



**INTEGRAL UNIVERSITY, LUCKNOW**  
**INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES & RESEARCH**

**DEPARTMENT OF PARAMEDICAL SCIENCES**

**BACHELOR OF SCIENCE IN ANESTHESIOLOGY  
AND INTENSIVE CARE TECHNOLOGY  
(B. Sc. AICT)**

**SYLLABUS**

**YEAR/ SEMESTER: II/III**



**Integral University, Lucknow**  
**Department of Paramedical Sciences**  
**Study and Evaluation Scheme**

Program: BAICT

Semester-III

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
<b>THEORIES</b>													
1	AT201	Pathology	Core	2	1	0	40	20	60	40	100	2:1:0	3
2	AT202	Microbiology	Core	2	1	0	40	20	60	40	100	2:1:0	3
3	AT203	Medical Biochemistry-II	Core	3	1	0	40	20	60	40	100	3:1:0	4
4	AT204	Pharmacology	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	AT205	Principals and Equipment's related to Anesthesia Technology	Core	3	1	0	40	20	60	40	100	3:1:0	4
6	ES101	Environmental Studies	Core	2	1	0	40	20	60	40	100	2:1:0	3
<b>PRACTICAL</b>													
1	AT206	Pathology & Microbiology Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
2	AT207	Medical Biochemistry-II Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
3	AT208	Principals and Equipment's related to Anesthesia Technology Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
4	AT209	OT Posting	Core	0	0	2	40	20	60	40	100	0:0:1	1
<b>Total</b>				<b>15</b>	<b>06</b>	<b>08</b>	<b>400</b>	<b>200</b>	<b>600</b>	<b>400</b>	<b>1000</b>	<b>25</b>	<b>25</b>

S. N.	Course code	Course Title	Type of Paper	Attributes						United Nation Sustainable Development Goal (SDGs)	
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value		Professional Ethics
<b>THEORIES</b>											
1	AT201	Pathology	Core	√	√	√			√	√	3,4
2	AT202	Microbiology	Core	√	√	√			√	√	3,4
3	AT203	Medical Biochemistry-II	Core	√	√	√			√	√	3,4
4	AT204	Pharmacology	Core	√	√	√			√	√	3,4
5	AT205	Principals and Equipment's related to Anesthesia Technology	Core	√	√	√			√	√	3,4
6	ES101	Environmental Studies	Core					√			6,13,14,& 15
<b>PRACTICAL</b>											
1	AT206	Pathology & Microbiology Lab	Core	√	√	√			√	√	3,4
2	AT207	Medical Biochemistry-II Lab	Core	√	√	√			√	√	3,4
3	AT208	Principals and Equipment's related to Anesthesia Technology Lab	Core	√	√	√			√	√	3,4
4	AT209	OT Posting	Core	√	√	√			√	√	3,4

**L:** Lecture      **T:** Tutorials      **P:** Practical      **CT:** Class Test      **TA:** Teacher Assessment      **ESE:** End Semester Examination,  
**AE=** Ability Enhancement, **DSE-** Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment      **Subject Total:** Sessional Total + End Semester Examination (ESE)



## Integral University, Lucknow

Effective from Session: 2023-24

Course Code	AT201	Title of the Course	PATHOLOGY	L	T	P	C
Year	II	Semester	I	2	1	0	3
Pre-Requisite	Nil	Co-requisite	Nil				
Course Objectives	Acquire the knowledge of concepts of cell injury & changes produced thereby in different tissues & organs-; capacity of the body in healing process. Recall the etiopathogenesis, the pathological effects & the clinico-pathological correlation of common infections & noninfectious diseases						

### Course Outcomes

CO1	Students able to understand the structure & functions of Cell, Cardinal sign of inflammation and neoplasm.
CO2	Students able to understand the Vascular & Cardiorespiratory System.
CO3	Students able to understand the bones and joints diseases.
CO4	Students able to understand the Patho-physiology and associated problems.
CO5	Students able to learn the disease related to nervous system including Myopathies, Myasthenia gravis, Muscular dystrophy

