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Item No-

**Rayat Shikshan Sanstha's  
KARMAVEER BHURAO PATIL COLLEGE VASHI  
(AUTONOMOUS COLLEGE)**

Sector-15- A, Vashi, Navi Mumbai - 400 703

**Syllabus for F.Y.B.Sc. Operation theatre Technology.**

**Technology Program: Operation theatre Technology.**

**Course: F.Y.B.Sc. Operation theatre Technology**

**(National Education Policy-2020  
academic year 2024-2025)**

**Rayat Shikshan Sanstha's**

**Karmaveer Bhaurao Patil College Vashi Autonomous College**

**Syllabus**

<b>Sr. No</b>	<b>Heading</b>	<b>Particulars</b>
1	<b>Title of Course</b>	<b>F.Y.B.Sc. Operation theatre Technology</b>
2	<b>Eligibility for Admission</b>	<b>12th Science and equivalent [of recognized Boards]</b>
3	<b>Passing Marks</b>	<b>40%</b>
4	<b>Ordinances/Regulations (if any)</b>	<b>-----</b>
5	<b>No. of Years/Semesters</b>	<b>One year/Two semester</b>
6	<b>Level</b>	<b>U.G.</b>
7	<b>Pattern</b>	<b>Semester</b>
8	<b>Status</b>	<b>Revised</b>
9	<b>To be implemented from Academic year</b>	<b>2024-2025</b>

**Preamble**

The objective of the BSc in Operation Theatre Technology program is to train and prepare students to become skilled healthcare professionals specializing in operating theatre procedures and technologies. This program aims to provide students with a comprehensive understanding of surgical techniques, medical equipment and sterile procedures essential for assisting surgeons and anaesthetists and maintaining a safe operating environment. Through a blend of theoretical coursework and clinical internships, students will develop expertise in preoperative, intraoperative and postoperative care, ensuring optimal patient outcomes. Additionally, emphasis is placed on developing critical thinking, communication and teamwork skills necessary for effective collaboration within multidisciplinary surgical teams. Graduates of the program will be equipped to pursue rewarding careers in hospitals, surgical centers and other healthcare facilities, playing a vital role in delivering high-quality surgical care to patients.

### **Educational Pedagogy**

The course design is based on NEP 2020 guidelines where learner is given a choice to have vertical mobility while pursuing this program. His annualized credits earned will be banked to allow his subsequent year's enrollment. The three-year degree program is designed as –

- **1st year BSC with Certification in Assistance to OT & CSSD Technology**
- **2nd Year BSC with Diploma in Operation theatre Technology**
- **3rd Year BSC with Bachelor's degree in Operation theatre Technology.**
- **4th Year BSC with Bachelor's Honors in Operation theatre Technology**

The pedagogical design is based on the core objective of making students job ready and hence a lot of focus is given in learner's engagement through Industry based skilling in Hospitals.

As anyone who seeks admission in this program comes from a non-healthcare background, the course starts with a platform setting training to make learner understand the typicality and Dos and Don'ts of Healthcare Organizations.

Industry interface is divided into 3 phases of learning as –

- Observer ship – Objective is to see in practice in industry what is being taught in the classroom through clinical sessions on the subject.
- On The Job Training – Objective is to learn job skills by working with someone in industry.
- Internship – Working independently, but under supervision as per defined job role.

Considering that the program needs to empower job readiness of learners, a lot of focus is kept in active engaging Life Skills workshops. These cover topics like Self Awareness, Objective setting, Teamwork, Leadership Development, Time Management, Communication Skills, Interpersonal abilities etc.

The program also focuses on creating a better path for students to pursue their higher education opportunities in the healthcare sector. As such special skill enhancing modules

like Basic Life Support, Bed Side Care, Hospital Administration etc. are included in the curriculum. This will help learners to get into PG programs like Masters in Hospital Management or Masters in Hospital Administration or master's in public health.

As regards to the Core expertise of the program on OT Technology, key subjects that get covered are –

- **Platform setting subjects:**

Anatomy, Physiology, human diseases & Hospital practices and protocols covering Medical Terminology, Bio Medical waste management, Infection Control, Personal Hygiene etc.

- **Microbiology:**

Common types of bacteria, their characteristics, Mode of spread and effects, principles of asepsis, disinfection and prevention of cross infection, Common antiseptics used in operation theatre, Preparation of antiseptic solution in common use in operation theatre, Sterilizers, Procedure of collection of swabs in OT after fumigation.

