading comprehension. 2. Have enhanced writing skills and command in official / corporate communication. 3. Develop confidence in making presentations.

UNIT- I

Basics of Communication Skills: Communication, Process of communication, Types of Communication, Verbal and Nonverbal communication, Channels of Communications-Upward and downward, Horizontal and Barriers of communications, Role of Communications in society.

UNIT-II

Listening Skills: Listening Process, Hearing and Listening, Types of Listening, Effective listening, Barriers of Effective listening and Note Talking.

Reading Skills: Purpose of reading, Process of reading, reading skills, Models and strategies, scanning, skimming, SQ3R, Approaches of Reading, Comprehension passages for practice.

UNIT-III

Writing Skills: Purpose of writing, Effective writing, Types of Writing, Business correspondence, Precise writing, Memo writing, minutes of meeting.

UNIT-IV

Speaking Skills: Speech Process, Skills of effective speaking, Role of audience, Feedback skill, Oral Presentation

Text & Reference Books:

Sr. No	Author(s)	Title	Publisher
1.	Bhupender Kour	Effectual Communication Skills	S.K. Kataria and Sons
2.	R. Datta Roy and K.K. Dheer	Communications Skills	Vishal Publishing Company
3	The Essence of Effective Communication	Ludlow and Panton	Prentice Hall of India
4	Essentials of Business Communication	Pal and Korlahalli	S. Chand and Sons. NewDelhi

Human Anatomy & Physiology Practical

Course Code	AOT163
Course Title	Human Anatomy & Physiology Practical
Type of course	Practical
L T P	0 0 2
Credits	1
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	Students will be able to learn the basic terminology of anatomy, architectures and functional details of cells, tissues, organs and organ systems
Course Outcomes	At the conclusion of the course, the students will: 1. Know about different anatomical structures of Human Body. 2. Understanding the different functions that are going in a human body and all physiological actions. 3. Examine about the Location of various organs and organ systems of our body and their associated structures. 4. Knowledge about Blood, CPR, Pulmonary Function Tests and other associated processes.

LIST OF PRACTICALS

1. Identification of various Planes and Sections of a Human Body.
2. Identification and knowledge of positioning of Various Organism different cavities in the human Body.
3. Morphological & Anatomical Structure of Organs:Liver, Heart, Kidney, Nephron, Lungs, Neuron, Ovary.
4. Morphological & Anatomical Structure of Eye, nose and Tongue
5. Blood groups.
6. Artificial respiration and C.P.R

Fundamentals of Microbiology Lab

Course Code	AOT167
Course Title	Fundamentals of Microbiology Lab
Type of course	Practical
L T P	0 0 2
Credits	1
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	To introduce basic principles and core concepts of microbiology, including the evolution and diversity of microbes; cell structure and function; metabolism; information flow and the role of microbes.
Course Outcomes	At the conclusion of the course, the students will: 1. Introduction about Microscopes, Microscopy & Microbiology. 2. Demonstration of different methods of Sterilization. 3. Study about Culture media,Disinfectants & Antiseptics. 4. Know the disposal of hazardous waste 5. Knowledge about common serological tests.

LIST OF PRACTICALS

1. To demonstrate safety measures for a Microbiology laboratory.
2. To demonstrate the theory, principle, working, maintenance and precautions of Microscope.
3. To demonstrate the theory, principle of sterilization-Methods & advantages.
4. Preparation of common disinfectants use for sterilization.
5. Preparation of basic media for the cultivation of bacteria.
6. To learn ‘How to dispose of microbiological waste.
7. Principles and interpretation of common serological tests namely Widal, VDRL, ASLO, CRP, and Rheumatoid Factor. Rapid tests for HIV, HCV and HBs Ag (excluding technical details).

Principles of Anesthesia Practical

Course Code	AOT173
Course Title	Principles of Anesthesia Practical
Type of course	CC
L T P	0 0 4
Credits	2
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	The objective is to equip students with foundational knowledge and practical skills in using anesthesia equipment, monitoring patient vitals, and operating the anesthesia workstation safely and effectively.
Course Outcomes	At the conclusion of the course, the students will: 1. Environment and structure of Operation Theater. 2. Know about Basic Science of Anaesthesia work station and medical gas supply. 3. Understanding the importance of breathing system. 4. Understanding the basics of monitoring. 5. Acquire the basic knowledge of anesthesia Equipments

LIST OF PRACTICALS

1. Observation & Demonstration of Preparation of Anaesthesia Equipment
2. Anesthesia Machine
3. AMBU Bag
4. Procedure of Endotracheal intubation
5. Procedure of Laryngoscopy
6. Breathing circuit
7. Capnography
8. ECG
9. Working of Pulse Oximetry

SECOND SEMESTER

Human Anatomy & Physiology-II

Course Code	AOT162
Course Title	Human Anatomy & Physiology-II
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	Students will Learn the concepts of anatomical structures in relationship to their physiological functions. They will also learn the integration and coordination of body function sand their dependence On Digestive and circulatory system to regulate the physiological activities.
Course Outcomes	At the conclusion of the course, the students will: 1. Know about different anatomical structures of Human Body. 2. Study about Digestive system & various organs involved in it. 3. Knowledge about Urinary System & functioning of Kidney. 4. Study about Circulatory, Nervous system & Respiratory system & also about reproductive & Lymphatic system.

UNIT-I

Alimentary system: mechanism and physiology of digestion and absorption structure function (Mouth, Tongue, Teeth, Esophagus, Pharynx, Stomach, Intestine, Rectum, and Anus;

Digestive glands; physiology of digestion of carbohydrates, lipids& proteins, Structure and function of Liver

Urinary system: Main parts, Structure & function of kidney, structure of nephron, physiology of excretion & urine formation, urine, additional excretory organs

UNIT –II

Nervous system: Organization of nervous system, neuron, neuroglia, classification and properties of nerve fiber, electro physiology, action potential, nerve impulse, receptors, synapse, neurotransmitters.

Central nervous system: Meninges, ventricles of brain and cerebro spinal fluid, structure and functions of brain (cerebrum, brain stem and cerebellum), spinal cord (gross structure, functions of afferent and efferent nerve tracts, reflex activity).

Respiratory System: Organs of respiration and their histology, Respiration (definition andmechanism), Gas exchange in the lungs, Regulation of respiration, Basal metabolic rate, Pleural Cavity & intrapleural pressure

UNIT-III

Reproductive system: Male and female reproductive system, Histology of gonads, the ovarian cycle and ovulation, Fertilization, spermatogenesis.

Lymphatic system: Introduction, Structure and function, Lymph nodes,Spleen, Thymus gland, Tonsils.

UNIT-IV

Body fluids and their significance: Important terms, types of body fluid, total body water, avenues by which water leaves and enters body, general principles for fluid balance, cardinal principle, how body fluids maintain Homeostasis, Electrolytes & ions Function of electrolytes, how electrolyte imbalance leads to fluid imbalance.

Text & Reference Books:

S. No.	Name/Title	Author	Publisher
1	Anatomy & Physiology-Ross and Wilson	Anne Waugh & Allison Grant	Churchill LivingStone
2.	Anatomy and Physiology: Understanding the Human Body	Robert Clark	Jones & Bartlettpublishers
3.	Anatomy and Physiology For nurses	Evelyn Pearce	Faber & Faber
4.	Functional Histology	James S. Lowe, Barbara young, Allen Stevens & John wheat	Elsevier
5.	Text book of human Histology withcolour Atlas and Practical Guide	Inderjit Singh	Jaypee Brothers Medical publishers
6	Understanding Human Anatomy and Physiology	Willium Davis	McGraw Hill

Basic Anesthetic Techniques and Complications

Course Code	AOT166
Course Title	Basic Anesthetic Techniques and Complications
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	A primary purpose of the course is to know about uses of basic anesthetic instruments and basic anesthetic procedure.
Course Outcome	At the conclusion of the course, the students will: 1. Acquire knowledge about pre-operative care unit. 2. To know about regional and local blocks. 3. To know about the instruments used during General Anesthesia. 4. Understanding the basics about monitoring.

UNIT I

Pre-anesthetic Checkup: Confirm the identification of the patient, Pre-anesthetic checkup of patient; care and preparation of patient in pre-operative ward; preparation of patient in operation theatre; care and monitoring of patient in post-operative ward; management of O.T. before operation, Premedication.
Equipments: Suction apparatus foot operated, electrically operated, Catheters face masks, ventimasks, and Oropharyngeal airways, Laryngeal mask airway, Suction tube, nasogastric tube, Gastric lavage, Gastric gavage, aspiration.

UNIT II

Regional anesthesia and Local anesthesia: Spinal Anesthesia technique, complication and drugs, Epidural Anesthesia technique, complication and drugs, Biers block

UNIT III

Monitoring: Monitoring – Noninvasive & invasive monitoring, Recovery room – Set up, Things needed, Problems 3) Complications, Obesity, Anaemia, Nausea & vomiting, Sore throat, Laryngeal granuloma, Neurological complications, Awareness, Vascular, Mortality, Causes of death, cerebral damage, Prevention, Temperature monitoring.

Anesthetic blocks: Biers Block, Nerve block, Surface anesthesia, Topical Anesthesia, Tumescent Anaesthesia (Liposuction).

UNIT IV

Basic techniques and equipments: Tracheal Intubation/Nasotracheal Intubation, Laryngeal mask airway, Oropharyngeal airways, Different mask used for ventilation,

Text & Reference Books:

S. No.	Name/Title	Author	Publisher
1	G. Smith & A.R. Aitkenhead's	Text book of Anaesthesia	ELSEVIER
2	Ajay Yadav	Short Textbook of Anaesthesia	JP Brothers
3	Anshul Jain	Essentials of Anaesthesia & Critical Care	JAYPEE
4	Tara V Shan Bagh	Pharmacology of medical graduates	JAYPEE

Central Sterile Services Department (CSSD)

Course Code	AOT170
Course Title	Central Sterile Services Department (CSSD)
Type of course	Theory
L T P	3 0 0
Credits	3
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective (CO)	The Central Sterile Supply Department (CSSD) is a service unit of the hospital responsible for providing guaranteed sterile Equipments / instruments to all the departments of hospital for immediate use in patients care – A step towards the prevention of hospital acquired infections (HAI)
Course Outcomes	At the conclusion of the course, the students will: 1. Understanding the various methods of cleaning & packing. 2. Knowledge about the different chemicals to sterilize the Equipments. 3. Knowledge about the different methods of sterilization. 4. Study about the proper packing of operation Equipments. 5. Understanding the different flows air and methods to sterilize OT.

UNIT-I

Cleaning and Instruments: Methods of cleaning, composition of dust, general care and testing of instruments: forceps, hemostatic, needle holders, knife, blade, scissor, use/ abuse, care during surgery.

UNIT-II

Disinfection and methods: Disinfectants of instruments and sterilization- definition, methods, cleaning agents, detergents, mechanical washing, ultrasonic cleaner, lubrication, inspection and pitfalls, Thermal, hot air oven, dry heat, autoclaving, steam sterilization water etc., UV treatment, Various methods of chemical treatment: formalin, glutraldehyde.

UNIT-III

Sterilization: Sterilization of Equipments: arthroscope, gastroscope, Proctoscope, suction apparatus, Anaesthetic Equipments including endotracheal tubes, Materials used for wrapping and packing assembling pack contents, Types of packs prepared, Method of wrapping and making use of indications to show that a pack of container has been through a sterilization process date stamping.

UNIT-IV

Operation Environment: OT Sterilization including laminar air flow, Fumigation of OT: Principle & procedure, Waste disposal collection of used items from user area, reception protective clothing and disinfections sage guards, and Waste material segregation.

Text & Reference Books

S. No	Name	Author(S)	Publisher
1	CSSD technicians	Joan M Losper	IYS
2	Handbook for CSSD technicians	Joan M Losper	IYS

General Pathology

Course Code	AOT172
Course Title	General Pathology
Type of course	Theory
L T P	3 0 0
Credits	3
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	Objectives of the course is to: The pathology teaches students to classify diseases, interpret laboratory results, and apply pathological knowledge in clinical settings. The course also focuses on understanding how pathology influences prevention, diagnosis, and treatment, while encouraging continuous learning through research.
Course Outcomes	At the conclusion of the course, the students will get: 1. CO1: Understanding Disease Mechanisms: Ability to explain the fundamental processes behind various diseases. 2. CO2: Recognition of Pathological Changes: Competence in identifying abnormal changes in cells and tissues. 3. CO3: Accurate Disease Classification: Skill in classifying diseases based on their causes and effects. 4. CO4: Interpretation of Diagnostic Results: Proficiency in analysing lab findings and pathology reports. 5. CO5: Application in Clinical Practice: Ability to apply pathological knowledge in diagnosing and managing patient conditions.

UNIT-I

Cellular adaptation and cell death, Inflammation and repair, infection, circulatory disorders, immune defense, Genetics of disease

UNIT II

Neoplasia, Cell injury and adaptation, Atrophy, hypertrophy, metaphase, hyperplasia, Classification of tumors, premalignant lesion

UNIT III

Types of inflammation & system manifestations of inflammation, Disorders of vascular flow & shock (brief introduction), Oedema, hyperemia or congestion, thrombosis, embolism, infarction shock, ischemia, over hydration, dehydration

UNIT-IV

The response to infection, Categories of infectious agents, host barriers to infection, How disease is caused, Inflammatory response to infectious agents, Hematopoietic and lymphoid System, Hemorrhage, various types of anemia, leucopenia, leukocytosis, bleeding disorders coagulation mechanism

Text and Reference Books:

S. No	Name	Author(S)	Publisher
1.	Textbook of pathology	Harsh mohan	JAYPEE
2.	A short textbook of pathology	MD. Tahminur rehman sajal et al	JAYPEE
3.	Fundamentals of pathology	Hussain A. satar	PATHOMA
4.	A short textbook of pathology	Dr. preeti gupta	PEEVEE

Community Health

Course Code	AOT174
Course Title	Community Health
Type of course	Theory
L T P	2 0 0
Credits	2
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	Objectives of the course is to: 1. **Assess and Address Community Health Needs**: Identify health challenges in a community and design interventions to improve overall health outcomes. 2. **Promote Health Education and Awareness**: Educate communities on disease prevention, healthy lifestyles, and access to healthcare services. **Support Health Equity**: Work to reduce disparities in healthcare access and promote equitable health outcomes for all population groups.
Course Outcomes	At the conclusion of the course, the students will get: 1.Ability to assess and address the health needs of various communities. 2.Capability to create and implement effective health education campaigns. 3.Proficiency in using public health data to inform interventions and policies. 4.Skills to work collaboratively with communities and healthcare providers. 5.Empowerment to promote equitable access to healthcare and reduce health disparities.