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>CELL INJURY, INFLAMMATION &amp; NEOPLASMS</b>	<b>Cells:</b> Brief out line of cell injury, hypertrophy, atrophy, degeneration, necrosis and gangrene. <b>Inflammation:</b> Definition, vascular and cellular phenomena, difference between transudate and exudates, granuloma. <b>Neoplasm:</b> Definition, characteristic features, benign and malignant tumor, spread of tumor, cancer pain syndrome	6	CO1
2	<b>VASCULAR &amp; CARDIORESPIRATORY SYSTEM</b>	<b>Circulatory Disturbance:</b> Edema, Hemorrhage, Embolism, Thrombosis, Infraction, Shock, Volkmann's ischemic contracture. <b>Blood Disorder:</b> Concepts of Anemia, Bleeding disorder- Hemophilia. <b>Cardio Vascular System (CVS):</b> Etiopathogenesis and Gross pathology of Atherosclerosis, coronary heart disease, Rheumatic heart disease. <b>Respiratory System:</b> Chronic Bronchitis, Asthma, Bronchiectasis, Emphysema	6	CO2
3	<b>BONES, JOINTS &amp; MUSCULAR SYSTEM:</b>	<b>Bones:</b> Etiopathogenesis and gross pathology of following conditions: Rickets/Osteomalacia, Osteoporosis, Osteomyelitis, Hyper parathyroidism <b>Joint:</b> Osteoarthritis, Rheumatoid Arthritis, Gout, Spondyloarthritis (including Ankylosing Spondylitis), Osteonecrosis, Paget's disease. <b>Muscles:</b> Myositis ossificans, Myofascial Pain syndrome, Septic arthritis	6	CO3
4	<b>HEPATO-BILIARY, ENDOCRINE &amp; INTEGUMENTARY SYSTEM</b>	<b>Hepato-Biliary System:</b> Jaundice Types, Etiopathogenesis and diagnosis. <b>Endocrine:</b> Diabetes Mellitus, Non-Neoplastic lesion of thyroid-Thyrotoxicosis, Myxedema. <b>Skin:</b> Brief outline of Scleroderma, Psoriasis, Pressure Ulcer, and Burn.	6	CO4
5	<b>CENTRAL NERVOUS SYSTEM &amp; UROLOGY</b>	<b>CNS:</b> Etiopathogenesis and gross pathology of following conditions- Meningitis, Encephalitis, Parkinson's, Amyotrophic lateral sclerosis, Ataxias, Multiple sclerosis, Neuropathies (Carcoat Marie Tooth disease, Compression and Entrapments, diabetics G.B. Syndrome), malformation, CVA, Extradural and Intra Dural Hematoma. <b>Muscle Neuropathies:</b> Poliomyelitis, Myopathies, Myasthenia gravis, Muscular dystrophy. Renal Function Tests, Nephrotic Syndrome, Nephritic Syndrome, Urolithiasis, Pap Smear.	6	CO5

#### Reference Books:

1. Text book of Pathology - by Harsh Mohan
2. Textbook of Pathology By Boyd
3. General Pathology – by Bhende
4. Pathologic basis of diseases by Cotran, Kumar, Robbins

#### e-Learning Source:

1. <https://youtu.be/WFm9j1rNkQs>
2. [https://youtu.be/vLCg\\_kyuyw4](https://youtu.be/vLCg_kyuyw4)
3. <https://youtu.be/xLEw7ceog8M>
4. <https://youtu.be/80bzLTdAN4w>
5. <https://youtu.be/dHURMD4v8Kk>

### Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO CO	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	-	3	-	2	-	-	1	2	-	1	3	-	1	1	-
CO2	3	3	-	2	-	2	-	-	2	3	-	1	3	-	1	1	-
CO3	3	3	-	3	-	2	-	-	1	2	-	1	3	-	2	2	-
CO4	3	3	-	3	-	2	-	-	1	2	-	1	3	-	1	1	-
CO5	3	3	-	2	-	2	-	-	1	3	-	1	3	-	1	1	-

### 1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.	
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics		
AT201	PATHOLOGY	√	√	√				√	√	3,4





**Integral University, Lucknow**

<b>Effective from Session: 2023-2024</b>							
<b>Course Code</b>	<b>AT203</b>	<b>Title of the Course</b>	<b>MEDICAL BIOCHEMISTRY-II</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>II</b>	<b>Semester</b>	<b>III</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>4</b>
<b>Pre-Requisite</b>	<b>Nil</b>	<b>Co-requisite</b>	<b>Nil</b>				
<b>Course Objectives</b>	This course deals with fundamentals of metabolism, metabolic disorders, laboratory test and instruments of Clinical Biochemistry.						

<b>Course Outcomes:</b> After the successful course completion, learners will develop following attributes:	
<b>CO1</b>	Students will be able to learn about metabolism of carbohydrates, HMP pathway & ETC
<b>CO2</b>	Students will be able to learn about blood glucose regulation mechanism and its disorder, ex- Diabetes Mellitus
<b>CO3</b>	Students will be able to learn about Proteins and their metabolism.
<b>CO4</b>	Students will be able to learn about Lipids, their structure, metabolic pathways and cholesterol metabolism
<b>CO5</b>	Students will be able to learn about Acid-Base balance mechanism, Blood chemistry profile, various techniques to monitor blood chemistry.

<b>Unit No.</b>	<b>Title of the Unit</b>	<b>Content of Unit</b>	<b>Contact Hrs.</b>	<b>Mapped CO</b>
1	<b>METABOLISM OF CARBOHYDRATES</b>	Introduction of Metabolism, Metabolism of Carbohydrates: Glycolysis, TCA cycle, Gluconeogenesis, Glycogenesis, Glycogenolysis, Hexose monophosphate Pathway. Biological Oxidation and Electron Transport Chain.	8	CO1
2	<b>DIABETES MELLITUS</b>	Blood glucose homeostasis and its regulation, Insulin, glucagon, C-peptide. Diabetes mellitus, types, clinical features, diabetic profile test, HbA1C, Fructosamine, GTT, Glycosuria, Hyperglycemia and Hypoglycemia.	8	CO2
3	<b>PROTEINS</b>	Metabolism of Proteins: Formation of ammonia, Transamination, Deamination, Urea, Cycle, Significance of Urea cycle, metabolism of Aromatic and Branched chain amino acids, Aminoaciduria.	8	CO3
4	<b>LIPID</b>	Metabolism of Lipids: Fatty acid synthesis, Beta oxidation of fatty acids, Ketone bodies and ketosis, Cholesterol metabolism, metabolism of Lipoproteins, Lipid profile, Hyperlipidemia, Dyslipidemia and Atherosclerosis.	8	CO4
5	<b>ACID &amp; BASE BALANCE</b>	1. Acid- Base balance and pH: pH and its Regulation, Metabolic and Respiratory Disorders. 2. Principle, application, calibration and maintenance of colorimeter, Blood Chemistry analyzer, ABG analyzer, Flame photometer, Turbidimetry, Nephelometry.	8	CO5