- **CSSD-Central Sterile Supply Department**

Running of Central sterile supply room (Autoclave, flash, ETO), What is CSSD/ ETO / Flash? What is detailed technology? Record keeping. Pre procedure, post procedure protocol. How to confirm test for sterilization? Temp, pressure, time? CSSD.ETO- Care during use After undergoing training in the subject of basic medical sciences, students are trained to do sterilization using various techniques like autoclaving, ethylene oxide (ETO) sterilization and other newer techniques. They are trained to maintain and manage central sterile supply department (CSSD) functioning.

- **Operating Theatre: Equipment, Procedures, & Protocols:**

It describes the principles and techniques of operating theater technician practices. The subject is treated from a technician's view of the theater situation and of the job she/he must perform. The focus is OT Layout, equipment details including glassware; drugs and solutions used in the operating theater & some important principles involved in the use of linen in the operating theater, CSSD, pre, intra and post operative techniques and procedures pharmacology, anesthesia, various types of surgeries, patient safety, advance techniques in OT etc. The program also delves into building the importance of a technician's personal attitude and empathy necessary for working as OT technician.

### **Scheme of examination for each semester**

**>> Continuous Internal Evaluation: 40 Marks**

Common Test 20 Marks & 20 Marks for Assignment, Projects, Group discussion, Openbook test, online test etc. based on Units of each paper.

**>> Semester End Examination: 60 Marks** will be as follows –

<b>I.</b>	<b>Theory:</b> The Semester End Examination for theory course work will be conducted as per the following scheme.	
	Each theory paper shall be of two hours duration.	
	All questions are compulsory and will have internal options.	
	Q – I	Subject questions from Unit – I (having internal options.) 15 M
	Q – II	Subjective questions from Unit – II (having internal options.) 15 M
	Q – III	Subjective questions from Unit – III (having internal options.)15 M
	Q- IV	Objective type questions based on all the Units with equal weightage. 15 M
<b>II.</b>	<b>Practical</b>	The Semester End Examination for practical course work will be conducted as per the following scheme.
<b>Sr. No.</b>	<b>Of Semester End Practical Examination</b>	<b>Marks%</b>
1	Laboratory Work	80%
2	Journal	10%
3	Viva	10%
	<b>TOTAL</b>	<b>100%</b>

**Program Outcomes (POs)**

<b>PO-1</b>	<b>Disciplinary Knowledge:</b> Understanding different modalities and their functions in Operation Theatre technology through on the job training and internships in the hospitals.
<b>PO-2</b>	<b>Communication Skills:</b> Develop various communication skills such as reading, listening, and speaking skills etc., which we will help in expressing ideas and views clearly and effectively.
<b>PO-3</b>	<b>Critical Thinking:</b> Think creatively to propose novel ideas in explaining the scientific data, facts and figures related to science and technology.
<b>PO-4</b>	<b>Analytical Reasoning and Problem Solving:</b> Identify, describe, formulate, interpret, analyze the data systematically and solve theoretical and numerical problems in the diverse areas of science and technology and provide alternate solutions to the problems.
<b>PO-5</b>	<b>Sense of Inquiry:</b> Curious for asking relevant questions like why and how for better understanding of the basic concepts, fundamental principles, scientific theories, and applications related to the study.
<b>PO-6</b>	<b>Use of Modern Tools:</b> Use of modern tools, equipment, instrumentation, and laboratory techniques to design and perform the experiments and write the programs in different languages (software).
<b>PO-7</b>	<b>Research Skills:</b> Ability to search for, find, collect, analyze, interpret, and evaluate information/data that is relevant to the subjects related to science and technology being studied.
<b>PO-8</b>	<b>Application of Knowledge:</b> Develop scientific outlook with respect to the subjects related to science and technology and participate in various social and cultural activities.
<b>PO-9</b>	<b>Ethical Awareness:</b> Imbibe ethical and social values in personal and social life leading to cultured and civilized personality.