UNIT-I

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, public health administration-An overall view of the health Administration set up at center and state level.

UNIT-II

The National Health Programmes- National Health programmes include tuberculosis, malaria, MCH and HIV/AIDS, Health problems in vulnerable groups-Pregnant and lactating women and infants and school going children-occupational groups, geriatrics, Occupational Health- Definition, scope-Occupational diseases, prevention of occupational diseases and hazard, social security and other measures for the protection of occupational hazards, accidents and disease. Details of compensation acts

UNIT-III

Family planning objectives of National family planning methods, A general idea of advantages and disadvantages of the method, Mental Health- community aspects of mental health; role of physiotherapists, therapists in mental health problems such as mental retardation etc.

UNIT-IV

Communicable disease, an overall view of the communicable disease, Classification according to the principal mode of transmission, Role of insects and their vectors, international health agencies

Text and Reference Books

S. No	Name	Author(S)	Publisher
1.	Essentials of community health nursing	K. Park	JAYPEE
2	Textbook of community health nursing	KK. Gulani	JAYPEE
3.	Mastering of community health nursing	M. Selvi	EMMESS
4.	Community health nursing- II	Dr. Sr. Thumma Theresamma	NIGHTINGALE
5.	Essentials of community health nursing	K. Park	JAYPEE

Communication Skills in English -II

Course Code	AEC0011
Course Title	Communication Skills in English -II
Type of course	Theory
L T P	2 0 0
Credits	2
Course prerequisite	+ 2 in any Stream.
Course Objective	Objectives of the course is to: 1. Equip the learner with proficiency in reading comprehension. 2. Enable the learner with improved writing skills and command over official/ corporate communication. Enhance the learners' range of vocabulary and knowledge of the essentials of grammar.
Course Outcomes	At the conclusion of the course the learner will be able to: 1. Have fairly good proficiency in reading comprehension. 2. Have enhanced writing skills and have command in official/ corporatecommunication. 3. Develop confidence in making presentation; oral or documentary.

UNIT I

Public Speaking: Introduction to Public Speaking, Business Conversation, Effective Public Speaking, Art of Persuasion.

UNIT II

Interview Skills: Types of Interview, Styles of Interview, Facing Interviews-Fundamentals and Practice Session, Conducting Interviews- Fundamentals and Practice Session, Mock interview sessions

UNIT III

Writing Skills: Resume Writing, Covering Letters, Interview Follow up Letters, Email, Fax, Assessment through employability score card

UNIT IV

Etiquettes: Business Etiquette, dressing up Sense, Exchanging Business card, shaking hands, Dining etiquette.

Text and Reference Books:

S. No	Name	Author(S)	Publisher
1.	Speaking Effectively	Jeremy Comfort	CUP
2	Creative English for communication	N. Krishna swamy	Macmillan
3	Business Communication	Raman Prakash	CUPi
4	Business Communication	Anjanee Sethi & Bhavana Adhikari	Tata McGraw Hill

Human Anatomy & Physiology II - LAB

Course Code	AOT164
Course Title	Human Anatomy & Physiology II - LAB
Type of course	Practical
L T P	0 0 2
Credits	1
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	Students will be able to learn the basic terminology of anatomy, architecture and functional details of cells, tissues, organs and organ systems.
Course Outcomes (CO)	At the conclusion of the course, the students will: CO1: Know about different anatomical planes and sections of human body. CO2: Identification of various Organs of body & Their location CO3: Understanding the different functions that are goingin a human body and all physiological actions. CO4: Knowledge about Pulmonary Function Tests and other associated processes.

LIST OF PRACTICALS

1. Identification of various Planes and Sections of a Human Body.
2. Morphological &Anatomical Structure of Organs: Kidney, Nephron, Neuron.
3. Structure of Liver and Pancreases.
4. Parts of Female reproductive system.
5. Understand the movement of food in gastrointestinal tract.
6. Perform Pulmonary function tests are done.

Basic Anesthetic Techniques and Complications- Practical

Course Code	AOT168
Course Title	Basic Anesthetic Techniques and Complications- Practical)
Type of course	Theory
L T P	0 0 4
Credits	2
Course prerequisite	10+2 Medical/ Dip in OT/AT/ with 50% marks.
Course Objective	This objective covers essential techniques such as general, regional, and local anesthesia, while also addressing how to monitor patients during procedures. The course aims to prepare students to recognize, manage, and prevent common complications related to anesthesia, ensuring patient safety throughout surgical and medical interventions.
Course Outcomes	At the conclusion of the course, the students will: CO1: Know about the basics of Instruments in OT. CO2: Students can measure the Intraoperative losses. CO3: Understand the procedure involved in Laryngeal mask airway insertion. CO4: Understand the difference between dura cutting and dura separating spinal needles.

LIST OF PRACTICALS

1- Suction apparatus

2- Catheters,

3- Masks

4- Technique of LMA (Laryngeal mask airway) insertion.

5- Oropharyngeal airways.

6- Needles used in regional anesthesia.

7- Calculation of intraoperative fluid management.

THIRD SEMESTER

Basic concepts of Pharmacology

Course Code	AOT261
Course Title	Basic concepts of Pharmacology
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	
Course Outcomes (CO)	C02: Understand the structure, function and mechanism of Anesthetic and Analgesic drugs. CO3: Understand the structure, function and mechanism of Antihistamines antiemetics and CNS stimulants and CNS depressants drugs CO4: Use of pharmacotherapy agents in chronic obstructive disease. CO5: Understanding use, preparation and mode of action of Diuretics.

UNIT-I

Introduction General Anaesthesia- Components, Triad of Anaesthesia, Balanced Anaesthesia, Stages of General Anaesthesia (Guedels Classification)

UNIT –II

Preoperative assessment, Old G/A, Ether Anaesthesia (old anaesthesia technique), Modern Anaesthesia Balanced G/A, induced hypotensive General Anesthesia, Induced Hypothermic GA

UNIT-III

Historical backgrounds, Indication of general anaesthesia, 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, Malignant Hyperpyrexia & its management resuscitation, Neuromuscular Monitoring.

UNIT-IV

Perioperative complications of General anesthesia, General principles- Pharmacological classification of drugs, route of administration, precautions in administration, drug toxicity, and adverse drug reaction, Inhalational agents: General principles and individual agents, Pathological examination, Radiological examination, Ultrasonography, Endoscopy, Fluid management

Text & Reference Books:

S. No.	Name/Title	Author	Publisher
1	G. Smith & A.R. Aitkenhead's	Text book of Anaesthesia	ELSEVIER
2.	Ajay Yadav	Short Textbook of Anaesthesia	JP Brothers
3.	Anshul Jain	Essentials of Anaesthesia & Critical Care	JAYPEE
4.	Tara V Shan Bagh	Pharmacology of medical	JAYPEE

Instrumentation in Operation Theater Technology

Course Code	AOT265
Course Title	Instrumentation In Operation Theater Technology
Type of course	Theory
L T P	3 0 0
Credits	3
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	The objective of this course is to provide students with a comprehensive understanding of surgical instruments and devices used in patient care and various surgical procedures. It focuses on instruments for incision making, hemostasis, tissue handling, wound closure, and modern techniques for wound management, including the use of drains.
Course Outcomes (CO)	CO1: To know basics about instruments used in making incision as well as hemostasis. CO2: Understanding the basics about retractors, dissecting forceps, scissors and tissue holding forceps. CO3: To know about Modern techniques of wound closure and others equipments during procedure. CO4: Understanding basics about laser equipments and infusion pumps. CO5: Understanding basics about General instruments.

UNIT-I

The Surgical Patient, Instruments used for Preparing the Surgical Patient, Incision Making Instruments, Hemostatic instruments.

UNIT –II

Retractors, Dissecting Forceps, Scissors, Tissue- Holding Forceps, Wound closures sutures, surgical needles and needle Holder, Modern Techniques of wound closure, Drains and their Purposes.

UNIT-III

Thyroid Surgical Instruments, Bowel Surgical Instruments, Biliary Tract surgical Instruments, Anorectal surgical Instruments, Urological surgical Instruments, Orthopedic Instruments, Ruber Instruments, Instruments used for E.N.T. surgeries, Ophthalmological Instruments, Gynecological and obstetrical instruments.

UNIT-IV

Laser and surgical devices, laser safety, Intravenous pumps and catheters

Text & Reference Books:

S. No.	Name/Title	Author	Publisher
1	Hamilton Bailey	Adrian Marston	McGraw Hill
2.	SRB'S Manual of Surgery	Sriram Bhat M	diginerve
3.	Manipal Manual of surgery	K Rajgopal Shenoy	McGraw Hill
4.	Beside Clinics in surgery	Makhan Lal Saha	diginerve

General Anaesthesia

Course Code	AOT269
Course Title	General Anaesthesia
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	Lateral entry /Dip in OT/AT/ with 50% marks
Course Objective	
Course Outcomes (CO)	CO1: To knowledge about general anaesthesia, indication and complications during use and Stages of anesthesia. C02: To know about the various techniques used in Anesthesia. CO3: Understanding the importance of Inhalational agents in General anesthesia as well as Routes of drug administration. CO4: Understanding the General anesthesia and drugs. CO5: Understanding the uses of airways.

UNIT-I

Autonomic Nervous System: List of drugs acting on ANS including dose, route of administration, indications,
Contraindications and adverse effects

Cardiovascular drugs: Mode of action, side effects and therapeutic uses of the following drugs:

- Anti-hypertensive
- Anti-arrhythmic drugs.
- Sympathetic and non-sympathetic inotropic agents
- Coronary vasodilators
- Drugs used in hemostasis*:* anticoagulants thrombolytics and anti thrombolytics
- Drugs used in the treatment of shock.

UNIT –II

Anesthetic Agents: Definition of general and local anesthetics, Classification of general anaesthetics, Intravenous general anaesthetic agents, Local anesthetics: classification, mechanism of action, duration of action and methods to prolong the duration of action, preparation, dose and routes of administration.

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

UNIT-III

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

CNS Stimulants & Depressants: Sedatives, hypnotics and narcotics, CNS stimulants, neuromuscular blocking agents and muscle relaxants.

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

UNIT-IV

Pharmacotherapy of Respiratory Disorders: Pharmacotherapy of bronchial asthma, Pharmacotherapy of cough, Mucokinetic and mucolytic agents.

Diuretics: Mode of action of diuretics, adverse effects, Preparations, dose and routes of administration

Text & Reference Books:

S. No.	Name/Title	Author	Publisher
1	Tara V. shanbagh & Smita Shenoy	Pharmacology for medical graduates	JAYPEE
2.	KD Tripathi	Essentials of Medical pharmacology	JP Brothers
3.	F.SK Barar	Textbook for Pharmacology	JAYPEE
4.	P.L Palatty et al	Pharmacology and Therapeutics	PARAS MEDICAL BOOKS

Basics of Surgical Procedures

Course Code	AOT271
Course Title	Basics of Surgical Procedures
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks
Course Objective	This course aims to provide students with foundational knowledge of surgical principles, including the history of surgery, teamwork, and operative procedures. It covers pre- and post-operative care, surgical asepsis, patient positioning, incisions, and suture materials.
Course Outcomes (CO)	CO1: To know about the history of surgery and other surgical terminologies as well as incisions. C02: Know About Basic of sutures used in surgery as abdominal incisions. CO3: To know about the fractures and methods to recover dislocations. CO4: Know about surgical disease as well as investigations. CO5: Understanding the various types of shocks, head injury and hemorrhage. CO6: To know about the care of patient preoperative and postoperative as well as basic equipment used intraoperative.

UNIT-I

History of Surgery: role of the surgeon, importance of team work and anticipating the needs of surgeons, Stresses that may arise during operative procedure, Surgical terminology, types of incision and indications for the use of particular incision.

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

UNIT –II

Positioning: Positioning of patient, Preparation of Operation Site.

Incisions*:* Incisions to expose abdominal viscera.

Suture Materials: Absorbable, No absorbable, Adhesive Skin Closure, Staples, and Suture & Needles

UNIT-III

Fractures & Dislocation: Classification of fracture, management, fixation, reduction, Immobilization, Principles of closed reduction, artificial prosthesis

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

UNIT-IV

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

Text & Reference Books:

S. No.	Name/Title	Author	Publisher
1	Tara V. shanbagh & Smita Shenoy	Pharmacology for medical graduates	JAYPEE
2.	KD Tripathi	Essentials of Medical pharmacology	JP Brothers
3.	F.SK Barar	Textbook for Pharmacology	JAYPEE
4.	P.L Palatty et al	Pharmacology and Therapeutics	PARAS MEDICAL BOOKS

Hospital Waste Management

Course Code	AOT273
Course Title	Hospital Waste Management
Type of course	Theory
L T P	2 0 0
Credits	2
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	To sensitize the students towards the management of Hospital waste and reduce the incidence of hospital acquired infections and improve health outcome.
Course Outcomes (CO)	At the conclusion of the course, students will: 1. Able to define & classify biomedical waste. 2. Learn about segregation, collection & transportation of Biomedical Waste. Aware about modern technologies used in Handling and controlling of infection.