<b>Reference Books:</b>	
1. D M Vasudevan, Text book of Medical Biochemistry, Jaypee Publishers.	
2. M N Chatterjee & Rana Shinde, Text book of Medical Biochemistry, Jaypee Publications.	
3. Michael Cox, David L. Nelson, Lehninger Principles of Biochemistry, 7 <sup>th</sup> edition, W.H. Freeman.	
4. <u>Ranjana Chawla</u> , Practical Clinical Biochemistry: Methods and Interpretations.	
<b>e-Learning Source:</b>	
1. <a href="https://youtu.be/t5DvF50Vr1Y">https://youtu.be/t5DvF50Vr1Y</a>	
2. <a href="https://youtu.be/gggC9vctvBQ">https://youtu.be/gggC9vctvBQ</a>	
3. <a href="https://youtu.be/ufvZ8bYtyO8">https://youtu.be/ufvZ8bYtyO8</a>	
4. <a href="https://youtu.be/Q6R4o-oECxs">https://youtu.be/Q6R4o-oECxs</a>	

<b>Course Articulation Matrix: (Mapping of COs with POs and PSOs)</b>																	
<b>PO-PSO CO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO3</b>	<b>PSO4</b>	<b>PSO5</b>
<b>CO1</b>	1	3	2	2	-	-	-	1	2	1	-	2	2	1	-	1	-
<b>CO2</b>	1	3	1	3	-	-	-	2	3	-	-	3	3	2	-	2	-
<b>CO3</b>	1	3	1	2	-	-	-	1	2	2	-	2	3	1	-	1	-
<b>CO4</b>	1	3	1	2	-	-	-	1	3	-	-	3	2	1	-	1	-
<b>CO5</b>	1	3	1	2	-	-	-	1	2	1	-	2	2	1	-	1	-

**1-Low Correlation; 2-Moderate Correlation; 3- Substantial Correlation Attributes & SDGs**

<b>Course Code</b>	<b>Course Title</b>	<b>Attributes</b>							<b>SDGs No.</b>
		<b>Employability</b>	<b>Entrepreneurship</b>	<b>Skill Development</b>	<b>Gender Equality</b>	<b>Environment &amp; Sustainability</b>	<b>Human Value</b>	<b>Professional Ethics</b>	
AT203	MEDICAL BIOCHEMISTRY-II	√	√	√	√		√	√	<b>3,4</b>



**Integral University, Lucknow**

<b>Effective from Session: 2023-2024</b>							
<b>Course Code</b>	<b>AT204</b>	<b>Title of the Course</b>	<b>PHARMACOLOGY</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>II</b>	<b>Semester</b>	<b>III</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>4</b>
<b>Pre-Requisite</b>	<b>Nil</b>	<b>Co-requisite</b>	<b>Nil</b>				
<b>Course Objectives</b>	The course will provide training in general pharmacology with special emphasis on common drugs used, routes of ministration, types of formulations, dose and frequency of administration, side effects and toxicity, management of toxic effects, drug interactions, knowledge of chemical and trade name, importance of manufacturing and expiry dates and instructions for handling of drugs.						

<b>Course Outcomes:</b> After the successful course completion, learners will develop following attributes:	
<b>CO1</b>	General Pharmacology & ANS: Possess a relevant knowledge in basic principles of pharmacology and its recent advances.
<b>CO2</b>	Autacoids, PNS & Resp. System: Understand the basic pharmacology of common drugs used, their importance in the overall treatment including Physiotherapy.
<b>CO3</b>	CVS, GIT & Miscellaneous: Understand the general principles of drug action and the handling of drugs by the body.
<b>CO4</b>	CNS & Hormones: Understand the contribution of both drug and physiotherapy factors in the outcome of treatment
<b>CO5</b>	Anti - Microbial Agents: Learn the various drugs such as Anti-leprotic& Anti-fungal Drugs, Anti-malarial Drugs, Anti-tubercular Drugs