<b>PO-10</b>	<p><b>Teamwork:</b> Work effectively within the groups and individuals, participate, and take initiative for various field-based situations related to science, technology, and society at large.</p>
<b>PO-11</b>	<p><b>Environment and Sustainability:</b> Understand how development in science and technology and interdisciplinary subjects are taking place for protecting our environment and sustainable developments.</p>
<b>PO-12</b>	<p><b>Lifelong Learning:</b> Ability of self-driven to explore, learn and gain knowledge and new skills to improve the quality of life and sense of self-worth by paying attention to the ideas and goals throughout the life.</p>

**\*Note: [1] Remembering, [2] Understanding, [3] Applying,[4] Analyzing, [5] Evaluating, 6] Creating.**

**Name of the Specific Program: B.Sc. Operation Theatre Technology (OT)**

**Program Specific Outcomes (PSO)**

**At the end of four-year program students will understand and be able to:**

<b>PSO-1</b>	Understand different sections of OT and their typical functionality through on the job training and internships in hospitals.
<b>PSO-2</b>	Understand the preparation of OT prior to surgery, including Anaesthesia preparation and Surgical Preparation
<b>PSO-3</b>	Applying CSSD knowledge for sterilising various medical instruments including OT equipment who is the major User Department of CSSD.
<b>PSO-4</b>	Perform Cardio-pulmonary Resuscitation [CPR] procedure
<b>PSO-5</b>	Describe regular and emergency drugs used in the OT.
<b>PSO-6</b>	Demonstrate knowledge using the right patient positioning techniques while performing OT procedures ensuring safety of patients and personnel involved.
<b>PSO-7</b>	Use & maintain basic monitors, equipment and C-arm in OT.
<b>PSO-8</b>	Apply OT techniques [knowledge and skills] for assisting surgeons and anesthetists & other healthcare professionals in pre, intra and post operation periods.
<b>PSO-9</b>	Assist the Anesthetists in delivering General Anesthesia and Regional Anesthesia
<b>PSO-10</b>	Understand the larger scope of medical profession and creating an opportunity for higher education in hospital management domain & overseas work opportunities.
<b>PSO-11</b>	Develop professional expertise in using all office applications like word, excel and power-point.
<b>PSO-12</b>	Employ effective communication practices to provide sufficient information effectively to the patient about purpose of the procedure, benefits, possible adverse consequences and limitations.
<b>PSO-13</b>	Developing a professional OT technologist through various ability enhancement programs on communication skills, professional skills, life skills, field visits and personality development workshops.



**Course Outcome (CO): Sem 1**

Course Code	Name of the Course	Course outcomes
UGOTC101	General Human Anatomy & Physiology	<p><b>CO1.</b> Explain the morphology, physiology of skeletal system along with the physiology of muscle contraction in co-ordination with the joints, their articulation and skin [1-3]*</p> <p><b>CO2.</b> Describe &amp; explain the composition, function of various body fluids like blood, lymph cardiovascular and respiratory system their significance and related disorders. [2]*</p> <p><b>CO3.</b> Classify the peripheral nervous system, nerves and morphology of special senses &amp; Discuss diseases, disorders, and conditions commonly found in healthcare occupations [4]*</p>
UGOTC102	Fundamentals of Hospital Practices & Protocols	<p><b>CO1.</b> Recognize, define, and spell terms related to the pathology and treatment of body systems. Analyze and apply knowledge to a real-life scenario. Define common word roots, combining forms, suffixes, and prefixes. Identify and describe the major functions and structures of the body systems [1]*</p> <p><b>CO2.</b> Explain methods to prevent the spread of infection. Summarize the engineering, work practice, and environmental controls that protect against healthcare-associated infections AND Identify barriers and personal protective equipment for protection from exposure to potentially infectious material and Improve their general hygiene routine and personal image. Understand the importance and benefits of self-care.[5-4]*</p> <p><b>CO3</b> Implement strategies for Standard and Transmission-Based Precautions in healthcare settings. Prevent the spread of germs and disease by using the correct techniques for hand hygiene. Protect oneself and those served by technologist recognizing the chain of infection[3]*</p>
UGOTGE103	Introduction to Microbiology – 1	<p><b>CO1</b> Definition, types &amp; classification micro-organisms</p> <p><b>CO2</b> Types of Bacteria &amp; it's characteristics</p> <p><b>CO3</b> Mode of transmission &amp; diseases</p>
UGOTAEC-104	Communication Skill	<p><b>CO1.</b> Understanding and improving General vocabulary, properly understand the meaning and implement in academics through formal communication[1&amp;2]*</p> <p><b>CO2.</b> Applying parts of speech while framing sentences. Additionally, they will learn all the kinds of sentences that are required while having a basic interaction in English with anyone[3]</p> <p><b>CO3.</b> Understanding the time mentioned in the sentences by identifying action verbs &amp; helping verbs and then frame sentences mentioning about the proper work/event happened on specific time. [1&amp;2]*</p>