UNIT-I

Definition of Biomedical Waste, Types of waste generated from Health Care FacilityWaste minimization

UNIT –II

BMW – Segregation, collection, transportation, treatment and disposal (including color coding)
BMW Classification: Liquid BMW, Radioactive waste, Metals / Chemicals / Drug waste
BMW Management & methods of disinfectionModern Technology for handling BMW

UNIT-III

Use of Personal protective equipment (PPE)
Monitoring & controlling of cross infection (Protective devices)

UNIT-IV

Infection prevention and control

a. Evidence-based infection control principles and practices [such as sterilization, disinfection, effective hand hygiene and use of Personal protective equipment (PPE)]

b. Prevention & control of common healthcare associated infections,

c. Components of an effective infection control program, and

d. Guidelines (NABH and JCI) for Hospital Infection Control

Gender Equity

Course Code	SSC001
Course Title	Gender Equity
Type of course	Theory
L T P	3 0 0
Credits	3
Course prerequisite	AECC
Course Objective	To sensitize the students towards the management of Hospital waste and reduce the incidence of hospital acquired infections and improve health outcome.
Course Outcomes (CO)	CO1: To develop gender sensitive pedagogy and knowledge system. CO2: To make participants understand the nuances of gender justice and its significance so that they can spread awareness among students and civil society against systemic gender discrimination embedded in our culture. CO3: To comprehend the issues and challenges faced by women in a holistic manner through deliberations, research work, theory building and information dissemination.

UNIT-I

Concept of sex and gender
Gender attributes and questions of identity

UNIT –II

Empowerment- concept and meaning
Definition of feminism, feminist and women movements in U.S.A, U.K., France and India

UNIT-III

Women development and development Organizations, Impact of development on gender.

UNIT-IV

Policies and current debates on women rights,Role of UN in establishing gender equality, Violence against women and need for reforms.

Text and Reference Books:

S. No.	Name	Author(S)	Publisher
1	The Roots of Gender In quality in Developing Countries	Jayachandran,Seema- 2014	NBER Working Paper No.20380. Issued in August 2014
2	Women's Empowerment and Economic Development	Duflo, Esther-2012	Journal of Economic Literature, 50(4): 1051-79

Basics of Computers Lab

Course Code	CSE213
Course Title	Basics of Computers Lab
Type of course	Theory
L T P	0 0 3
Credits	1.5
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	The objective of the course is to 1. Provide students with a basic understanding of computer hardware, software, and operating systems. 2. Introduce students to common programming languages, multimedia, and networking. 3. Enhance students' knowledge of number systems and arithmetic. 4. Familiarize students with word processing, spreadsheet, and presentation software. 5. Teach students how to use the internet for information seeking and communication.
Course Outcomes (CO)	At the conclusion of the course, sstudents will 1. Identify and explain computer components and their functions 2. Install and operate common operating systems and software applications. 3. Perform basic text and data entry and editing tasks using word processing software. 4. Proficient in creating charts and spreadsheets using Excel and Open Office. Able to create engaging multimedia presentations and understand basic data processing concepts.

LIST OF PRACTICALS

1. Given a PC, name its various components and peripherals. List their functions

2. Practice in installing a computer system by giving connection and loading the system softwareand application software

3. Exercises on entering text and data (Typing Practice)

4. Installation of operating System viz. Windows XP, Windows 2007 etc.Features of Windows as an operating system
   - Start
   - Shutdown and restore
   - Creating and operating on the icons
   - Opening closing and sizing the windows
   - Using elementary job commands like – creating, saving, modifying, renaming, finding anddeleting a file
   - Creating and operating on a folder
   - Changing setting like, date, time, colour (back ground and fore ground)
   - Using short cuts
   - Using on line help

5. Word Processing (MS Office/Open Office)
   1. File Management:

Opening, creating and saving a document, locating files, copying contents in some differentfile(s), protecting files, giving password protection for a file

2. Page Set up:
   Setting margins, tab setting, ruler, indenting
3. Editing a document:
   Entering text, Cut, copy, paste using tool- bars
4. **Formatting a document:**
   Using different fonts, changing font size and colour, changing the appearance through bold/ italic/ underlined, highlighting a text, changing case, using subscript and superscript, using different underline methods
   Aligning of text in a document, justification of document, inserting bullets and numbering
   Formatting paragraph, inserting page breaks and column breaks, line spacing
   Use of headers, footers: Inserting footnote, end note, use of comments
   Inserting date, time, special symbols, importing graphic images,
   drawing tools
5. **Tables and Borders:**
   Creating a table, formatting cells, use of different border styles, shading in tables, merging ofcells, partition of cells, inserting and deleting a row in a table
   Print preview, zoom, page set up, printing
   optionsUsing Find, and Replace options
6. **Using Tools like:**
   Spell checker, help, use of macros, mail merge, thesaurus word content and statistics, printingenvelops and labels.
   Using shapes and drawing toolbar,
   Working with more than one window in MS Word,
   How to change the version of the document from one window OS to anotherConversion between different text editors, software and MS word.

6. **Spread Sheet Processing (MS Office/Open Office)**

1. Starting ex-cel, open worksheet, enter, edit, data, formulae to calculate values, format data, createchart, printing chart, save worksheet, switching between different spread sheets.
2. Menu commands:
   Create, format charts, organize, manage data, solving problem by analyzing data, and exchange withother applications. Programming with Excel Work Sheet, getting information while working.
3. Work books:

Managing workbooks (create, open, close, save), working in work books, selecting the cells, choosing commands, data entry techniques, formula creation and links, controlling calculations, working with arrays

1. Editing a worksheet, copying, moving cells, pasting, inserting, deletion cells, rows, columns,find and replace text, numbers of cells, formatting worksheet
2. Creating a chart:
3. Working with chart types, changing data in chart, formatting a chart, use chart to analyze data
4. Using a list to organize data, sorting and filtering data in list
5. Retrieve data with query: Create a pivot table, customizing a pivot table. Statistical
6. analysis of data

7. Exchange data with other application: embedding objects, linking to other applications, import,export document.

7. **PowerPoint Presentation (MS Office/Open Office)**

a) Introduction to PowerPoint

- How to start PowerPoint
- Working environment: concept of toolbars, slide layout, templates etc.
- Opening a new/existing presentation
- Different views for viewing slides in a presentation: normal, slide sorter etc.

b) Addition, deletion and saving of slides

c) Insertion of multimedia elements

- Adding text boxes
- Adding/importing pictures
- Adding movies and sound
- Adding tables and charts etc.
- Adding organizational chart

d) Formatting slides

- Using slide master
- Text formatting
- Changing slide layout
- Changing slide colour scheme
- Changing background
- Applying design template

e) How to view the slide show?

- Viewing the presentation using slide navigator
- Slide transition
- Animation effects etc.
-

8. **Working with Data Processing (MS Office/Open Office)**

a) Understanding different data types

b) Creation of table

c) Entering data in a table and modify it.

d) Creating simple Queries

9. **Internet and its Applications**

a) Log-in to internet

b) Navigation for information seeking on internet

c) Browsing and down loading of information from internet

d) Sending and receiving e-mail

- Creating a message
- Creating an address book
- Attaching a file with e-mail message
- Receiving a message
- Deleting a message

General Anesthesia Practical

Course Code	AOT263
Course Title	General Anesthesia
Type of course	Practical
L T P	0 0 2
Credits	1
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	The course objective of General Anesthesia is to equip students with a comprehensive understanding of the principles, techniques, pharmacology, and clinical applications of general anesthesia, enabling them to safely and effectively manage anesthetic care during surgical procedures.
Course Outcomes (CO)	1. Understand the principles, stages, and pharmacology of general anesthesia. Perform pre-anesthetic assessments and plan appropriate anesthetic techniques. 2. Assist in safe induction, maintenance, and recovery from anesthesia. Manage airway effectively and use anesthesia-related equipment properly. 3. Monitor patients during surgery and identify anesthesia-related complications. 4. Provide post-anesthesia care and ensure patient safety throughout the perioperative period.

LIST OF PRACTICALS

Pre-Anaesthetic Evaluation

- History Taking and Physical Examination
- ASA Physical Status Classification
- Airway Assessment Techniques (Mallampati, Thyromental distance, etc.)

Anaesthetic Equipment and Drugs

- Identification and Demonstration of Anaesthetic Drugs (IV and Inhalational)

Airway Management

- Demonstration and Practice of Bag-Valve-Mask Ventilation
- Use of Supraglottic Airway Devices (LMA, I-Gel)

Anaesthesia Techniques

- IV Induction and Maintenance of anaesthesia (Simulated)
- Inhalational Induction Techniques (Paediatric and Adult)
- Muscle Relaxant Use and Reversal Techniques

Instrumentation in Operation Theater Technology Practical

Course Code	AOT267
Course Title	Instrumentation in Operation Theater Technology Practical
Type of course	Practical
L T P	0 0 3
Credits	1.5
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks .
Course Objective	The objective of this course is to provide students with a comprehensive understanding of the structure, features, and clinical applications of gynecological and orthopedic instruments, enabling them to handle and utilize these tools effectively during surgical procedures. It aims to familiarize students with rubber instruments commonly used in surgery, along with their specific purposes and handling techniques.
Course Outcomes (CO)	CO1: Develop proficiency in identifying, handling, and understanding the clinical applications of gynecological, orthopedic, and rubber instruments used in surgical procedures. CO2: Acquire practical skills in performing various suturing techniques and understanding the proper use of surgical drains for effective post-operative care. CO3: Demonstrate knowledge of different surgical scissors used in general surgeries, ensuring accurate selection and application in diverse surgical scenarios.

LIST OF PRACTICALS

1: Structure and features of Gynea, Orthopedic instruments.

2: Ruber instruments.

3: Drains.

4: Techniques of suturing.

5: Different Scissors used in general surgeries.

Hospital Visit - I

Course Code	**AOT275**
Course Title	**Hospital Visit - I**
Type of course	**Practical**
L T P	**0 0 6**
Credits	**3**

Clinical Exposure:

- To observe the functioning of various hospital departments such as OPD, IPD, ICU, OT, emergency, and diagnostics.
- To understand patient care processes and protocols.

Professional Interaction:

- To interact with healthcare professionals including doctors, nurses, and technicians to understand their roles and responsibilities.

Skill Development:

- To gain familiarity with medical equipment, instruments, and documentation procedures.
- To understand infection control practices and patient safety measures.

Healthcare System Understanding:

- To comprehend hospital hierarchy, referral systems, and administrative structures.
- To learn about patient admission, discharge, billing, and record-keeping systems.

FOURTH SEMESTER

Advanced Anaesthesia Techniques

Course Code	AOT262
Course Title	Advanced Anaesthesia Techniques
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks or Diploma in OT/AT.
Course Objective	To equip students with comprehensive knowledge and practical skills in advanced anesthesia techniques, focusing on the safe administration, monitoring, and management of regional, general, and specialized anesthesia procedures in various surgical and critical care settings.
Course Outcomes	CO1: Demonstrate knowledge of ENT-specific anatomy relevant to airway and regional anaesthesia techniques. CO2: Perform advanced airway management including fibre optic intubation, nasal intubation, and tracheostomy support in difficult airway cases common in ENT. CO3: Demonstrate detailed knowledge of head and neck anatomy relevant to airway, vascular structures, and regional anaesthesia techniques. CO4: Identify and understand common anaesthesia-related complications in ENT and ophthalmic surgeries.

UNIT-I

Anaesthetic considerations for ear, nose, and throat surgeries: Understanding the specific challenges and techniques involved in providing Anaesthesia for ENT procedures such as tonsillectomy, adenoidectomy, and sinus surgery.

UNIT-II

Airway management in ENT procedures: Learning about advanced airway management techniques, such as fibroptic intubation, supraglottic airway devices, and video laryngoscopy, for securing the airway during ENT surgeries.

Anaesthetic techniques for ophthalmic surgeries: Studying the unique considerations for providing Anaesthesia during eye surgeries, including cataract extraction, retinal surgeries, and glaucoma procedures

UNIT-III

Local and regional Anaesthesia techniques for head and neck procedures: Exploring the principles and administration techniques for local anaesthetics, nerve blocks, and regional Anaesthesia for head and neck surgeries.

UNIT-IV

Management of complications specific to ENT and ophthalmic surgeries: Understanding the potential complications and adverse events related to Anaesthesia in ENT and ophthalmic surgeries and learning strategies for their prevention and management.

Text & Reference Book:

S. No	Name	Author(S)	Publisher
1	Hamilton Bailey	Adrian Marston	McGraw Hill
2	SRB'S Manual of Surgery	Sriram Bhat M	diginerve

3	Manipal Manual of surgery	K Rajgopal Shenoy	McGraw Hill
4	Beside Clinics in surgery	Makhan Lal Saha	diginerve

Advanced Surgical Techniques

Course Code	AOT266
Course Title	Advanced Surgical Techniques
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	Lateral entry/Dip in OT/AT/ with 50% marks or Diploma in OT/AT.
Course Objective	To develop advanced knowledge, technical skills, and clinical decision-making required for performing complex surgical procedures with precision, safety, and efficiency across various specialties, using modern instruments, technologies, and minimally invasive approaches.
Course Outcomes	CO1: Demonstrate understanding of common ENT surgeries and diseases requiring surgical intervention, including their pathophysiology and clinical features. CO2: Identify and describe common ophthalmic diseases, including their pathophysiology, and clinical presentation. CO3: Understand and apply endoscopic techniques used in ophthalmology and ENT. CO4: Understand the principles and applications of laser technology and minimally invasive techniques in surgery.

UNIT-I

Surgical procedures in ear, nose, and throat (ENT): Learning about the various surgical procedures performed in ENT, including tonsillectomy, septoplasty, laryngectomy, and sinus surgery, and understanding the specialized instruments and techniques used, and positioning for each surgery.

Diseases in Otolaryngology (ENT): Chronic Sinusitis, Tonsillitis, Deviated Septum Otitis Media, Vocal Cord Nodules or Polyps, Obstructive Sleep Apnea (OSA), Laryngeal Cancer, Nasal Polyps, Salivary Gland Disorders, Cochlear Implantation.