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>GENERAL PHARMACOLOGY</b>	Introduction to pharmacology-various terminologies-sources & routes of drug administration-Absorption & Factors modifying drug absorption – Distribution of drugs- Metabolism: Phase II, - Excretion: routes, modes & kinetics of elimination-Excretion- Mechanism of drug action in brief, synergism & antagonism and Factors modifying drug action-Adverse drug reactions-ADR reporting & monitoring – Drug interactions.	8	CO1
2	<b>CENTRAL NERVOUS SYSTEM &amp; RESPIRATORY SYSTEM</b>	Introduction to CNS and Neurotransmitters, drugs used in insomnia, Sedatives and hypnotics-diazepam-alprazolam, anti-anxiety drugs, Antiepileptic-phenytoin, carbamazepine, sodium valproate, General Anesthetics – halothane, isoflurane, sevoflurane – Local Anesthetics – lignocaine – list of other drugs, Alcohols – ethyl alcohol –disulfuram, Anti parkinsonians – levodopa – carbidopa, Opioids – morphine – naloxone – tramadol – pentazocine, NSAIDs – aspirin – diclofenac – ibuprofen – paracetamol – Cox 2 inhibitors. Drugs used in bronchial asthma and cough	8	CO2
3	<b>CARDIO VASCULAR SYSTEM &amp; BLOOD</b>	Drugs used in ischemic heart disease-nitrates-Calcium channel blockers-nifedipine, verapamil-list of other drugs – Beta blockers – propranolol, atenolol – metoprolol and antiplatelets – aspirin, clopidogrel, and names of other drugs-fibrinolytic drugs-streptokinase and other drugs, Drugs used in CCF-digoxin and list of other drugs useful in CCF, Shock. Diuretics: 4 groups – Thiazides, Loop diuretics, Potassium sparing and osmotic diuretics. Hypertension – outline of drugs used in hypertension, Renin angiotensin system – ACE inhibitors – captopril, ramipril and names of other drugs – Receptor antagonist – losartan and list of other drugs, Antiarrhythmic drugs-classification – Quinidine, Lignocaine and amiodaron – Drugs for Hypercholesterolemia – statins. Drugs for anemia – oral & parenteral iron preparations, folic acid, vit B12 and erythropoietin. Coagulants and anticoagulants	8	CO3
4	<b>HORMONES AND GIT</b>	Contraceptives – oral and injectable, Corticosteroids – glucocorticoids – hydrocortisone-prednisolone-dexamethasone and names of topical steroids – Insulin – Oral hypoglycemic –sulphonyl urea’s, biguanides and others, Thyroid and Antithyroid drugs, Sex Hormones-Estrogen and antiestrogens, Progestin and Anti progestin’s, Androgen And anti-androgens. Emetics and anti-emetics-metoclopramide and domperidone, Drugs used in peptic ulcer, constipation-lactulose & Diarrhea-ORS-Loperamide.	8	CO4
5	<b>CHEMOTHERAPY AND MISCELLANEOUS</b>	Introduction – Beta lactum antibiotics: Penicillin’s – natural, semi synthetic penicillin’s – amoxicillin – cloxacillin-claavulinic acid – sulbactam – Cephalosporin’s – cephalixin – cefuroxime – cefixime –ceftriaxone-cefipime, Broad spectrum antibiotics – Doxycycline – chloramphenicol-imipenum-Macrolides – erythromycin, azithromycin and others – Quinolones- ciprofloxacin and list of other drugs and sulfonamides- cotrimoxazole-Amino glycosides-gentamycin, amikacin and names of other drugs Anti TB-first line drugs, Anti leprosy-dapsone and clofazimine Anti-malarial- chloroquine-mefloquine and artemisinins, Anti-fungal- amphotericin B- fluconazole and topical drugs & Anti viral drugs- acyclovir and anti-HIV, Anti protozoals- metronidazole – Anthelmintics- albendazole-praziquantel. Anti-cancer drugs-Introduction – Anti metabolites- methotrexate- 6 mercapto purine- Alkylating agents-cyclophosphamide- busulphan and cisplatin – Plant products- vinblastin- vincristine-taxanes, antibiotics-actinomycin D- monoclonal antibodies. Immuno modulators- cyclosporine, tacrolimus, azathioprine and steroids.	8	CO5

<b>Reference Books:</b>	
1. Dr. K.D. Tripathi Jaypee, Essential of Medical Pharmacology, Brothers Medical Publishers.	
2. Gaddum Gaddum’s Pharmacology	
3. Dr. R.S. Satoskar & Dr. S.D. Bhandarkar, Pharmacology & Pharmacotherapeutics Revised 19 <sup>th</sup> Edition 2005 by Popular Prakashan	
4. Krantx, & Carr, Pharmacology principle of Medical practice, Williams & Wilkins.	
5. Goodman Pharmacological basis of Therapeutics, L. S. Gilman A	
<b>e-Learning Source:</b>	
1. <a href="https://youtu.be/a0lWFQvQKw8">https://youtu.be/a0lWFQvQKw8</a>	
2. <a href="https://youtu.be/qhiMmNZjHRg">https://youtu.be/qhiMmNZjHRg</a>	
3. <a href="https://youtu.be/-znHCAu5OnY">https://youtu.be/-znHCAu5OnY</a>	
4. <a href="https://youtu.be/t2tKyjji7u5Y">https://youtu.be/t2tKyjji7u5Y</a>	

<b>Course Articulation Matrix: (Mapping of COs with POs and PSOs)</b>																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	-	-	-	-	-	-	-	-	-	1	3	-	1	-	2
CO2	3	3	-	-	-	2	-	-	-	-	-	-	3	3	2	3	3
CO3	2	3	-	-	-	2	-	-	-	-	-	1	3	2	1	3	2
CO4	3	3	-	-	-	-	-	-	-	-	-	-	2	3	2	2	3
CO5	3	3	-	-	-	3	-	1	-	-	-	-	3	3	2	3	3

**1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs**

Course Code	Course Title	Attributes							SDGs No.	
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics		
AT204	PHARMACOLOGY	√	√	√				√	√	3,4





**Integral University, Lucknow**

Effective from Session: 2023-2024

Course Code	AT205	Title of the Course	PRINCIPLES AND EQUIPMENTS RELATED TO ANESTHESIA TECHNOLOGY	L	T	P	C
Year	II	Semester	III	3	1	0	4
Pre-Requisite	Nil	Co-requisite	Nil				
Course Objectives							

**Course Outcomes**

CO1	Students able to understand basic of gas supply in anaesthesia and also in operations theatres.
CO2	Students able to Understand Face Masks & Airway Laryngoscopes
CO3	Students able to understand about the Machine Breathing System
CO4	Students able to understand the Familiarization of OT and OT Techniques
CO5	Students able to understand about the CSSD, Instrumentation, Store and Inventory