### CO Practical: Sem 1

UGOTCP101	<b>Human Anatomy &amp; Physiology &amp; Diseases</b>	<b>CO1:</b> Understanding the correlation of macro and micro structure of organs of body with body systems <b>CO2:</b> Correlating, functions of tissues and organs with the body systems <b>CO3:</b> Applying the anatomy and physiology principles to study diseases by case studies
UGOTCP102	<b>Norms of Healthcare Industry</b>	<b>CO1:</b> understanding principles of infection control <b>CO2:</b> applying rules of bio management <b>CO3:</b> learning and applying norms of personal hygiene
UGOTGEP103	<b>Introduction to Microbiology -1</b>	<b>CO1:</b> Orientation to Microbes, use and care of microscope & identification of Equipment's in microbiology. <b>CO2:</b> Smear preparation and identification of micro-organisms <b>CO3:</b> Gram staining and Acid-fast staining

**Course Outcome (CO): Theory: SEM 2**

Course Code	Name of the Course	Course outcomes
UGOTC201	<b>Fundamentals of Central Sterile Supply Department</b>	CO1: Understanding the basic structure of CSSD department & different instruments received for sterilization from major user department like OT [2*] CO2: Understanding & remembering the methods of sterilization of surgical equipment, knowing chemical agents used in the process of stabilization, implementing strategies to segregate infected and used linen and equipment. [1&2*] CO3: Applying quality assurance principles in CSSD operations [3*]
UGOTC202	<b>Fundamentals of Operation Theatre Technique</b>	CO1: Understanding of OT set up, typical OT layout and job responsibilities of OT Technician. [2*] CO2: Understanding and remembering use, care & maintenance of various OT machines. [3&4*] CO3: Understanding and applying the knowledge on importance of consent and medical documentation as a responsible OT technician [2&3*]
UGOTGE203	<b>Introduction to Microbiology -2</b>	CO1: Students learn about characteristics and classification of fungi human viruses and infections, its clinical and laboratory diagnosis CO2: Understanding the mechanism of Microbial antibiotic resistance against drug and demonstrate the principle of tuberculin test CO3: Familiarize with the techniques and measures of sterilization and fumigation methods.
UGOTAEC204	<b>Functional English</b>	CO1. Learning report writing will make practice objective and passive form of writing. Additionally, they will learn to draft and present a Power Point Presentation that will be an aid while they present their views on certain topics. [1]* CO2. Creating the respective Resume and Job application for applying in various organizations and Understanding formal, informal, spoken & written English that will bridge the gap between their thoughts and words [2-3]* CO3. Students will dramatize (Role-pay) the certain topics to get involved in context and to experience the intention behind those sentences. [4&6]*

**Course Outcome (CO) Practical: SEM 2**

<b>Course Code</b>	<b>Name of the Course</b>	<b>Course outcomes</b>
<b>UGOTCP201</b>	<b>CSSD Expertise</b>	CO1: Identify various machines & equipment used in CSSD department [1 & 2*] CO2: Operate all the machines and equipment effectively used in CSSD department for sterilization process. [1,2, 3, 4 & 5*] CO3: Demonstrate the knowledge in using disinfectant agents [1, 2,3 & 4*]
<b>UGOTCP202</b>	<b>Operation Theatre technology Expertise</b>	CO1: Demonstrate Skills of OT preparation for surgery [1,2,3 & 4*] CO2: Efficient handling of various equipment and machines in OT [1, 2, 3, 4, 5*] CO3: Understand and demonstrate the right protocols to be followed during pre, intra and post operative patient care. [3*]
<b>UGOTGEP203</b>	<b>Study of Bacteria &amp; microbiology in OT</b>	CO1: Identification of Enterobacteriaceae CO2: Study & identification of staphylococcus, streptococcus under microscope CO3: Study of various antiseptic solutions & uses of it in various procedures.