UNIT-II

Diseases in Ophthalmology:

- Cataracts - Cataract Extraction and Intraocular Lens (IOL) Implantation.
- Glaucoma - Trabeculectomy, Shunt Implantation, Laser Therapy
- Age-related Macular Degeneration (AMD) - Intravitreal Injections, Laser Therapy, Photodynamic Therapy
- Diabetic Retinopathy - Vitrectomy, Laser Therapy
- Retinal Detachment - Retinal Detachment Repair
- Dry Eye Syndrome - Punctal Occlusion Surgery
- Conjunctivitis - Symptomatic Treatment (Medications, Eye Drops)
- Corneal Diseases - Corneal Transplantation (Keratoplasty)
- Refractive Errors - LASIK (Laser-Assisted in Situ Keratomileusis), PRK (Photorefractive Keratectomy)
- Retinoblastoma - Chemotherapy, Radiation Therapy, Enucleation (Eye Removal)

Laser Precautions: Laser Safety Training, Protective Eyewear, Fire Safety Laser Plume Management, Patient Safety, Laser Device Maintenance, Laser Warning Signage, Laser Interlock Systems, Laser Hazard Assessment Compliance with Regulatory Standards.

UNIT-III

Surgical techniques in ophthalmic surgery: Exploring the specific surgical procedures performed in

ophthalmology, such as cataract extraction, corneal transplantation, vitrectomy, and refractive surgeries, and understanding the instrumentation and surgical principles involved.

Endoscopic procedures in ENT and ophthalmic surgery: Understanding the principles and techniques of endoscopic surgeries in ENT and ophthalmology, including endoscopic sinus surgery, laryngoscopy, tracheostomy, and arthroscopy.

UNIT-IV

Laser-assisted surgical procedures in ENT and ophthalmology: Learning about the use of lasers in surgical procedures in ENT and ophthalmology, including laser-assisted tonsillectomy, laser-assisted stapedotomy, and laser refractive surgeries.

Minimally invasive approaches in ENT and ophthalmic surgery: Exploring minimally invasive surgical techniques, such as laparoscopic and robotic-assisted procedures, in ENT and ophthalmology, and understanding their advantages and limitations.

Management of complications in ENT and ophthalmic surgeries: Understanding the potential complications and adverse events that may arise during ENT and ophthalmic surgeries, and learning strategies for prevention, recognition, and management

Text & Reference Book:

S. No	Name	Author(S)	Publisher
1	Hamilton Bailey	Adrian Marston	McGraw Hill
2	SRB'S Manual of Surgery	Sriram Bhat M	diginerve
3	Manipal Manual of surgery	K Rajgopal Shenoy	McGraw Hill
4	Beside Clinics in surgery	Makhan Lal Saha	diginerve

Introduction to Gynecology and Obstetrics

Course Code	AOT270
Course Title	Introduction To Gynecology and Obstetrics
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks or Diploma in OT/AT.
Course Objective	The course on Obstetrics and Gynaecology provides students with a comprehensive understanding of essential obstetric and gynaecological practices
Course Outcomes (CO)	CO1: Understand and perform normal and abnormal obstetric procedures, including delivery and caesarian sections. CO2: Diagnose and manage twin pregnancies, birth control, and medical termination of pregnancy (MTP). CO3: Conduct gynecological examinations and manage common gynecological disorders. CO4: Handle labor complications and apply appropriate anesthetic and analgesic techniques.

UNIT-I

OBSTETRICS: Normal delivery, forceps delivery, episiotomy, Caesarian Section, Instruments of common obstetrics, procedures or surgery e.g. Episiotomy, forceps delivery, Embryotomy, IUCDs, LSCS; Laparoscopy, Instruments & Procedure, Caesarian Section.

UNIT-II

Twin pregnancy, diagnosis & management, Birth control methods & Procedures, Medical termination of pregnancy, Instruments & Techniques of MTP

UNIT-III

GYNECOLOGY: Clinical methods in gynecological examination, Common diseases of vulva, vagina, disorders of menstruation, various operative positions

UNIT-IV

NORMAL LABOR: Normal labor and delivery, Intrapartum fetal monitoring, Induction of labor, Obstetric Analgesia and Anesthesia.

ABNORMAL LABOR: Abnormal uterine action in labor, abnormal labor patterns, prolonged labor, obstructed labor, dystocia Intravenous Anaesthetics, Complications of the third stage of labor, Injuries to birth canal.

Text & Reference Book:

S. No	Name	Author(S)	Publisher
1	Hamilton Bailey	Adrian Marston	McGraw Hill
2	SRB'S Manual of Surgery	Sriram Bhat M	diginerve
3	Manipal Manual of surgery	K Rajgopal Shenoy	McGraw Hill
4	Beside Clinics in surgery	Makhan Lal Saha	diginerve

Medicine Relevant OTAT

Course Code	AOT272
Course Title	Medicine Relevant OTAT
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	Lateral entry/Dip in OT/AT/ with 50% marks or Diploma in OT/AT.
Course Objective	This course covers the pathophysiology, diagnosis, and management of various chronic diseases and conditions. It includes topics such as diabetes mellitus, hypertension, ischemic heart disease, stroke, and atherosclerosis.
Course Outcomes (CO)	CO1: Understand and analyze the pathophysiology and management of chronic diseases such as diabetes mellitus, hypertension, ischemic heart disease, and stroke. CO2: Examine the impact of various health conditions on specific populations, including the elderly, pregnant women, and pediatric patients, with a focus on management strategies. CO3: Evaluate the clinical implications of respiratory and systemic diseases like COPD, tuberculosis, chronic liver and renal failure, and their treatment options. CO4: Apply knowledge of neurological disorders, including epilepsy, CVA, dementia, and Alzheimer's disease, in diagnosing and managing patients effectively.

UNIT-I

- Diabetes mellitus, Atherosclerosis, Aneurysm, Stroke.
- Hypertension.
- Ischemic heart disease.

UNIT-II

- Obesity.
- Elderly patient.
- Pregnancy.
- Hepatitis
- Pulmonary edema
- Pneumonia
- Tuberculosis

UNIT-III

- Shock
- COPD.
- Chronic renal failure
- Chronic liver disease/failure

UNIT-IV

- Anaemia.
- Pediatric patient, infant/neonate
- Epilepsy.

- CVA
- Dementia
- Alzheimer's disease

Text & Reference Book:

S. No	Name	Author(S)	Publisher
1	Must Know Medicine	Abhinav, Arunav	GOYAL
2	Guide to Clinical Medicine	Aechitt Boloor	CHAKRAPANI

Dietary Management of Common Diseases

Course Code	AOT274
Course Title	Dietary Management of Common Diseases
Type of course	Theory
L T P	2 0 0
Credits	2
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks or Diploma in OT/AT.
Course Objective	The objective of this course is to provide students with a comprehensive understanding of diet therapy for various health conditions.
Course Outcomes (CO)	CO1: Understand dietary management for common diseases like diabetes, cardiovascular, and gastrointestinal disorders. CO2: Learn to recommend diets for patients with renal, liver, and other chronic conditions. CO3: Apply nutrition knowledge in clinical settings to manage acute and chronic health issues, fostering effective recovery and enhancing patient care. C04: Gain knowledge in formulating appropriate diets for various medical conditions, including infections and chronic diseases

UNIT-I

- 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: Diarrhea, Constipation, Peptic ulcer

UNIT-II

- 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 Glomar ulonephritis
- Dietary Management in Acute and chronic renal failure.

Text & Reference Book:

S. No	Name	Author(S)	Publisher
1	Food quality, nutrition and health	Dr. Rainer wild stiflung	Springer
2	Nutrition and dietetics	Shubhangini A Joshi	McGraw Hill

Hematology

Course Code	AOT276
Course Title	Hematology
Type of course	Theory
L T P	2 0 0
Credits	2
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks or Diploma in OT/AT.
Course Objective	To provide students with foundational and advanced knowledge of blood, its components, and related disorders, enabling them to understand, diagnose, and assist in the management of hematological conditions through clinical, laboratory, and diagnostic techniques.
Course Outcomes (CO)	CO1: Understand the structure, function, and components of blood, including red blood cells, white blood cells, platelets, plasma, and coagulation factors. Identify common hematological disorders such as anemia, leukemia. CO2: Identify and explain common coagulation tests, such as Prothrombin Time (PT), Activated Partial Thromboplastin Time (APTT), INR, Bleeding Time (BT), and Clotting Time (CT). CO3: Promote awareness of bleeding risks and safe practices in invasive procedures and blood product transfusion.

UNIT-I

- Hemoglobin, blood cell counts, differential count.

UNIT-II

- Anemia, polycythemia.

UNIT-III

- Thrombocytopenia.
- Coagulation parameters- BT, CT, PT, INR, APTT

UNIT-IV

- Coagulation disorders.
- Blood transfusion-hazards and complications

Text & Reference Book:

S. No	Name	Author(S)	Publisher
1	Wintrobe's Clinical Hematology	John P. Greer, Daniel A. Arber	Wolters Kluwer
2	Dacie and Lewis Practical Haematology	Barbara J. Bain	Elsevier

Medical Terminology and Record Keeping

Course Code	MLT284
Course Title	Medical Terminology and Record Keeping
Type of course	DSE
L T P	2 0 0
Credits	2
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks or Diploma in OT/AT.
Course Objective	The objective of this course is to provide students with foundational knowledge of medical terminology, focusing on word roots, prefixes, suffixes, and their usage in various medical contexts. Students will learn to interpret and apply medical terms related to different body systems, diagnostic procedures, and abbreviations.
Course Outcomes	CO1: Students will be able to accurately derive, define, and apply medical terms using roots, prefixes, and suffixes, and interpret medical abbreviations. CO2: Understanding of Body Systems: Students will demonstrate the ability to interpret and use diagnostic, surgical, and procedural terms related to the integumentary, musculoskeletal, respiratory, cardiovascular, nervous, and endocrine systems. CO3: Medical Documentation Skills: Students will develop the ability to interpret medical orders and reports and efficiently manage data within electronic health record systems. CO4: Knowledge of Communicable Diseases: Students will gain an understanding of communicable diseases, their classification, transmission modes, and the role of international health agencies in disease control.

UNIT-I

- Derivation of medical terms
- Define word roots, prefixes, and suffixes.
- Conventions for combined morphemes and the formation of plurals.

UNIT-II

- Basic medical terms form medical terms utilizing roots, suffixes, prefixes, and combining roots
- Interpret basic medical abbreviations/symbols.

UNIT-III

- Utilize diagnostic, surgical, and procedural terms and abbreviations related to the integumentary system.
- Musculoskeletal system, respiratory system, cardiovascular system, nervous system, and endocrine system.
- Interpret medical orders/reports
- Data entry and management on electronic health record system.

UNIT-IV

- Communicable disease-An overall view of the communicable disease.
- Classification according to the principal mode of transmission.
- Role of insects and their vectors, international health agencies

Text & Reference Book:

S. No	Name	Author(S)	Publisher
1	Medical records organization & management	GD. Mogli	JAYPEE
2	New perspectives in medical records.	Giovanni Rinaldi	Springer

Advanced Anaesthesia Techniques - Practical

Course Code	AOT264
Course Title	Advanced Anaesthesia Techniques- Practical
Type of course	Practical
L T P	0 0 2
Credits	1
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks or Diploma in OT/AT.
Course Objective	To develop hands-on proficiency in administering and managing advanced anesthesia techniques through clinical practice, enabling students to safely perform procedures such as regional blocks, airway management, and intraoperative monitoring under supervision in real-time surgical and critical care settings.
Course Outcomes (CO)	CO1: Demonstrate proficiency in administering regional and general anaesthesia techniques. Perform advanced airway management, including intubation and use of airway adjuncts. CO2: Monitor vital signs and anaesthesia depth accurately during surgical procedures. Identify and manage anesthesia-related complications in real-time. CO3: Assist in the safe use of anesthesia machines and monitoring equipment. CO4: Apply infection control and aseptic techniques during anaesthesia procedures.

List of Practical

1. Considerations for Anesthesia in ENT Surgery:

2. Tonsillectomy and Adenoidectomy: Patient Positioning and Airway Access: During tonsillectomy and adenoidectomy operations, students will practice optimal patient positioning and techniques for preserving a patent airway.

3. Anesthetic Agent Selection and Administration: Students will learn about the proper selection of anaesthetic agents for ENT operations, including inhalational and intravenous agents. They will put their administration and monitoring skills to the test.

4. Anesthetic Techniques for Sinus Surgery: Students will learn about the anaesthetic considerations unique to sinus surgery, such as keeping a clear operative field, limiting bleeding and managing patient placement. They will put these strategies to the test in simulated circumstances.

Airway Control in ENT Procedures:

Blocks for the peribulbar and retrobulbar areas: Students will study and practice peribulbar and retrobulbar blocks, which are often used to provide anaesthesia during retinal and glaucoma treatments. On manikins, they will practice proper needle insertion and pharmaceutical deposition techniques.

Complication Management in ENT and Ophthalmic Surgery:

Difficult Airway Scenarios and Airway Obstruction:

Airway blockage Simulation: Students will take part in simulated scenarios involving airway blockage and difficult airway circumstances in ENT surgery. They will practice effective management strategies such as emergency airway maneuvers and the placement of an alternate airway device

Complications of Ophthalmic Surgery:

Ocular Emergencies Simulation: During ophthalmic procedures, students will encounter simulated ocular emergencies such as rapid loss of vision or high intraocular pressure.

They will learn and practice the necessary emergency management strategies.

Advanced Surgical Techniques - Practical

Course Code	AOT268
Course Title	Advanced Surgical Techniques- Practical
Type of course	Practical
L T P	0 0 2
Credits	1
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks or Diploma in OT/AT.
Course Objective	To equip students with the knowledge and practical skills necessary to perform and assist in advanced surgical procedures using modern techniques, instruments, and technologies, with an emphasis on precision, safety, minimal invasiveness, and improved patient outcomes.
Course Outcomes (CO)	CO1: Demonstrate knowledge of advanced surgical principles and procedures. CO2: Assist or perform minimally invasive and open surgical techniques safely. Operate surgical instruments and technologies effectively. CO3: Maintain aseptic techniques and follow surgical safety protocols. recognize and manage intraoperative complications. CO4: Utilize energy devices and laparoscopic/endoscopic tools proficiently.