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mappe d CO
1	MEDICAL GAS SUPPLY	Compressed gas cylinders, Colour coding, Cylinder valves, pin index, Gas piping system, Alarms & safety devices.	8	CO1
2	FACE MASKS & AIRWAY LARYNGOSCOPES	1) Endotracheal tubes – Types, sizes, (RAE Tube, Flexo metallic). Complications – Use care and maintenance of anaesthesia equipment 2) Laryngoscopes in Anaesthesia	8	CO2
3	MACHINE BREATHING SYSTEM	1. Anaesthesia Machine: Hanger and yoke system, Cylinder pressure gauge, Pressure regulator, Flow meter assembly, Vapourizers-types, hazards, maintenance, filling & draining, etc. 2. Breathing System a. General considerations: humidity & heat b. Common components – connectors, adaptors, reservoir bags, Capnography; Pulse oximetry, Methods of humidification, Classification of breathing system, Mapleson system – a b c d e f, Jackson Reesystem, Bain circuit, Non rebreathing valves – ambu valves, The circle system, Components, Soda lime, indicators	8	CO3
4	FAMILIARIZATION OF OT AND OT TECHNIQUES	Familiarization of OT and OT Techniques	8	CO4
5	CSSD, INSTRUMENTATION, STORE AND INVENTORY	CSSD, Instrumentation, Store and Inventory	8	CO5

**Reference Books:**

1. Miller's Basics of Anesthesia, 8th Edition
2. Short Textbook of Anesthesia by Ajay Yadav
3. The Anesthesia Technician and Technologist's Manual, Lippincott Williams & Wilkins
4. Basics of Anesthesia, Ronald D. Miller, Manuel Pardo (Jr.)
5. Nurse Anesthesia Secrets, Mary Karlet

**e-Learning Source:**

1. [https://r.search.yahoo.com/\\_ylt=Awr98Rz4YrVn2hAB3bNXNyoA;\\_ylu=Y29sbwNncTEEcG9zAzcEdnRpZAMEc2VjA3Ny/RV=2/RE=1741150200/RO=10/RU=https%3a%2f%2felsevierlibrary.com%2fcontents%2ffullcontent%2f81989%2fepubcontent\\_v2%2fOEBPS%2fxhtml%2fb9780323112376000200.htm/RK=2/R\\_S=nCFODndzBSaGvr97xKqLq4i2R8-](https://r.search.yahoo.com/_ylt=Awr98Rz4YrVn2hAB3bNXNyoA;_ylu=Y29sbwNncTEEcG9zAzcEdnRpZAMEc2VjA3Ny/RV=2/RE=1741150200/RO=10/RU=https%3a%2f%2felsevierlibrary.com%2fcontents%2ffullcontent%2f81989%2fepubcontent_v2%2fOEBPS%2fxhtml%2fb9780323112376000200.htm/RK=2/R_S=nCFODndzBSaGvr97xKqLq4i2R8-)
2. [https://r.search.yahoo.com/\\_ylt=Awr98Rz4YrVn2hAB2rNXNyoA;\\_ylu=Y29sbwNncTEEcG9zAzQEdnRpZAMEc2VjA3Ny/RV=2/RE=1741150200/RO=10/RU=https%3a%2f%2fpmc.ncbi.nlm.nih.gov%2farticles%2fPMC4015054%2f/RK=2/RS=hRnXEaThdpP3EnsrqOpA7SEeqQ-](https://r.search.yahoo.com/_ylt=Awr98Rz4YrVn2hAB2rNXNyoA;_ylu=Y29sbwNncTEEcG9zAzQEdnRpZAMEc2VjA3Ny/RV=2/RE=1741150200/RO=10/RU=https%3a%2f%2fpmc.ncbi.nlm.nih.gov%2farticles%2fPMC4015054%2f/RK=2/RS=hRnXEaThdpP3EnsrqOpA7SEeqQ-)

**Course Articulation Matrix: (Mapping of COs with POs and PSOs)**

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	-	1	-	1	-	-	1	1	-	1	2	-	1	1	-
CO2	2	3	-	2	-	2	-	-	-	1	-	2	3	-	2	2	-
CO3	3	3	-	1	-	1	-	-	1	1	-	1	2	-	1	1	-
CO4	2	3	-	1	-	2	-	-	-	1	-	2	2	-	1	1	-
CO5	2	3	-	1	-	2	-	-	-	1	-	2	3	-	1	1	-

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

**Attributes & SDGs**

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
AT205	PRINCIPLES AND EQUIPMENTS RELATED TO ANESTHESIA TECHNOLOGY	√	√	√			√	√	3,4



**Integral University, Lucknow**

<b>Effective from Session: 2023-2024</b>							
<b>Course Code</b>	<b>ES101</b>	<b>Title of the Course</b>	<b>ENVIRONMENTAL STUDIES</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>II</b>	<b>Semester</b>	<b>III</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>3</b>
<b>Pre-Requisite</b>	<b>Nil</b>	<b>Co-requisite</b>	<b>Nil</b>				
<b>Course Objectives</b>	To study about the Environment and the Ecosystem. To study about the Natural Resources. To study about Biodiversity and Conservation. To study Environmental pollution, its policies and practices. To study Human Population and Environmental Ethics.						