**NEP 2020**  
**Semester 1**

<b>Paper 1 [UGOTC101]: General Human Anatomy &amp; Physiology MAJOR</b>				
<b>Course Code</b>	<b>Unit</b>	<b>Topics</b>	<b>Credits</b>	<b>L/Week</b>
<b>UGOTC101</b>	I	Human Anatomy	4	4
	II	Human Physiology		
	III	Human Diseases		
<b>Paper 2[UGOT102]: Fundamentals of Hospital Practices &amp; Protocols MINOR</b>				
<b>UGOTC102</b>	I	Medical Terminology	4	4
	II	Infection Control		
	III	BMW & Personal Hygiene		
<b>Paper 3: [UGOTGE103]: Introduction to Microbiology-1 GENERIC</b>				
<b>UGOTGE103</b>	I	Definition, types & classification microbes	2	2
	II	Common types of bacteria & their characteristics		
	III	Mode of transmission & diseases		
<b>Paper 4: [UGOTAEC104]: Communication Skill AEC</b>				
<b>UGOTAEC104</b>	I	Vocabulary and Meanings	2	2
	II	Word class Nouns, Verbs, Adjectives and Adverbs		
	III	Tenses		
<b>Semester 1 Practical</b>				
<b>UGOTCP101</b>	<b>Major</b>	Understanding of Human body Functions	2	2
<b>UGOTCP102</b>	<b>Minor</b>	Norms of Healthcare Industry	2	2
<b>UGOTGEP103</b>	<b>GE</b>	Introduction to Microbiology-1	1	1

- We have designed special practical for this module to enhance allied healthcare professional skills of the learner.

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**NEP 2020**

**Semester 2**

<b>Paper 1 [UGOT201]: Fundamentals of Central Sterile Supply Department MAJOR</b>				
<b>Course Code</b>	<b>Unit</b>	<b>Topics</b>	<b>Credits</b>	<b>L/Week</b>
<b>UGOTC201</b>	I	Introduction to CSSD (Central Sterile Supply Department)	4	4
	II	Principles of Sterilization & its Techniques		
	III	Quality Assurance & Maintenance of Sterile Supply		
<b>Paper 2: [UGOT202]: Fundamentals of Operation Theatre Technique MINOR</b>				
<b>UGOTC202</b>	I	Introduction to OT	4	4
	II	OT Equipment		
	III	OT Protocol		
<b>Paper 3: [UGOTGE203]: Introduction to Microbiology - 2 GENERIC</b>				
<b>UGOTGE203</b>	I	Introduction to Mycology & virology	2	2
	II	Clinical Micro- biology Techniques		
	III	Microbiology: Applied to OT		
<b>Paper 4 [UGOTAEC204]: Communication Skill AEC</b>				
<b>UGOTAEC204</b>	I	Effective Writing	2	2
	II	Spoken skills and Communication activities		
	III	Understanding Language Expression forms		
<b>Semester 2 Practical</b>				
<b>UGOTCP201</b>	<b>Major</b>	CSSD Expertise	2	2
<b>UGOTCP202</b>	<b>Minor</b>	Operation Theatre Expertise	2	2
<b>UGOTGEP203</b>	<b>GE</b>	Introduction to Microbiology - 2	1	1
<b>*Exit option with certification with 44 Credits (Additional 10 Credits SDP, IKS, Yoga/Music/Dance, Internship)</b>				

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**FY BSc Operation Theatre Technology**  
**NEP 2020**  
**Semester 1**  
**Paper I MAJOR**

Course Code	Title	Credits
<b>UGOTC 101</b>	<b>GENERAL ANATOMY &amp; PHYSIOLOGY</b>	4
<b>Unit I</b>	<b>Human Anatomy</b> <ul style="list-style-type: none"> <li>• Cell Structure &amp; Function,</li> <li>• Tissues Structure &amp; Function</li> <li>• Body Membranes Structure &amp; Function</li> <li>• Body Cavities,</li> <li>• Body Fluid Collection Procedures Clinical Relevance</li> </ul> <b>Study of Organ system and clinical relevance</b> <ul style="list-style-type: none"> <li>• Digestive system</li> <li>• Respiratory system</li> <li>• Circulatory system</li> <li>• Excretory system</li> <li>• Nervous system</li> <li>• Skeletal system</li> <li>• Endocrine system</li> <li>• Reproductive system</li> <li>• Lymphatic system</li> </ul>	
<b>Unit II</b>	<b>Human physiology</b> <ul style="list-style-type: none"> <li>• Digestion, Metabolism of Carbohydrates, Fats, Proteins.</li> <li>• Respiration and Breathing Mechanism</li> <li>• Blood: Structure &amp; Functions</li> <li>• Cell types, Plasma, Serum</li> <li>• Blood Transfusion, Grouping, Cross matching</li> <li>• Circulation</li> <li>• Excretion &amp; Filtration of Urine</li> <li>• Hormones Reproduction</li> <li>• Menstruation</li> </ul>	
<b>Unit III</b>	<b>Human Communicable diseases,</b> <ul style="list-style-type: none"> <li>• Bacterial,</li> <li>• Viral</li> <li>• Fungal</li> <li>• Protozoal</li> <li>• Parasites</li> </ul> <b>Non communicable, Metabolic diseases of</b> <ul style="list-style-type: none"> <li>• Kidney</li> <li>• Pancreas</li> <li>• Heart &amp; Lungs</li> <li>• Liver &amp; Gall bladder</li> <li>• Blood</li> <li>• Thyroid</li> <li>• Brain</li> <li>• Reproductive organs – Males &amp; Female</li> </ul>	