List of Practical

1. Surgical procedures in ear, nose, and throat (ENT) include tonsillectomy, septoplasty, sinus surgery, endoscopic sinus surgery, chronic sinusitis, tonsillitis, ophthalmic surgery, cataract extraction, corneal transplantation, and laryngoscopic examination. Students will know the identification of all surgical instruments of the above specialties.

2. Students will practice arrangement techniques for cold knife dissection, electrocautery, and coblation, as well as the proper use of specialized instruments like tonsil snares, dissectors, and hemostatic agents. They will also learn the principles of maintaining nasal airway patency and proper positioning of nasal packing.

3. Endoscopic sinus surgery involves hands-on experience with endoscopic instruments, including sinus scopes and instrumentation.

4. Endoscopic procedures in ENT and ophthalmic surgery include simulated endoscopic sinus surgery scenarios using anatomical models, focusing on sinus visualization, polyp removal, and ostium widening. Students will also practice arranging instruments required for laryngoscopic examination using laryngoscope models, learning proper insertion, and positioning of laryngoscope blades, visualization of vocal cords, and identification of laryngeal structures. These practical sessions provide students with hands-on experience and simulation-based training to develop skills and competence in advanced arrangement for surgical procedures, disease assessment, surgical techniques, and management of complications in ENT and ophthalmic surgeries.

Hospital Visit - II

Course Code	AOT278
Course Title	Hospital Visit - II
Type of course	Practical
L T P	0 0 6
Credits	3

The objective of a hospital visit as part of a medical or paramedical course is to provide students with real-world exposure to clinical settings, enhance their understanding of healthcare delivery, and bridge the gap between theoretical knowledge and practical applications.

Clinical Exposure:
To observe the functioning of various hospital departments such as OPD, IPD, ICU, OT, emergency, and diagnostics.
To understand patient care processes and protocols.

Professional Interaction:
To interact with healthcare professionals including doctors, nurses, and technicians to understand their roles and responsibilities.

Skill Development:
To gain familiarity with medical equipment, instruments, and documentation procedures.
To understand infection control practices and patient safety measures.

Healthcare System Understanding:
To comprehend hospital hierarchy, referral systems, and administrative structures.
To learn about patient admission, discharge, billing, and record-keeping systems.

Ethical and Behavioral Learning:
To develop professional behavior, empathy, communication skills, and patient confidentiality awareness.

FIFTH SEMESTER

Basic Intensive Care and Resuscitation

Course Code	AOT361
Course Title	Basic Intensive Care and Resuscitation
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks or Diploma in OT/AT.
Course Objective	This course aims to equip students with the essential knowledge and practical skills required for effective critical care management in the ICU. Students will learn the principles and practices of monitoring and diagnostic procedures, including central venous access, ECG monitoring, and defibrillator use.
Course Outcomes (CO)	CO1: Develop the skills to perform and interpret essential ICU monitoring and diagnostic procedures, including central venous access, ECG, defibrillator use, and arterial blood gas analysis. CO2: Gain proficiency in the management and operation of ventilators in ICU settings, understanding different ventilation modes, settings, and weaning processes. CO3: Acquire comprehensive knowledge in the general care of critically ill patients, including feeding, aseptic techniques, disaster management, and management of conditions such as renal failure and head injury. CO4: Understand the principles and application of infection control, antibiotics, oxygen therapy, mechanical ventilation, and advanced life support techniques, including CPR and inotropic support in ICU scenarios.

UNIT-I

Monitoring and Diagnostic Procedures in I.C.U: Central Venous access, Invasive blood pressure (BP) monitoring, Pulmonary artery catheterization.

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, Arterial blood gas (ABG) analysis

UNIT-II

Ventilator Life Support in ICU: Working principles of ventilator in ICU, Types of ventilators, Mechanical ventilation modes and settings, Ventilation induced lung injury, Ventilation monitoring, non-conventional ventilation, Weaning from the ventilator

UNIT-III

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, Management of asepsis, acute poisoning, critically ill patient, disaster management, Nutrition, Pollution, Renal Failure & Liver Failure, Head Injury, Management of tetanus patients, Tracheostomy, humidification , Vascular lines - arterial, venous line , Radiography, Physiotherapy - chest physiotherapy.

UNIT-IV

Infectious Diseases in I.C.U: Antibiotics in I.C.D, Oxygen therapy, Mechanical ventilation, Fluid Balance and Parenteral Nutrition, 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.

Text & Reference Book:

S. No	Name	Author(S)	Publisher
1	The ICU	Paul Marinos	Lippincott Williams
2	G. Smith & A.R. Aitkenhead's	Text book of Anaesthesia	ELSEVIER
3	Ajay Yadav	Short Textbook of Anaesthesia	JP Brothers
4	Anshul Jain	Essentials of Anesthesia & Critical Care	JAYPEE
5	Arun Kumar Paul	Drugs & Equipments in Anaesthetic Practice	Elsevier

Specialized Anaesthesia - I

Course Code	AOT365
Course Title	Specialized Anaesthesia - I
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks or Diploma in OT/AT.
Course Objective	To provide in-depth knowledge and practical skills in administering anesthesia tailored to specific patient populations and complex surgical procedures, ensuring safe, effective, and personalized anesthetic care in specialized clinical settings.
Course Outcomes	CO1: Understand anesthesia considerations specific to orthopedic surgeries. CO2: Understand the unique physiological and pharmacological considerations in paediatric anaesthesia. Perform advanced airway management specific to pediatric anatomy. CO3: Apply anesthesia techniques tailored for pediatric patients, including those with congenital anomalies. CO4: Perform regional anesthesia techniques like nerve blocks relevant to orthopedic procedures and urological procedures.

UNIT-I

Anesthetic considerations for orthopedic surgeries: Studying the specific Anaesthesia considerations, techniques, and challenges associated with orthopedics procedures such as joint replacements, fracture fixation, and spine surgeries.

UNIT-II

Paediatric Anaesthesia techniques and considerations: Understanding the unique physiological and pharmacological considerations for providing Anaesthesia to paediatric patients, including preoperative preparation, induction, airway management, and pain management.

UNIT-III

Anaesthetic management of paediatric patients with congenital anomalies: Exploring the Anaesthesia challenges and considerations when managing paediatric patients with congenital anomalies undergoing surgical procedures.

Anaesthesia for urological surgeries: Learning about the specific Anaesthesia considerations and techniques for urological procedures such as prostatectomy, nephrectomy, and cystoscopy.

UNIT-IV

Regional Anesthesia techniques for orthopedics and urological procedures: Studying the principles and techniques of regional Anaesthesia, including peripheral nerve blocks and spinal Anaesthesia, for pain management during orthopedic and urological surgeries.

Text & Reference Book:

S. No	Name	Author(S)	Publisher
1	G. Smith & A.R. Aitkenhead's	Text book of anesthesia	ELSEVIER
2	Ajay Yadav	Short Textbook of Anaesthesia	JP Brothers

3	Anshul Jain	Essentials of Anesthesia & Critical Care	JAYPEE
4	Arun Kumar Paul	Drugs & Equipments in Anaesthetic Practice	Elsevier

Surgical & Para Surgical Equipments & Techniques

Course Code	AOT369
Course Title	Surgical & Para Surgical Equipments & Techniques
Type of course	Theory
L T P	3 0 0
Credits	3
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks or Diploma in OT/AT.
Course Objective	This course provides students with essential knowledge of specialized surgical instruments and their applications in various types of surgery. Students will learn about the operation table structure, diathermy and cautery machines, and the types and maintenance of operation lights
Course Outcomes (CO)	CO1: Gain an in-depth understanding of the structure, maintenance, and use of specialized surgical equipment, including operation tables, diathermy machines, and operation lights. CO2: Develop proficiency in handling various Scopy instruments, such as bronchoscope, laparoscope, and cystoscope, while ensuring their proper care and use in surgical settings. CO3: Acquire knowledge of neurosurgical tools and techniques, including microscope handling, CVP management, and advanced cardiac surgery equipment. CO4: Demonstrate the ability to operate and maintain key equipment in complex surgical environments, ensuring patient safety and optimal outcomes during surgeries.

UNIT-I

Operation Table: Structure, material used in fabrication and advantages of the material care, maintenance and uses, controls-Hydraulic system, Electrical system.

UNIT-II

Diathermy/ Cautery Machine*:* Different type of diathermy and Cautery machines, monopolar, Bio-polar and under water working, Structural features of diathermy and cautery machines, 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.

Procedures: General Surgical Procedure in all types of surgical instrument like Proctoscope, Bronchoscope, Cystoscope, and all types of retractors including elephant side role retractor & tochar.

UNIT-III

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

UNIT-IV

Neurosurgery: Microscope use during this surgery, proper handling & care of equipment, Surgical instrument/CVP, Advance cardiac surgery: Monitors, CVP lines, PA Catheter line, Arterial Line, Transerphagal, Cardiac output monitor (CCU), Heart lung bye pass machine brief idea and working.

Text & Reference Book:

S. No	Name	Author(S)	Publisher
1	Hamilton Bailey	Adrian Marston	McGraw Hill
2	SRB'S Manual of Surgery	Sriram Bhat M	diginerve
3	Manipal Manual of surgery	K Rajgopal Shenoy	McGraw Hill
4	Beside Clinics in surgery	Makhan Lal Saha	diginerve

Basics of First Aid

Course Code	AOT371
Course Title	Basics of First Aid
Type of course	Theory
L T P	2 0 0
Credits	2
Course prerequisite	Lateral entry/ Dip in OT/AT with 50% marks
Course objective	To aware students regarding basic first aid techniques
Course Outcome	At the conclusion of the course, students will: CO1: Able to understand the aims & objectives of First-Aid and learn techniques for Respiratory & Cardiac Conditions. CO2: Familiar about wounds & injuries & their Management and able to prepare appropriate dressings & bandages for different types of injuries. CO3: Safely and effectively assess and manage gastrointestinal & burns emergencies. CO4: Identify and respond appropriately to drug toxicity and other poisoning incidents and skillfully handle foreign objects in the ear, nose, and throat, as well as in the skin.

UNIT I

First aid: Aims and objectives of first aid

Basic first aid techniques on Respiratory system & breathing Cardiac condition, blood circulation and shock.

UNIT- II

Wounds & injuries Dressing and bandages

Fractures & dislocation of the bone & joints. Neurological conditions & unconsciousness

UNIT- III

Abnormality of the gastrointestinal tract & food poisoning Electric shock; burns, hemorrhage.

UNIT- IV

Drug toxicity & poisoning, Bites & stings, foreign body in ENT& Skin

Environment Education

Course Code	EVS200
Course Title	Environment Education
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course objective	To connect and sensitize the students towards the environment and prevailing environmental issues (natural, physical, social and cultural).
Course Outcome	At the conclusion of the course, students will: 1. the historical context of human interactions with the environment. 2. Develop an understanding of pollution and its types 3. Learn about the concept of Ecosystem, Ecosystem services 4. Learn about climate change and biodiversity conservation 5. Understand the relation between social issues and environment. 6. Learn about the major international treaties and our country's stand on and responses to the major international agreements.

UNIT I

Historical Prospective: Brief introduction of Humans as hunter-gatherers; Mastery of fire; Origin of agriculture, Emergence of city-states; Indic Knowledge and Culture of sustainability, Industrial revolution and its impact on the environment; Population growth and natural resource exploitation. Environment Definition and scope and importance. Environmental Ethics and emergence of environmentalism: World Commission on Environment and Development and the concept of sustainable development; Rio Summit and subsequent international efforts.

Natural Resources: Natural Resources and associated problems, use and over exploitation, case studies of forest resources and water resources, soil and mineral resources. Sustainable Development Goals (SDGs)- targets and indicators, challenges and strategies for SDGs.

UNIT II

Environmental Pollution: Definition, Causes, effects and control measures of air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, nuclear hazards. Solid waste Management: Causes, effects and control measure of urban and industrial wastes.

Land use and Land cover change: land degradation, deforestation, desertification, urbanization. Biodiversity loss: past and current trends, impact

Global change: Ozone layer depletion; Climate change. Disasters – Natural and Man-made (Anthropogenic).

Biodiversity and its distribution: Biodiversity as a natural resource. Biodiversity in India and the world; Biodiversity hotspots; Species and ecosystem threat categories.

Ecosystems in brief: forests, wetlands, grasslands, agriculture, coastal and marine.

Ecosystem services- classification and their Significance, Threats to biodiversity and ecosystems Biodiversity Conservation: Major conservation policies: in-situ and ex-situ conservation approaches the role of traditional knowledge, community-based conservation.

UNIT III

Understanding climate change: Anthropogenic climate change from greenhouse gas emissions, Climate change impact on global warming and its effect on Indian Subcontinent, rise of sea level, Changes in marine and coastal ecosystems, Impacts on animal species, agriculture, health, urban infrastructure; the concept of vulnerability and its assessment. Mitigation of climate change, National climate action plan.

Introduction to environmental laws and regulation: Constitutional provisions- Article 48A, Article 51A (g) and other derived environmental rights; Introduction to environmental legislations on the forest, wildlife and pollution control. Environmental management system: ISO 14001
Concept of Circular Economy, Life cycle analysis; Cost-benefit analysis. Environmental audit and impact assessment; Waste Management- Concept of 3R (Reduce, Recycle and Reuse) and sustainability; Ecolabeling / Eco mark scheme.

UNIT IV

Social Issues and the Environment: Unsustainable to Sustainable development, Urban problems related to energy, Water conservation, rain water harvesting, watershed management. Resettlement and rehabilitation of people; its problems and concerns. Environmental ethics: Issues and possible solutions. Major International Environmental Agreements and National Acts: CBD, Cartagena Protocol on Biosafety; Nagoya Protocol on Access and Benefit-sharing, (CITES); Ramsar Convention on Wetlands of International Importance; Environment Protection Act. Air (Prevention and Control of Pollution) Act. Water (Prevention and control of pollution) Act. Wildlife Protection Act, Forest Conservation Act, Issues involved in enforcement of environmental legislation Public awareness.