<b>Course Outcomes</b>	
<b>CO1</b>	Gain knowledge about environment and ecosystem
<b>CO2</b>	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.
<b>CO3</b>	Gain knowledge about the conservation of biodiversity and its importance.
<b>CO4</b>	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.
<b>CO5</b>	Students will learn about increase in population growth and its impact on environment.

<b>Unit No.</b>	<b>Title of the Unit</b>	<b>Content of Unit</b>	<b>Contact Hrs.</b>	<b>Mappe d CO</b>
1	INTRODUCTION TO ENVIRONMENT AND ECOSYSTEM	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	6	CO1
2	NATURAL RESOURCES	Renewable and non-renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	6	CO2
3	BIODIVERSITY AND CONSERVATION	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	6	CO3
4	ENVIRONMENTAL POLLUTION, POLICIES AND PRACTICES	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws: Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	6	CO4
5	HUMAN POPULATION AND THE ENVIRONMENT	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	6	CO5

**Reference Books:**

- 1) Agarwal, K.C. 2001 Environmental; Biology, Nidi Pub. Ltd. Bikaner.
- 2) Bharucha Erach, The Biodiversity of India, Mapin Pub. Pvt. Ltd., Ahemdabad-380, India.
- 3) Brunner R.C. 1989. Hazardous waste incineration, Mc Graw Hill
- 4) Clark R.S. Marine Pollution, Clanderson Press Oxford (TB)
- 5) Cunningham W.P.2001.Cooper, T.H. Gorhani, E & Hepworth, Environmental encyclopedia, Jacob Publication House, Mumbai.
- 6) De. A.K. Environmental chemistry Wiley Eastern Limited.
- 7) Glick, H.P.1993 water in crisis, Pacific Institute for studies in dev, Environment & security, Stockholm Env, Institute, Oxford Univ, Press 473 p.
- 8) Hawkins R. E. Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay.
- 9) Heywood, V.H. & Watson, R. T.1995.Global biodiversity Assessment.Cambridge Univ. Press 1140 p.
- 10) Jadhve, H. and Bhosale, V. M. 1995 Environmental protection and laws, Himalaya pub, house, Delhi.284 p.
- 11) Mckinnery, M.L. and School, R. M.1996 Environmental science systems and solutions, web enhanced edition 639 p.
- 12) Mhaskar A.K. Matter Hazardous, Techno Science Pub (TM)
- 13) Miller T.G. Jr, Environmental Ecology, W. B. Saunders Co.USA,574 p. 16
- 14) Odum, E.P.1997.Fundamental chemistry, Goel Pub House Meerut.
- 15) Survey of the Environment, The Hindu (M).
- 16) Sharma B.K.2001.Environmental Chemistry, Goel Pub House Meerut

**e-Learning Source:**

1. <https://byjus.com/biology/difference-between-environment-and-eCOsystem>.
2. <https://www.youtube.com/watch?v=dRPI4TB8w7k>
3. <https://www.youtube.com/watch?v=3fbEVtyJck>
4. <https://www.vedantu.com/biology/conservation-of-biodiversity>
5. <https://youmatter.world/en/definition/soil-erosion-degradation-definition/>
6. <https://byjus.com/biology/difference-between-environment-and-eCOsystem>.

<b>Course Articulation Matrix: (Mapping of COs with POs and PSOs)</b>																	
<b>PO-PSO CO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO3</b>	<b>PSO4</b>	<b>PSO5</b>
<b>CO1</b>	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
<b>CO2</b>	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
<b>CO3</b>	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
<b>CO4</b>	-	-	-	-	-	-	2	-	-	-	-	2	-	-	-	-	-
<b>CO5</b>	-	-	-	-	-	-	-	1	1	-	-	1	2	-	-	-	1

**1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs**

<b>Course Code</b>	<b>Course Title</b>	<b>Attributes</b>							<b>SDGs No.</b>
		<b>Employability</b>	<b>Entrepreneurship</b>	<b>Skill Development</b>	<b>Gender Equality</b>	<b>Environment &amp; Sustainability</b>	<b>Human Value</b>	<b>Professional Ethics</b>	
ES101	ENVIRONMENTAL STUDIES					√			6,13,14,& 15





## Integral University, Lucknow

<b>Effective from Session: 2023-24</b>							
<b>Course Code</b>	<b>AT206</b>	<b>Title of the Course</b>	<b>PATHOLOGY &amp; MICROBIOLOGY- LAB</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>I</b>	<b>Semester</b>	<b>I</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>
<b>Pre-Requisite</b>	<b>Nil</b>	<b>Co-requisite</b>	<b>Nil</b>				
<b>Course Objectives</b>	The student will be able to demonstrate the practical knowledge in pathology and microbiology needed for the study and practice of anaesthesia and critical care technology.						