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Semester 1

<b>Paper, I <span style="background-color: yellow;">MINOR</span></b>		
<b>Course Code</b>	<b>Title</b>	<b>Credits</b>
<b>UGOTC102</b>	<b>FUNDAMENTALS OF HOSPITAL PRACTICES &amp; PROTOCOL</b>	<b>4</b>
<b>Unit I</b>	<b>Medical Terminologies</b> <ul style="list-style-type: none"> <li>• Prefixes Roots,</li> <li>• Suffixes,</li> <li>• Short forms,</li> <li>• Abbreviations, Meanings</li> <li>• Medical Terminologies in Alphabets</li> </ul>	
<b>Unit II</b>	<b>Infection control</b> <ul style="list-style-type: none"> <li>• Introduction to Infection Control</li> <li>• Universal precautions Safety measures.</li> <li>• Modes of Transmission</li> <li>• Sterilization methods: Autoclave Disinfectants Sanitizers Personal Protective Equipment PPE use.</li> </ul>	
<b>Unit III</b>	<b>BMW &amp; Personal hygiene</b> <ul style="list-style-type: none"> <li>• Demonstrate Hand Wash steps.</li> <li>• Demonstrate methods of Donning(wearing) &amp; Doffing(removing) of PPE</li> <li>• Demonstration of BMW bags</li> <li>• Methods of Segregation</li> <li>• Categories &amp; Containers</li> <li>• Pretreatment Temporary Storage</li> <li>• Transportation, Disposal</li> <li>• Safety measures</li> <li>• Waste management in Epidemics and Pandemics</li> </ul>	

- We have designed special practical for both the modules [Major & Minor] to enhance allied healthcare professional skills of the learner.



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 Semester 1

<b>Paper III GENERIC</b>		
<b>UGOTGE 103</b>	<b>Title</b>	<b>Credits</b>
	<b>Introduction to Microbiology-1</b>	<b>2</b>
<b>Unit I</b>	<b>Definition, types &amp; classification of micro-organisms</b> <ul style="list-style-type: none"> <li>• Microbial Diversity and Classification</li> <li>• Types of Micro-organisms (bacteria, viruses, fungi, etc and Their Roles</li> <li>• Microbial Classification Systems</li> </ul>	
<b>Unit II</b>	<b>Types of Bacteria &amp; it's characteristics</b> <ul style="list-style-type: none"> <li>• Morphological Diversity: cocci (spherical), bacilli (rod-shaped), spirilla (spiral-shaped), and vibrio's (comma-shaped)</li> <li>• Metabolic Diversity: Aerobic respiration, anaerobic respiration, fermentation, and photoautotroph</li> <li>• Basic staining techniques: Gram staining, AFB staining, spore staining, etc.</li> </ul>	
<b>Unit III</b>	<b>Mode of transmission &amp; diseases</b> <ul style="list-style-type: none"> <li>• Direct Contact Transmission: sexually transmitted infections (STIs), skin infections like impetigo, and respiratory infections such as influenza or COVID-19</li> <li>• Indirect Contact Transmission: gastrointestinal infections (e.g., norovirus, E. coli), respiratory infections (e.g., influenza, common cold), and some skin infections (e.g., MRSA)</li> <li>• Airborne Transmission: tuberculosis, measles, chickenpox, and COVID-19.</li> </ul>	

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**NEP-2020**  
**Semester 1**