Case Studies and Field Work (Any two): Discussion on one national and one international case study related to the environment and sustainable development. Or Field visits to identify local/regional environmental issues, make observations including data collection and prepare a brief report. Or Participation in plantation drive and nature camps. Or Documentation of campus biodiversity

Text and Reference Books:

S. No.	Name	Author(S)	Publisher
1	Environmental Biology	Agarwal, K.C. 2001	Nidi Publ. Ltd. Bikaner.
2	Environmental Science	Miller T.G. Jr.	Wadsworth
3	Perspectives in Environmental Studies	Anubha Kaushik and Gaurav Garg	New Age International Publishers
4	A Handbook on International Environment Conventions & Programs.	2019	Ministry of Environment, Forest and Climate Change

5	Introduction to Environmental Management 2nd Edition	Theodore, M. K. and Theodore, Louis (2021)	CRC Press.
6	Climate Change: The Science, Impacts and Solutions. 2nd Edition	Pittock, Barrie (2009)	Routledge
7	Textbook of Biodiversity	Krishnamurthy, K.V. (2003)	Science Publishers, Plymouth, U

Generic Skills and Entrepreneurship Development

Course Code	COM317
Course Title	Generic Skills and Entrepreneurship Development
Type of course	Theory
L T P	2 0 0
Credits	2
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	This paper is aimed at developing employability skills and conceptual understanding among students for setting up once own business venture/enterprise.
Course Outcomes	At the conclusion of the course, Students will: 1. Able to explain the importance of generic and leadership skills. 2. Demonstrate self-development through task management and manage themselves physically, intellectually & psychologically Know about concepts of entrepreneurship including identifying a winning business opportunity, gathering funding and launching a business, growing and nurturing the organization and harvesting the rewards

UNIT- I

Introduction to Generic Skills: Importance of Generic Skill Development (GSD), Global and Local Scenario of GSD, Life Long Learning (LLL) and associated importance of GSD.

Leadership Skills: Managing in Team - Team definition, hierarchy, team dynamics, Team related skills- sympathy, empathy, co-operation, concern, lead and negotiate, work well with people from culturally diverse background, Communication in group -conversation and listening skills.

UNIT- II

Task Management - Task Initiation, Task Planning, Task execution, Task close out, Exercises/case studies on task planning towards development of skills for task management, Problem Solving - requisites of problem solving-meaningful learning, ability to apply

Knowledge in problem solving, different approaches for problem solving, Steps followed in problemsolving, Exercises/case studies on problem solving.

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UNIT- III

Entrepreneurship: Introduction, Concept/Meaning and its need, Competencies/qualities of an entrepreneur, Entrepreneurial Support System e.g., District Industry Centers (DICs), Commercial Banks, State Financial Corporations, Small Industries Service Institute (SISIs), Small Industries Development Bank of India (SIDBI), National Bank of Agriculture and Rural Development (NABARD), National Small Industries Corporation (NSIC) and other relevant institutions/organizations at State/National level

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UNIT-IV

Market Survey and Opportunity Identification (Business Planning), How to start a small-scale industry,

Procedures for registration of small-scale industry, List of items reserved for exclusive manufacture in small -scale industry, Understanding business opportunity.

Indian Knowledge System - Introduction to National Healthcare Delivery System in India

Course Code	MLT282
Course Title	Indian Knowledge System- Introduction to National Healthcare Delivery System in India
Type of course	DSE
L T P	2 0 0
Credits	2
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks or Diploma in OT/AT.
Course Objective	The course provides the students a basic insight into the main features of the Indian health care delivery system and how it compares with theother systems of the world.
Course Outcomes	At the conclusion of the course, students will 1. Able to compare and contrast the Indian healthcare delivery system with other healthcare systems in the world. 2. Get knowledge about national policies and healthcare programmes. 3. Understand various systems of medicine such as Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homeopathy. 4. Gain knowledge of the demography, vital statistics, and public health in India. 5. Know about the principles, methods of epidemiological studies and types of diseases.

UNIT-I

Introduction to healthcare delivery system: Healthcare delivery system in India at primary, secondary and tertiary care, Community participation in healthcare delivery system, Health system in developed countries, Private Sector, National Health Mission, National Health Policy, Issues in Health Care Delivery System in India, National Health Programmes – Background objectives, action plan, targets, operations, achievements and constraints in various National Heath Programmes.

UNIT-II

Introduction to AYUSH system of medicine: Introduction to Ayurveda, Yoga and Naturopathy, Unani, Siddha, Homeopathy, Need for integration of various systems of medicine

UNIT-III

Health scenario of India past, present and future, public health in India epidemiology and demography), Demography – its concept, Demography & Vital Statistics, Vital events of life & its impact on demography, Significance and recording of vital statistics, Census & its impact on health policy.

UNIT-IV

Epidemiology: Principles of epidemiology, Natural history of disease, Methods of epidemiological studies, Epidemiology of communicable & non-communicable diseases, disease transmission, host defense immunizing agents, cold chain, immunization, disease monitoring and surveillance.

Text & Reference Book:

S. No	Name	Author(S)	Publisher
1	F.J. Baker & R.E. Silverto	An introduction to Med.Lab. Technology	Pb. London Butterworthand Co. Ltd.
2	B. M. Sakharkar	Principles of Hospital Administration & Planning	Jaypee Brothers
3	C. M. Francis	Hospital Administration	Jaypee Brothers
4	G.D. Mogli	Medical Records	Jaypee Brothers
5	Tabish	Hospital Administration	O.U.P.
6	C.M. Francis & D'Souza	Hospital Administration & Management	Jaypee Brothers
7	Goel & Kumar	Management of Hospitals	(Deep & Deep

Basic Intensive Care and Resuscitation - Practical

Course Code	AOT363
Course Title	Basic Intensive Care and Resuscitation Practical
Type of course	Practical
L T P	0 0 2
Credits	1
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	To equip learners with fundamental knowledge and practical skills in critical care and emergency resuscitation, enabling them to recognize, stabilize, and manage critically ill patients using essential life-support techniques and monitoring in intensive care settings.
Course Outcomes (CO)	CO1: Demonstrate knowledge of fundamental intensive care principles and patient monitoring. CO2: Recognize and manage common critical conditions such as shock, respiratory failure, and cardiac arrest. CO3: Use essential equipment for airway management, ventilation, and circulatory support. provide effective resuscitation in emergency situations. CO4: Understand principles of fluid management, drug administration, and infection control in the ICU.

LIST OF PRACTICALS

1: Ventilator Care and Maintenance:

- Hands-on practice in the proper care and maintenance of ventilators, including cleaning, sterilization, and disinfection techniques.
- Understanding the functions and operation of different modes and settings of ventilators.
- Troubleshooting common ventilator issues and alarm management.

2: Bed and Apparatus Care:

- Practical demonstration of bed maintenance, including adjustment of height, positioning, and proper use of bed controls
- Familiarization with the operational capabilities of ICU lights and other apparatus, such as infusion pumps and monitors.
- Cleaning and disinfection procedures for bed surfaces and equipment.

3: Air Conditioning and Pollution Control in ICU:

- Practical session on the management of air conditioning systems in the ICU to maintain optimal temperature, humidity, and air quality.
- Understanding the importance of infection control measures and strategies to minimize airborne contaminants in the ICU environment.

4: Care of Unconscious Patients:

- Simulation-based training on the care and management of unconscious adult and pediatric patients, including monitoring vital signs, maintaining airway patency, and providing basic

hygiene.

- Practice in the proper positioning and turning techniques for unconscious patients to prevent pressure ulcers.

5: Oxygen Therapy and Airway Management:

- Hands-on practice in administering oxygen therapy using different types of masks and nasal cannulas.
- Simulation of airway management techniques, including insertion and securing of endotracheal tubes, use of different types of airways, and bag-valve mask ventilation.

6: Physiotherapy Techniques and Feeding Methods:

- Practical demonstration and practice of physiotherapy techniques, such as chest physiotherapy and postural drainage, to promote airway clearance.
- Training on safe and proper insertion of Ryle's tube for enteral feeding, followed by simulated feeding procedures and maintenance.

7: Hemofiltration and Hemodialysis:

- Introduction to the principles and techniques of hemofiltration and hemodialysis for renal replacement therapy.
- Simulation-based training on the setup and operation of hemofiltration and hemodialysis machines, including the monitoring of patients during the procedure.

8: Psychological Aspects of Patients, Relatives, and Staff:

- Interactive sessions focusing on the psychological aspects of patients, their relatives, and healthcare staff in the ICU setting.
- Role-playing exercises to develop effective communication skills and strategies for providing emotional support to patients and their families.

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Specialized Anesthesia I - Practical

Course Code	AOT367
Course Title	Specialized Anesthesia I - Practical
Type of course	Practical
L T P	0 0 2
Credits	1
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	To train healthcare professionals in advanced anesthesia techniques tailored to specific patient groups and complex surgical procedures, ensuring safe, effective, and individualized anesthetic management in specialized clinical settings such as pediatrics, obstetrics, cardiothoracic, neuro, and geriatric anesthesia.
Course Outcomes (CO)	CO1: Apply anesthesia techniques specific to Pediatric, Orthopedic, Urological patients. CO2: Handle difficult airway and anesthesia emergencies in specialized populations. CO3: Students will apply principles of patient monitoring, airway management, and postoperative care to optimize anesthesia outcomes and ensure patient safety.

LIST OF PRACTICAL' S:

1. **Orthopedic Surgery:**
   - Simulation-based training on anaesthetic considerations and techniques for joint replacement surgeries, such as patient positioning, regional anaesthesia techniques, and intraoperative pain management.
   - Anesthetic treatment for fracture fixation procedures, including the use of various types of anaesthesia and monitoring measures, is demonstrated in practice.
   - Role-playing scenarios to better grasp the problems and decision-making involved in giving spinal anaesthesia.

2. **Paediatric Surgery:**
   - Hands-on practice in pediatric airway care using suitable devices and techniques, such as mask ventilation, intubation, and supraglottic airway devices.
   - Simulation scenarios concentrating on the special issues for inducing and maintaining anaesthesia in paediatric patients, including as dose calculation, monitoring, and intraoperative care.
   - A hands-on session on juvenile pain management strategies, such as regional anaesthesia and multimodal analgesia.
   - Anaesthesia for Paediatric Patients with Congenital abnormalities: Interactive sessions addressing anesthetic problems and considerations when caring for children with congenital abnormalities.
   - Case studies and role-playing exercises are used to learn about preoperative evaluation, anaesthesia planning, and intraoperative care of unique congenital abnormalities.
   - Simulations of emergency situations and crisis management in paediatric patients with

congenital abnormalities.

3. **Urological surgeries:**
   - Anaesthesia for Urological Surgeries: This course provides a practical demonstration of anaesthetic considerations and techniques for various urological surgeries such as prostatectomy, nephrectomy, and cystoscopy.
   - Training in urological surgery positioning and patient preparation, including the use of regional anaesthetic and intravenous sedation procedures.
   - Scenarios based on simulation to better understand intraoperative problems and management of fluid balance, hemodynamic, and pain control during urological procedures.
   - Techniques of Regional Anesthesia for Orthopedic and Urological Procedures:
   - Practical experience with peripheral nerve blocks, including landmark recognition, needle insertion, and local anaesthetic administration.
   - Training in spinal anaesthetic procedures using simulation, including patient placement, sterile technique, and dose calculation.

4. **Anaesthesia Considerations:**
   - Case-based discussions on anesthesia considerations specific to orthopedic, Pediatric, and urological surgeries, focusing on patient assessment, anesthesia induction, and intraoperative monitoring
   - Interactive sessions on pain management strategies for surgical patients in these specialties, including the use of regional anesthesia techniques, multimodal analgesia, and patient-controlled analgesia
   - Simulation scenarios to practice crisis management during surgery, such as intraoperative bleeding, anaphylactic reactions, or airway emergencies

5. **Postoperative Care and Rehabilitation:**
   - Practical demonstration of postoperative care protocols for orthopedic, pediatric, and urological surgical patients, including wound care, monitoring vital signs, and early mobilization techniques.
   - Role-playing exercises to simulate patient education and discharge planning, including instructions on medication management, activity restrictions, and follow-up appointments

Hands-on practice with rehabilitation exercises specific to orthopedic, pediatric, and urological surgical patients, focusing on maintaining joint mobility, strengthening, and functional recovery.

Hospital Visit - III

Course Code	AOT373
Course Title	Hospital Visit - III
Type of course	Practical
L T P	0 0 8
Credits	4

The objective of a hospital visit as part of a medical or paramedical course is to provide students with real-world exposure to clinical settings, enhance their understanding of healthcare delivery, and bridge the gap between theoretical knowledge and practical application.

1. **Clinical Exposure:**
    - To observe the functioning of various hospital departments such as OPD, IPD, ICU, OT, emergency, and diagnostics.
    - To understand patient care processes and protocols.
2. **Professional Interaction:**
    - To interact with healthcare professionals including doctors, nurses, and technicians to understand their roles and responsibilities.
3. **Skill Development:**
    - To gain familiarity with medical equipment, instruments, and documentation procedures.
    - To understand infection control practices and patient safety measures.
4. **Healthcare System Understanding:**
    - To comprehend hospital hierarchy, referral systems, and administrative structures.
    - To learn about patient admission, discharge, billing, and record-keeping systems.
5. **Ethical and Behavioral Learning:**
    - To develop professional behavior, empathy, communication skills, and patient confidentiality awareness.

SIXTH SEMESTER

Specialized Anaesthesia and Surgery

Course Code	AOT362
Course Title	Specialized Anaesthesia and Surgery
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	To provide in-depth knowledge and clinical skills required for the safe and effective administration of anesthesia and performance of surgical procedures in specialized fields, focusing on patient-specific approaches, advanced techniques, and multidisciplinary collaboration to improve surgical outcomes.
Course Outcomes	CO1: Understand the principles and components of robotic surgical systems. Assist in planning and performing minimally invasive robotic surgeries. CO2: Understand the unique anaesthetic challenges of robotic-assisted surgery. Manage patient positioning and airway access during robotic procedures. CO3: Safely administer anaesthesia in non-operating room settings. Assess and prepare patients for procedures outside the OR. CO4: Understand the principles and types of organ transplantation. Identify criteria for donor and recipient selection.