Course Outcomes	
<b>CO1</b>	To understand about the basic of pathological practical and also know the how to handle the equipment's.
<b>CO2</b>	
<b>CO3</b>	
<b>CO4</b>	To understand about the basic of microbiological practical and also know the how to handle the equipment's.
<b>CO5</b>	

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>BASIC HAEMATOLOGY</b>	1. Hb Estimation-Sahli's method & Cyanmethhaemoglobin method 2. RBC Count 3. Retic Count 4. Preparation of blood smears and staining with Leishman stain 5. WBC Count 6. WBC -Differential Count 7. Platelet Count 8. Absolute Eosinophil Count 9. ESR- Westergreens & Wintrobe's method, 10. PCV. 11. Sickling test-Demonstration 12. Bone Marrow Smear preparation & staining procedure- Demonstration 13. Demonstration of Malarial Parasite.	20	CO1-5
2	<b>MICROBIOLOGY</b>	1. Focusing, handling and care of Microscopes 2. Hanging drop 3. Simple stain 4. Gram stain 5. ZN stain 6. Sterilization and Disinfection.	10	CO1-5

<b>Reference Books:</b>							
1. Text book of Pathology - by Harsh Mohan							
2. Textbook of Pathology By Boyd							
3. General Pathology – by Bhende							
4. Pathologic basis of diseases by Cotran, Kumar, Robbins							
5. Textbook of Parasitology- K. D. Chatterjee (12 <sup>th</sup> Ed.)							
6. Text Book of Microbiology – Panikkar (9 <sup>th</sup> Ed.)							
7. Essentials of Medical Microbiology-Sastry Apurba Shankar (1 <sup>st</sup> Ed.)							
8. Textbook of Microbiology –P. Chakraborty							

<b>e-Learning Source:</b>							
1. <a href="https://youtu.be/WFm9j1rNkQs">https://youtu.be/WFm9j1rNkQs</a>							
2. <a href="https://youtu.be/vLCg_kyuyw4">https://youtu.be/vLCg_kyuyw4</a>							
3. <a href="https://youtu.be/xLEw7ceog8M">https://youtu.be/xLEw7ceog8M</a>							
4. <a href="https://youtu.be/BV3fDTNqFEQ">https://youtu.be/BV3fDTNqFEQ</a>							
5. <a href="https://youtu.be/cMVyrrdgaYk">https://youtu.be/cMVyrrdgaYk</a>							

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
	<b>CO1</b>	1	3	1	2	-	-	-	1	2	-	-	2	-	1	-	1
<b>CO2</b>	1	3	1	3	-	-	-	1	3	-	-	3	-	2	-	2	-
<b>CO3</b>	1	3	1	2	-	-	-	1	2	-	-	2	-	1	-	1	-
<b>CO4</b>	1	3	1	2	-	-	-	1	3	-	-	3	-	1	-	1	-
<b>CO5</b>	1	3	1	2	-	-	-	1	2	-	-	2	-	1	-	1	-

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs**

Course Code	Course Title	Attributes						SDGs No.	
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value		Professional Ethics
AT206	<b>PATHOLOGY &amp; MICROBIOLOGY- LAB</b>	√	√	√			√	√	3,4



## Integral University, Lucknow

Effective from Session: 2023-2024

Course Code	AT207	Title of the Course	MEDICAL BIOCHEMISTRY- II LAB	L	T	P	C
Year	II	Semester	III	0	0	4	2
Pre-Requisite	Nil	Co-requisite	Nil				
Course Objectives							

### Course Outcomes

CO1	Students will be able to learn about Picratemethod, Benedict's/ Uristixmethod
CO2	Students will be able to learn about Rothera Nitroprussidetest, Serum Amylase, Serum Lipase estimation
CO3	Students will be able to learn about Malloy–Evelyn method, BCG method
CO4	Students will be able to learn about Uricase/ PAP method
CO5	Students will be able to learn aboutSemi Autoanalyzer, Flame Photometer

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Picrate method.	1. Estimation of Serum Creatinine by Alkaline Picrate method.	30	CO1
2	Benedict's/ Uristixmethod	2. Toperform urine sugar by Benedict's/ Uristix method.		CO1
3	Rothera Nitroprussidetest	3. Toperform urine Ketone body analysis by Rothera Nitroprussidetest.		CO2
4	Serum Amylase	4. Estimation of Serum Amylase.		CO2
5	Serum Lipase	5. Estimation of Serum Lipase.		CO3
6	Malloy–Evelyn method	6. Estimation of Serum Total Bilirubin by Malloy–Evelyn method.		CO3
7	BCG method	7. Estimation of Serum Albumin by BCG method and calculation of Globulin & A/Gratio.		CO4
8	Uricase/ PAP method	8. Estimation of Serum uric acid by Uricase/ PAP method.		CO4
9	Semi Autoanalyzer	9. Demonstration of Semi Autoanalyzer.		CO5
10	Flame Photometer	10. Demonstration of Flame Photometer.		CO5

#### Reference Books:

1. Ranjna Chawla, Practical Clinical Biochemistry: Methods and Interpretations.
2. Praful B. Godkar, Darshan P. Godkar, Textbook of Medical Laboratory Technology.
3. DrRamnikSood, Medical Laboratory Technology: Methods and Interpretations.
4. Bishop, Fodyand Schoeff, Clinical Chemistry, techniques, principles and correlations.
5. Singh & Sahni, Introductory Practical Bio chemistry.