<b>Paper IV – AEC</b>		
<b>UGOTAEC 104</b>	<b>Title</b>	<b>Credits</b>
	<b>COMMUNICATION SKILL</b>	2
<b>Unit I</b>	<b>Vocabulary and meanings</b> <ul style="list-style-type: none"> <li>• Word study</li> <li>• Basic communication</li> <li>• Common Errors</li> </ul>	
<b>Unit II</b>	<b>Word class</b> <ul style="list-style-type: none"> <li>• Nouns, Verbs, Adjectives, and Adverbs</li> <li>• Conjunction, Preposition, Pronouns,</li> <li>• Determines Types of Sentences</li> <li>• Compound, and Complex Structures</li> </ul>	
<b>Unit III</b>	<b>Tenses</b> <ul style="list-style-type: none"> <li>• Simple Past, Present Perfect, Past Perfect.</li> <li>• Simple + Progressive Aspect, Modal Verbs</li> <li>• Conditional Sentences, Verbs, and Idiom's</li> </ul>	

**F.Y. BSc. Operation theatre Technology**  
**NEP-2020**  
**Semester 1 Practical**

Course Code	Title	Credit
<b>UGOTCP101</b>	<b>Human anatomy and physiology and diseases</b> <ol style="list-style-type: none"> <li>1. Identification of Organs</li> <li>2. Determination of the Physiological Processes of systems,</li> <li>3. Marking of Organs by Surface Anatomy</li> <li>4. Case studies of diseases</li> </ol>	2
<b>UGOTCP102</b>	<b>Norms of Healthcare Industry</b> <ol style="list-style-type: none"> <li>1. Demonstrate Hand Wash steps.</li> <li>2. Demonstrate methods of Donning(wearing) &amp; Doffing (removing) of PPE</li> <li>3. Demonstration of BMW bags</li> <li>4. Demonstrate Respiratory Etiquettes</li> <li>5. Identification of Personal Protective Equipment</li> <li>6. Evaluate Epidemic and Pandemic Precautions</li> </ol>	2
<b>UGOTGEP103</b>	<b>Introduction to Microbiology-1</b> <ol style="list-style-type: none"> <li>1. Orientation to Microbes, use and care of microscope &amp; identification of Equipment's in microbiology.</li> <li>2. Smear preparation and identification of micro-organisms.</li> <li>3. Gram staining and Acid-fast staining</li> </ol>	1

- We have designed special practical for this module to enhance allied healthcare professional skills of the learner.

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**NEP 2020**  
**Semester 2**

**Paper I MAJOR**

CourseCode	Title	Credits
UGOTC201	<b>Fundamentals of Central Sterile Supply Department [CSSD]</b>	4
Unit I	<b>Introduction to CSSD</b> <ul style="list-style-type: none"> <li>• The layout of CSSD: Unidirectional flow of material, dirty area, sterile area</li> <li>• CSSD personnel and their job roles/responsibilities</li> <li>• Identification, demonstration &amp; care of various equipment of different surgeries such as endoscopy, laparoscopy, transplant in OT</li> <li>• Packing &amp; packaging Material</li> </ul>	
Unit II	<b>Principles of Sterilization &amp; its Techniques</b> <ul style="list-style-type: none"> <li>• High temperature &amp; low temperature sterilization: Equipment, working principles, upkeep etc.</li> <li>• Details of Cleaning agents such as detergents or enzymatic cleaners &amp; its usage</li> <li>• Linen management</li> <li>• Decontamination &amp; cleaning of used samples</li> </ul>	
Unit III	<b>Quality Assurance &amp; Maintenance of Sterile Supply</b> <ul style="list-style-type: none"> <li>• Sterility indicators and control monitors</li> <li>• Integrity of packaging material and handling</li> <li>• Inventory management and distribution of supply.</li> <li>• Specification and Tests for Dressing Materials</li> <li>• Training &amp; professional development of CSSD staff</li> </ul>	