UNIT I

Robotic-assisted surgical procedures: Learning about the principles and techniques of robotic-assisted surgeries, such as robotic-assisted prostatectomy, robotic-assisted hysterectomy, and robotic-assisted colorectal surgeries, and understanding the roles and responsibilities of the OT and AT professionals in assisting these procedures

UNIT II

Anaesthetic considerations and techniques for robotic surgeries: Understanding the Anaesthesia considerations specific to robotic-assisted surgeries, including patient positioning, pneumoperitoneum management, and anesthetic agents and techniques suitable for these procedures.

BIS, NMT, Ultrasound, Navigation

UNIT III

- NORA (Non-Operative Room Anesthesia) is a field within anesthesia that focuses on providing anesthesia services outside the traditional operating room setting. Here are some potential topics related to NORA:
- Introduction to NORA: Overview of Non-Operative Room Anesthesia, its scope, and its role in modern anesthesia practice.
- Procedures in Non-Operative Settings: Anesthetic management for various procedures performed outside the operating room, such as interventional radiology, endoscopy, cardiac catheterization, and bronchoscopy,
- Radiation Safety: Pregnancy and Pediatric Radiology, Contrast Media Safety, Infection Control, Equipment Maintenance and Calibration, Patient Identification and Consent, Emergency

Preparedness, Radiation Dose Optimization, Communication and Documentation, Quality Assurance and Accreditation.

- Sedation Techniques: Techniques and protocols for sedation in non-operating room settings, including patient assessment, drug selection, monitoring, and managing complications.
- Pediatric NORA: Special considerations and techniques for providing anesthesia to pediatric patients in non-operating room settings, including sedation for imaging studies, dental procedures, and emergency department interventions.
- Regional Anesthesia in NORA: The use of regional anesthesia techniques, such as nerve blocks and epidurals, in non-operating room settings for pain management and surgical procedures.
- Critical Care Anesthesia Outside the ICU: Anesthetic management and monitoring of critically ill patients in non-operating room locations, such as the emergency department, radiology suite, or cardiac catheterization lab.
- Safety and Patient Selection: Strategies for patient selection, risk assessment, and ensuring patient safety during NORA procedures, including pre-procedure evaluation, informed consent, and appropriate monitoring.
- Teamwork and Communication: Effective collaboration and communication among anesthesia providers, proceduralists, and other healthcare professionals involved in NORA to optimize patient care and outcomes.
- Equipment and Resources: Considerations for equipment, resources, and infrastructure needed to provide safe and efficient anesthesia care in non-operating room settings, including portable anesthesia machines, monitoring devices, and emergency equipment.
- Quality Improvement and Patient Outcomes: Assessment of outcomes, patient satisfaction, and quality improvement initiatives specific to NORA, aiming to enhance patient care, safety, and efficiency.

UNIT IV

Organ transplantation procedures: Exploring the principles and techniques of organ transplantation surgeries, such as kidney transplant, liver transplant, and heart transplant, and understanding the perioperative management, immunosuppression, and ethical considerations associated with transplant surgeries.

Preoperative evaluation and management of transplant recipients: Studying the preoperative assessment, optimization, and management of transplant recipients, including organ allocation, cross-matching, and immunological considerations

Postoperative care and immunosuppression in transplant surgeries: Understanding the postoperative care protocols, including immunosuppressive drug regimens, infection prevention strategies, and long-term follow-up care for transplant recipients.

Text & Reference Books:

S. No	Name	Author(S)	Publisher
1.	G. Smith & A.R. Aitkenhead's	Text book of Anaesthesia	ELSEVIER
2.	Ajay Yadav	Short Textbook of Anaesthesia	JP Brothers
3.	Anshul Jain	Essentials of Anesthesia & Critical Care	JAYPEE
4.	Arun Kumar Paul	Drugs & Equipments in Anaesthetic Practice	Elsevier

Specialized Anesthesia – II

Course Code	AOT366
Course Title	Specialized Anesthesia II
Type of course	Theory
L T P	4 0 0
Credits	4
Course prerequisite	Lateral entry/Dip in OT/AT/ with 50% marks.
Course Objective	To provide advanced knowledge and skills in administering anesthesia tailored to specific patient populations and complex surgical procedures, ensuring safe, effective, and individualized anesthetic care.
Course Outcomes	CO1: To understand the unique anesthetic challenges in Cardiovascular and Thoracic Surgery (CVTS) CO2: To apply specialized anesthesia techniques tailored for cardiovascular and thoracic surgeries, including advanced airway management and cardiopulmonary bypass support. CO3: To understand the unique anesthetic challenges in neurosurgery, including managing intracranial pressure, cerebral perfusion, and neurophysiological monitoring.

UNIT- I

Anesthetic considerations for cardiovascular and thoracic surgeries: Understanding the specific Anaesthesia considerations, hemodynamic management, and monitoring techniques for cardiac and thoracic surgeries such as coronary artery bypass grafting, valve replacement, and lung resection.

UNIT-II

Central Venous catheter and various insertions techniques (IJV, Femoral, PICC and subclavian)
Arterial Line insertion and various techniques (including Allen‟s test)

UNIT-III

Anesthesia techniques for cardiac bypass and valve replacement procedures: Learning about the specific anaesthetic protocols, cardiopulmonary bypass management, and strategies for maintaining stable hemodynamic during open-heart surgeries.

Management of hemodynamic changes during cardiothoracic surgeries: Exploring the principles and techniques for managing hemodynamic changes, such as hypotension and hypertension, during cardiothoracic surgeries and TEE.

UNIT-IV

Anaesthetic considerations for neurosurgical procedures: Understanding the unique challenges and considerations in providing Anaesthesia for brain and spine surgeries, including patient positioning, intracranial pressure management & neurophysiological monitoring.

Neuro-Anesthesia techniques and monitoring in neurosurgery: Learning about the specific anaesthetic techniques, such as total intravenous Anaesthesia (TIVA) and neurophysiological monitoring, used in neurosurgical procedures to ensure patient safety and optimal surgical conditions.

Text & Reference Books:

S.No.	Name/Title	Author	Publisher
1	Hamilton Bailey	Adrian Marston	McGraw Hill
2	SRB'S Manual of Surgery	Sriram Bhat M	diginerve
3	Manipal Manual of surgery	K Rajgopal Shenoy	McGraw Hill
4	Beside Clinics in surgery	Makhan Lal Saha	diginerve

Nutrition

Course Code	AOT370
Course Title	Nutrition
Type of course	Theory
L T P	2 0 0
Credits	2
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	This course aims to provide students with a foundational understanding of the science of nutrition and its role in maintaining health and preventing diseases. It explores the relationship between food patterns, dietary habits, and overall well-being, emphasizing the selection, storage, and preservation of food. Students will learn about the classification of nutrients, including macronutrients and micronutrients.
Course Outcomes (CO)	CO1: Understand the science of nutrition and its relationship to health, food patterns, and food selection. CO2: Apply knowledge of food storage, preservation, and diet planning, including specialized diets like renal diets. CO3: Identify and describe the types, sources, and functions of macronutrients and micronutrients, and understand their impact on health. CO4: Demonstrate the importance of water, minerals, and vitamins in nutrition, and recognize the effects of deficiencies and excesses.

UNIT I

Introduction to science of nutrition

Food pattern and its relation to health

Factors influencing food habits, selection and food stuffs

UNIT II

Food selection, storage & preservation

Planning diets including renal diets

UNIT III

Classification of nutrients – macronutrients and micronutrients

Proteins – types, sources requirements and deficiencies of proteins

Carbohydrates sources, requirements & efficiency

Fats – types, sources, requirements, deficiency and excess of fats

UNIT IV

Water – sources of drinking water, requirements, preservation of water

Minerals – types, sources, requirements deficiencies of minerals

Vitamins – types, sources, requirements deficiencies of vitamins

Text & Reference Books:

S.No.	Name/Title	Author	Publisher
1	Food quality, nutrition and health	Dr. Rainer wild stiflung	springer
2	Nutrition and dietetics	Shubhangini A Joshi	McGraw Hill

Specialized Surgery

Course Code	AOT372
Course Title	Specialized Surgery
Type of course	Theory
L T P	3 0 0
Credits	3
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	To equip students with advanced knowledge and skills required to perform and assist in complex surgical procedures within specialized fields, emphasizing precision, patient safety, use of cutting-edge technology, and multidisciplinary collaboration for improved clinical outcomes.
Course Outcomes (CO)	CO1: Demonstrate knowledge of diagnostic methods, treatment options, and surgical principles related to fractures, joint disorders. CO2: To recognize and understand common congenital and acquired surgical conditions in children. CO3: To understand the pathophysiology, diagnosis, and surgical management of common cardiovascular and thoracic diseases. CO4: To understand the anatomy, pathology, and surgical techniques related to neurological procedures

UNIT-I

Diseases in Orthopedics:

- Osteoarthritis: Degenerative joint disease-causing joint pain and stiffness. Surgeries include joint replacement (e.g., total hip replacement, total knee replacement).
- Fractures: Broken bones that require surgical intervention for realignment and stabilization. Surgeries may include open reduction and internal fixation (ORIF), external fixation, or intramedullary nailing.
- Herniated Disc: Protrusion of intervertebral disc causing nerve compression. Surgical options include discectomy or spinal fusion.
- Scoliosis: Abnormal curvature of the spine. Surgery may be performed in severe cases to correct the curvature, such as spinal fusion or insertion of spinal rods.
- Carpal Tunnel Syndrome: Compression of the median nerve in the wrist. Surgical treatment involves carpal tunnel release to alleviate pressure on the nerve.
- Rotator Cuff Tears: Tears in the tendons of the rotator cuff in the shoulder. Surgical repair or reconstruction may be required, such as arthroscopic rotator cuff repair.
- Ligament Injuries: Injuries to ligaments, such as anterior cruciate ligament (ACL) tear in the knee. Surgical reconstruction may be performed using grafts, such as ACL reconstruction.
- Spinal Stenosis: Narrowing of the spinal canal, causing compression of the spinal cord or nerves. Surgery options include laminectomy or spinal decompression to relieve pressure.
- Bone Tumors: Abnormal growths in bones that may require surgical removal, such as tumor resection or limb-sparing surgeries.
- Osteoporosis: Loss of bone density, leading to increased fracture risk. Surgical procedures may include vertebroplasty or kyphoplasty for spinal compression fractures.

- Orthopedic surgical procedures: Studying the specific orthopedic surgical procedures, including joint replacement surgeries (such as total knee replacement and total hip replacement), fracture fixation (fracture table), and spine surgeries, and understanding the instrumentation, implants, techniques involved and positioning for each surge-20 Hours
- C-arm. Radiation Safety: Pregnancy and Pediatric Radiology, Contrast Media Safety, Infection Control, Equipment Maintenance and Calibration, Patient Identification and Consent, Emergency Preparedness, Radiation Dose Optimization, Communication and Documentation, Quality Assurance and Accreditation.

UNIT-II

Diseases in Pediatric Surgery:

- Cleft Lip and Palate: Facial birth defects involving the lip and/or palate. Surgical procedures are performed to repair and reconstruct the cleft lip and palate, typically in multiple stages.
- Pediatric Hernias: Abnormal protrusions of organs or tissues through weak spots or openings in the abdominal wall, such as inguinal hernia or umbilical hernia. Surgical treatment involves hernia repair to close the defect.
- Pediatric Urological Conditions: Disorders affecting the urinary system in children, such as hypospadias, cryptorchidism (undescended testicles), or vesicoureteral reflux (VUR), PUJO. Surgical interventions may include hypospadias repair, orchidopexy, or ureteral reimplantation.
- Pediatric Gastrointestinal Disorders: Conditions like pyloric stenosis, malrotation, or Hirschsprung's disease that affect the digestive system in infants and children. Surgical procedures are performed to correct the underlying issues, such as pyloromyotomy or bowel resection.
- Pediatric orthopedic Conditions: Disorders involving the musculoskeletal system in children, such as clubfoot, developmental dysplasia of the hip (DDH), or scoliosis. Surgeries may include corrective procedures like clubfoot correction, hip reduction, or spinal fusion.
- Pediatric Neurosurgical Conditions: Neurological disorders affecting children, such as hydrocephalus, spina bifida, or brain tumors. Surgical interventions may involve shunt placement for hydrocephalus, repair of spina bifida defects, or tumor resection.
- Pediatric Trauma: Surgical management of traumatic injuries in children, including fractures, burns, or lacerations. Surgeries aim to repair and stabilize the injured areas.

- **Paediatric surgical procedures**: Exploring the surgical procedures performed in Paediatric surgery, such as Pediatric hernia repair, pyloromyotomy, congenital anomaly correction, and Paediatric laparoscopic surgeries, and understanding the specialized considerations, techniques for Paediatric patients and positioning for each surgery.

UNIT-III

Diseases in CTVS:

- Coronary Artery Disease: Narrowing or blockage of the coronary arteries supplying blood to the heart. Surgeries include:
- Coronary Artery Bypass Grafting (CABG): Surgical procedure to bypass the blocked or narrowed coronary arteries using grafts from other blood vessels.
- Percutaneous Coronary Intervention (PCI): Minimally invasive procedure to open blocked

coronary arteries using balloon angioplasty and stent placement.

- Valvular Heart Disease: Dysfunction or damage to the heart valves. Surgeries may include:
- Valve Repair: Restoration of the valve structure and function through surgical techniques.
- Valve Replacement: Surgical removal of the damaged valve and implantation of a prosthetic valve.
- Aortic Aneurysm: Abnormal enlargement of the aorta, the main blood vessel supplying blood to the body. Surgeries include:
- Aneurysm Repair: Surgical repair of the weakened or enlarged section of the aorta, often through open surgery or endovascular stent grafting.
- Congenital Heart Defects: Structural abnormalities in the heart present at birth. Surgeries depend on the specific defect and may include:
- Cardiac Defect Repair: Surgical correction of congenital heart defects, such as atrial septal defect (ASD), ventricular septal defect (VSD), or Tetralogy of Fallot.
- Arrhythmias: Abnormal heart rhythms. Surgeries may include: ¬ Pacemaker Implantation: Surgical placement of a device that helps regulate the heart's electrical activity. ¬ Ablation Procedures: Minimally invasive techniques to destroy or isolate abnormal electrical pathways in the heart.
- Lung Cancer: Malignant tumors in the lungs. Surgeries for lung cancer include:
- Lobectomy: Surgical removal of a lobe of the lung.
- Pneumonectomy: Surgical removal of an entire lung.
- Wedge Resection: Surgical removal of a small, localized portion of the lung.
- Peripheral Artery Disease (PAD): Narrowing or blockage of arteries outside the heart, typically in the legs. Surgeries may include:
- Peripheral Artery Bypass: Surgical creation of a bypass using a graft to restore blood flow to the affected area.
- Angioplasty and Stenting: Minimally invasive procedures to open blocked arteries and place stents to maintain blood flow.
- Deep Vein Thrombosis (DVT): Formation of blood clots in deep veins, commonly in the legs. Surgeries may involve:
- Thrombectomy: Surgical removal of the blood clot from the affected vein.
- Vein Bypass: Surgical creation of a bypass using a graft to redirect blood flow around the blocked vein.

UNIT-IV

Neurosurgical procedures: Exploring the specific neurosurgical procedures, such as craniotomy, spinal fusion, tumor resection, and deep brain stimulation, and understanding the principles, instrumentation, and patient positioning requirements in neurosurgery (Placement of horseshoe, cranial pins and Stereotactic devices).

Anesthetic considerations and techniques for CTVS and neurosurgery: Understanding the unique Anaesthesia considerations, monitoring techniques and management strategies for patients undergoing CTVS and neurosurgical procedures, including hemodynamic stability, fluid management, and neurophysiological monitoring.

Text & Reference Books

S. No	Name	Author(S)	Publisher
1	G. Smith & A.R. Aitkenhead's	Text book of Anesthesia	ELSEVIER
2	Ajay Yadav	Short Textbook of Anaesthesia	JP Brothers
3	Anshul Jain	Essentials of Anesthesia & Critical Care	JAYPEE
4	Arun Kumar Paul	Drugs & Equipments in Anaesthetic Practice	Elsevier

Research Methodology and Biostatics

Course Code	AOT374
Course Title	Research Methodology and Biostatics
Type of course	Theory
L T P	3 0 0
Credits	3
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	To develop students' understanding of research principles, study design, data collection, and statistical analysis, enabling them to conduct, interpret, and critically evaluate scientific research in healthcare and related fields.
Course Outcome	CO1: Research Methodology involves the systematic process of designing, conducting, and analyzing research to generate reliable and valid knowledge. CO2: Formulating research questions, choosing appropriate study designs, collecting data, and interpreting results. CO3: Biostatistics applies statistical methods to analyze biological and health data, helping to summarize findings, test hypotheses, and make informed decisions.

UNIT-I

Introduction to research methods, Identifying research problem, Ethical issues in research, Research design, Basic Concepts of Biostatistics.

UNIT-II

Types of Data, Research tools and Data collection methods, sampling methods, developing a research proposal.

UNIT-III

Need of biostatistics, what is biostatistics: beyond definition, understanding of data in biostatistics, how & where to get relevant data, Relation between data &variables, Type of variables: defining data set.

UNIT-IV

Collection of relevant data: sampling methods, summarizing data on the pretext of underlined study, understanding of statistical analysis (not methods) Construction of study: population, sample, normality and its beyond (not design of study, perhaps) .

Text & Reference Books

S. No	Author(S)	Title
1	S. P. Gupta	Statistical Methods
2	B. K. Mahajan	Methods in biostatistics for medical students
3	Himanshu Tyagi	RPG Biostatistics

Specialized Anaesthesia & Surgery - Practical

Course Code	AOT364
Course Title	Specialized Anaesthesia & surgery - Practical
Type of course	Practical
L T P	0 0 3
Credits	1.5
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	To equip students with advanced knowledge and clinical skills for safely administering anesthesia and performing surgeries in specialized and complex cases, ensuring patient-centered care through precision, multidisciplinary collaboration, and the use of modern techniques and technology.
Course Outcomes (CO)	CO1: To understand the use of robotic systems to assist or perform surgical procedures with high precision, control, and minimal invasiveness. CO2: Ultrasound is a non-invasive imaging technique that uses high-frequency sound waves to create real-time images of internal body structures. CO3: NORA refers to the administration of anesthesia or sedation outside the traditional operating room setting, such as in radiology suites, endoscopy units, dental clinics, or interventional cardiology labs. CO4: To get familiarize with the Complex processes such as donor matching, immunosuppression to prevent rejection, and lifelong follow-up care.

LIST OF PRACTICALS

Robotic-Assisted Surgical Procedures:

- Demonstration and hands-on practice with robotic surgical systems, such as da Vinci Surgical System, including instrument docking, console operation, and manipulation of robotic arms.
- Role-playing exercises to simulate the roles and responsibilities of OT and AT professionals during robotic-assisted surgeries, focusing on effective communication, teamwork, and coordination.
- Interactive discussions on patient positioning considerations, pneumoperitoneum management, and the role of anesthesia in facilitating robotic-assisted procedures.

BIS, NMT, Ultrasound, Navigation:

- Hands-on training on the use of monitoring devices like Bi-spectral Index (BIS) and neuromuscular monitoring (NMT), including electrode placement, calibration, and interpretation of data.
- Practical sessions on ultrasound-guided regional anesthesia techniques, such as nerve blocks, highlighting the principles of probe handling, needle visualization, and local anesthetic administration.
- Introduction to navigation systems used in surgeries, such as image-guided navigation for spine surgery, and demonstration of their use in surgical planning and intraoperative guidance.

Non-Operative Room Anesthesia (NORA):

- Case-based discussions and interactive sessions on the different procedures performed in non-operating room settings, including interventional radiology, endoscopy, and cardiac catheterization.
- Simulation-based training on sedation techniques in non-operating room settings, focusing on patient assessment, drug selection, monitoring, and management of sedation-related complications.
- Practical sessions on radiation safety protocols, infection control measures, and communication/documentation practices specific to NORA procedures.

Organ Transplantation Procedures:

- Interactive discussions on the principles and techniques of organ transplantation surgeries, such as kidney transplant, liver transplant, and heart transplant, including organ preservation, graft implantation, and vascular anastomosis.
- Simulation scenarios to understand the perioperative management of transplant recipients, including preoperative evaluation, optimization, and immunosuppressive drug regimens.
- Role-playing exercises to simulate postoperative care scenarios for transplant recipients, focusing on infection prevention strategies, long-term follow-up care, and coordination with multidisciplinary teams.

Preoperative Evaluation and Management of Transplant Recipients:

- Case discussions and interactive sessions on the preoperative assessment and management of transplant recipients, including organ allocation, cross-matching, and immunological considerations.
- Hands-on training on laboratory techniques used in transplant medicine, such as HLA typing and cross-matching tests.
- Interactive sessions on ethical considerations in organ transplantation, including organ donation, allocation policies, and patient selection criteria.

Postoperative Care and Immunosuppression in Transplant Surgeries:

- Practical training on the management of immunosuppressive drug regimens commonly used in transplant recipients, including drug interactions, dose adjustments, and monitoring of therapeutic levels.
- Simulation-based training on infection prevention strategies for transplant recipients, focusing on identifying and managing postoperative infectious complications.
- Role-playing exercises to simulate long-term follow-up care scenarios for transplant recipients, including monitoring graft function, managing complications, and promoting adherence to immunosuppressive therapies.

Specialized Anaesthesia II - Practical

Course Code	AOT368
Course Title	Specialized Anaesthesia II - Practical
Type of course	Practical
L T P	0 0 3
Credits	1.5
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.
Course Objective	To provide hands-on training in administering anesthesia for specialized and high-risk surgical procedures, enabling students to develop clinical proficiency in advanced airway management, regional techniques, patient monitoring, and emergency response in diverse surgical settings.
Course Outcomes (CO)	CO1: Demonstrate in-depth knowledge of anesthesia techniques for specialized surgeries. CO2: Demonstrate proficiency in administering anaesthesia for cardiac and thoracic surgeries, including open-heart procedures and lung resections. CO3: Select and administer appropriate anesthesia techniques for various neurosurgical procedures, including craniotomies and spinal surgeries.

LIST OF PRACTICALS

1. Cardiovascular and Thoracic Surgeries: Simulation-based training on hemodynamic monitoring techniques for cardiovascular and thoracic surgeries, such as non-invasive blood pressure measurement, pulse oximetry, and Capnography.
2. Techniques for Inserting a Central Venous Catheter: Hands-on practice with simulation models or manikins to learn the many techniques for inserting a central venous catheter, including the internal jugular vein (IJV), femoral vein, peripherally inserted central catheter (PICC), and subclavian vein.
3. Arterial Line Insertion and skills: A hands-on session with simulation models or manikins to explore the stages needed and practice aseptic skills.
4. Cardiac Bypass and Valve Replacement Anaesthesia Techniques
5. Case studies and video presentations illustrate the anaesthesia techniques and considerations unique to cardiac bypass and valve replacement procedures.
6. Scenarios concentrate on the management of hemodynamic changes after cardiac procedures, such as preserving cardiopulmonary stability and dealing with probable consequences.
7. During cardiac bypass procedures, role-playing exercises are used to simulate communication and cooperation among the anesthesia team, perfusionists, and surgeons.
8. Management of Hemodynamic Changes during Cardiothoracic Surgery: Interactive sessions and case discussions on the management of typical hemodynamic changes observed during cardiothoracic surgery, such as hypotension, hypertension, and volume status optimization.
9. Simulation-based training in the use of non-invasive approaches to monitor hemodynamic parameters like stroke volume variation (SVV) or pulse pressure variation (PPV) to assist fluid management.
10. Simulation scenarios concentrating on intracranial pressure management and cerebral ischemia prevention during neurosurgery procedures.

11. Neuro-anesthesia Techniques and Monitoring in Neurosurgery: A hands-on seminar on the principles and techniques of total intravenous anaesthesia (TIVA) for neurosurgical procedures, including the use of TCI pumps.

Seminar

Course Code	AOT376
Course Title	Seminar
Type of course	Practical
L T P	0 0 2
Credits	1

The objective of a seminar course is to develop students' academic, communication, and presentation skills by encouraging critical thinking, in-depth exploration of topics, and peer learning through structured presentations and discussions.

1. **Research and Analytical Skills:**
   - To enable students to research, analyze, and synthesize information on a selected topic.

2. **Presentation Skills:**
   - To develop effective oral and visual presentation techniques.

3. **Communication and Confidence:**
   - To improve public speaking and interpersonal communication skills.

4. **Critical Thinking:**
   - To encourage questioning, discussion, and logical reasoning.

5. **Teamwork and Collaboration:**
   - To foster teamwork through group discussions, debates, and peer feedback.

6. **Academic Writing:**
   - To improve the ability to write abstracts, summaries, and structured reports.

7. **Lifelong Learning:**
   - To promote independent learning and staying updated with current knowledge and trends.

Hospital Visit – IV

Course Code	AOT378
Course Title	Hospital Visit - IV
Type of course	Practical
L T P	0 0 6
Credits	3

The objective of a hospital visit as part of a medical or paramedical course is to provide students with real-world exposure to clinical settings, enhance their understanding of healthcare delivery, and bridge the gap between theoretical knowledge and practical application.

1. **Clinical Exposure:**
    - To observe the functioning of various hospital departments such as OPD, IPD, ICU, OT, emergency, and diagnostics.
    - To understand patient care processes and protocols.
2. **Professional Interaction:**
    - To interact with healthcare professionals including doctors, nurses, and technicians to understand their roles and responsibilities.
3. **Skill Development:**
    - To gain familiarity with medical equipment, instruments, and documentation procedures.
    - To understand infection control practices and patient safety measures.
4. **Healthcare System Understanding:**
    - To comprehend hospital hierarchy, referral systems, and administrative structures.
    - To learn about patient admission, discharge, billing, and record-keeping systems.
5. **Ethical and Behavioral Learning:**
    - To develop professional behavior, empathy, communication skills, and patient confidentiality awareness.

SEVENTH SEMESTER

OTT Internship-I

Course Code	AOT461
Course Title	Internship
Type of course	Practical
L T P	0 0 52
Credits	26
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.

INTERNSHIP GUIDELINES:

1. The internship is compulsory.
2. Duration of the internship shall be one year.
3. Maintain professionalism at all times, including OT attire, communication and interactions with respect to patient confidentiality and adhere to Hospital and University rules & regulations.
4. Follow the chain of command and communicate effectively with supervisors and team members.
5. The degree of Baccalaureate in Anaesthesia and Operation Theatre Technology shall be awarded after the completion of internship.
6. The candidate should make the entries in the log book daily, countersigned by (Concern faculty) the Assistant Professor /Associate Professor / Professor / Head of the Department.
7. The logbook is to be submitted to the Department at the time of the final examination.

Internship – minimum 1440 hours (calculated based on 8 hours per day, if 180 working days in a Year). This is the minimum requirement, however depending on the working days/hours; the total duration of engagement in internship may be more than 1440 hours.

EIGHTH SEMESTER

OTT Internship-II

Course Code	AOT462
Course Title	Internship
Type of course	Practical
L T P	0 0 52
Credits	26
Course prerequisite	Lateral entry/ Dip in OT/AT/ with 50% marks.

INTERNSHIP GUIDELINES:

1. The internship is compulsory.
2. Duration of the internship shall be one year.
3. Maintain professionalism at all times, including OT attire, communication and interactions with respect to patient confidentiality and adhere to Hospital and University rules & regulations.
4. Follow the chain of command and communicate effectively with supervisors and team members.
5. The degree of Baccalaureate in Anaesthesia and Operation Theatre Technology shall be awarded after the completion of internship.
6. The candidate should make the entries in the log book daily, countersigned by (Concern faculty) the Assistant Professor /Associate Professor / Professor / Head of the Department.
7. The logbook is to be submitted to the Department at the time of the final examination.

Internship – minimum 1440 hours (calculated based on 8 hours per day, if 180 working days in a Year). This is the minimum requirement, however depending on the working days/hours; the total duration of engagement in internship may be more than 1440 hours.