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**Paper- II MINOR**

Course Code	Title	Credit
<b>UGOTC202</b>	<b>Fundamentals of Operation Theatre technique</b>	4
<b>Unit I</b>	<b>Introduction to Operation Theatre [OT]</b> <ul style="list-style-type: none"> <li>• History &amp; evolution of OT</li> <li>• Concept of OT room – Typical layout</li> <li>• Different OT Personnels &amp; their duties and job descriptions</li> <li>• The various zones /areas in OT &amp; importance of each zone</li> <li>• Cleanliness &amp; fumigation</li> </ul>	
<b>Unit II</b>	<b>OT Equipment</b> <ul style="list-style-type: none"> <li>• Types of OT equipment and machines like OT Lights, table, anesthesia machine, intubation trolley, suction machine, cautery machine, gas cylinders, laparoscopic trolley, C-arm, sonosite machine etc.</li> <li>• Laminar airflow technique</li> <li>• Lighting Facility</li> <li>• Principles of Material Management: Record keeping &amp; documentation</li> </ul>	
<b>Unit III</b>	<b>OT Protocol</b> <ul style="list-style-type: none"> <li>• Definition &amp; types of Consent &amp; its medico-legal aspects</li> <li>• Checklist of Pre – procedures protocols like different types of assessments &amp; preparations</li> <li>• Bio Waste Management, Infection Control &amp; Personal Hygiene applied to OT.</li> <li>• Understanding the preparations of emergency &amp; unexpected events during surgeries</li> </ul>	

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<b>Paper III GENERIC</b>		
<b>Course Code</b>	<b>Title</b>	<b>Credit</b>
<b>UGOTGE203</b>	<b>Introduction to Microbiology - 2</b>	<b>2</b>
<b>Unit I</b>	<b>Introduction to Mycology &amp; virology</b> <ul style="list-style-type: none"> <li>• Introduction to Mycology</li> <li>• Introduction to Virology</li> <li>• Diseases caused by fungi &amp; viruses.</li> </ul>	
<b>Unit II</b>	<b>Clinical microbiology techniques</b> <ul style="list-style-type: none"> <li>• Antibiotic sensitivity</li> <li>• Mantoux test</li> <li>• Case study</li> </ul>	
<b>Unit III</b>	<b>Microbiology: Applied to OT</b> <ul style="list-style-type: none"> <li>• Common antiseptics are used in operating theatre.</li> <li>• Methods of sterilization of operation theatre</li> <li>• Procedure of collection of swabs in OT after fumigation.</li> </ul>	

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<b>Paper IV AEC</b>		
<b>Course Code</b>	<b>Title</b>	<b>Credit</b>
<b>UGOT AEC204</b>	<b>Functional English</b>	2
<b>Unit I</b>	<b>1.Effective writing</b> 1.1.1. Objectives 1.1.2. Resume, Job Application and Report Writing 1.1.3. Power of Technology, Making a PPT	
<b>Unit II</b>	<b>1.Spoken Skills and Communication Activities</b> 2.1.1. Different styles of Spoken and Written English 2.1.2. Introducing Yourself and Role Playing 2.1.3. Asking questions/Answering questions	
<b>Unit III</b>	<b>1.Understanding Language expression forms</b> 3.1.1. Debates/Arguments and Listening Skills 3.1.2. Casual Conversation and Listening Skills 3.1.3. Reading a Narrative Passage	

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Course code	Title	Credit
<b>UGOTCP201</b>	<b>CSSD Expertise</b> <ol style="list-style-type: none"> <li>1. Observe the CSSD department layout.</li> <li>2. Illustrate functions of CSSD</li> <li>3. Identify various equipment and machines and their principles and uses: Autoclave Machine, Hot Air Oven, ETO, Plasma machine, Steam sterilizers etc.</li> <li>4. Identification of Disinfectant agents and their uses</li> </ol>	2
<b>UGOTCP202</b>	<b>Operation Theatre Technology Expertise</b> <ol style="list-style-type: none"> <li>1. Observe OT layout, trolley making and OT readiness for surgeries.</li> <li>2. Understand the role of OT technician &amp; get acquainted with OT Personnel</li> <li>3. Identification, use and upkeep of different types of OT equipment &amp; machines under various surgeries.</li> <li>4. Observe and understand OT protocols under pre, intra and post operative procedures.</li> </ol>	2
<b>UGOTGEP203</b>	<b>Introduction to Microbiology-2</b> <ol style="list-style-type: none"> <li>1. Observe different types of fungi in atmosphere</li> <li>2. Observe &amp; understand Antibiotic Sensitivity test</li> <li>3. Study various antiseptic solutions, fumigation procedure: Fogger methodology.</li> </ol>	1

We have designed special practical for this module to enhance allied healthcare professional skills of the learner.



## References:

1. iTransform Handbook on Anatomy, Physiology
2. iTransform Handbook on Foundation Program
3. iTransform Handbook on Medical Terminologies
4. Textbook on Operation Theatre Technology by Dr.B.C. Bhagvan
5. Textbook on Operation Theatre by MP Sharma



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