#### e-Learning Source:

1. <https://youtu.be/t5DvF5OVr1Y>
2. <https://youtu.be/gggC9vctvBQ>
3. <https://youtu.be/ufvZ8bYtyO8>
4. <https://youtu.be/Q6R4o-oECxs>

### Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
	CO1	1	3	2	2	-	-	-	1	2	1	-	2	-	2	2	1
CO2	1	3	1	3	-	-	-	2	3	-	-	3	-	1	1	1	-
CO3	1	3	1	2	-	-	-	1	2	2	-	2	-	1	1	1	-
CO4	1	3	1	2	-	-	-	1	3	-	-	3	-	1	2	1	-
CO5	1	3	1	2	-	-	-	1	2	1	-	2	-	1	1	1	-

### 1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.	
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics		
AT208	MEDICAL BIOCHEMISTRY- II LAB	√	√	√				√	√	3,4



## Integral University, Lucknow

**Effective from Session: 2023-24**

<b>Course Code</b>	<b>AT208</b>	<b>Title of the Course</b>	<b>PRINCIPALS AND EQUIPMENT'S RELATED TO ANESTHESIA TECHNOLOGY LAB</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>I</b>	<b>Semester</b>	<b>I</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>
<b>Pre-Requisite</b>	<b>Nil</b>	<b>Co-requisite</b>	<b>Nil</b>				
<b>Course Objectives</b>	The student will be able to demonstrate the practical knowledge in equipment's used in OT, needed for the study and practice of anaesthesia and critical care technology.						

### Course Outcomes

<b>CO1</b>	To understand about the equipment's used in OT. To understand the Anesthesia Machine.
<b>CO2</b>	Students able to understand basic of gas supply in anesthesia and also in operations theatres.
<b>CO3</b>	Students able to Understand Face Masks & Airway Laryngoscopes
<b>CO4</b>	Students able to understand about the Machine Breathing System
<b>CO5</b>	Students able to understand the Familiarization of OT and OT Techniques

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1.	EQUIPMENT'S RELATED TO ANESTHESIA TECHNOLOGY	1. Cylinders, suction apparatus, endotracheal tubes, laryngoscopes, oropharyngeal airway.	20	CO1-5
2.		2. Anesthesia machine – description, parts, safety features		

#### Reference Books:

1. Miller's Basics of Anesthesia, 8th Edition
2. Short Textbook of Anesthesia by Ajay Yadav
3. The Anesthesia Technician and Technologist's Manual, Lippincott Williams & Wilkins
4. Basics of Anesthesia, Ronald D. Miller, Manuel Pardo (Jr.)
5. Nurse Anesthesia Secrets, Mary Karlet

#### e-Learning Source:

1. [https://r.search.yahoo.com/\\_ylt=Awr98Rz4YrVn2hAB3bNXNyoA;\\_ylu=Y29sbwNncTEEcG9zAzcEdnRpZAMEc2VjA3Ny/RV=2/RE=1741150200/RO=10/RU=https%3a%2f%2fsevierelibrary.com%2fcontents%2ffullcontent%2f81989%2fepubcontent\\_v2%2foebps%2fxhtml%2fb9780323112376000200.htm/RK=2/RS=nCFOdndzBSaGvr97xKqrlq4i2R8-](https://r.search.yahoo.com/_ylt=Awr98Rz4YrVn2hAB3bNXNyoA;_ylu=Y29sbwNncTEEcG9zAzcEdnRpZAMEc2VjA3Ny/RV=2/RE=1741150200/RO=10/RU=https%3a%2f%2fsevierelibrary.com%2fcontents%2ffullcontent%2f81989%2fepubcontent_v2%2foebps%2fxhtml%2fb9780323112376000200.htm/RK=2/RS=nCFOdndzBSaGvr97xKqrlq4i2R8-)
2. [https://r.search.yahoo.com/\\_ylt=Awr98Rz4YrVn2hAB2rNXNyoA;\\_ylu=Y29sbwNncTEEcG9zAzQEdnRpZAMEc2VjA3Ny/RV=2/RE=1741150200/RO=10/RU=https%3a%2f%2fpmc.ncbi.nlm.nih.gov%2farticles%2fPMC4015054%2f/RK=2/RS=hRnXEaThdpP3EnsrqOpA7SEeqQ-](https://r.search.yahoo.com/_ylt=Awr98Rz4YrVn2hAB2rNXNyoA;_ylu=Y29sbwNncTEEcG9zAzQEdnRpZAMEc2VjA3Ny/RV=2/RE=1741150200/RO=10/RU=https%3a%2f%2fpmc.ncbi.nlm.nih.gov%2farticles%2fPMC4015054%2f/RK=2/RS=hRnXEaThdpP3EnsrqOpA7SEeqQ-)

### Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO CO	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
<b>CO1</b>	3	3	-	1	-	1	-	-	1	1	-	1	2	-	1	1	-
<b>CO2</b>	2	3	-	2	-	2	-	-	-	1	-	2	3	-	2	2	-
<b>CO3</b>	3	3	-	1	-	1	-	-	1	1	-	1	2	-	1	1	-
<b>CO4</b>	2	3	-	1	-	2	-	-	-	1	-	2	2	-	1	1	-
<b>CO5</b>	2	3	-	1	-	2	-	-	-	1	-	2	3	-	1	1	-

### 1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
<b>AT208</b>	<b>PRINCIPALS AND EQUIPMENT'S RELATED TO ANESTHESIA TECHNOLOGY LAB</b>	√	√	√			√	√	<b>3,4</b>



## Integral University, Lucknow

**Effective from Session: 2023-24**

<b>Course Code</b>	<b>AT209</b>	<b>Title of the Course</b>	<b>OT POSTING</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>II</b>	<b>Semester</b>	<b>III</b>	0	0	10	5
<b>Pre-Requisite</b>	Nil	<b>Co-requisite</b>	Nil				
<b>Course Objectives</b>	Students will engage in clinical practice in Physiotherapy departments in the musculoskeletal, neurology, cardiopulmonary, sports settings to enhance their clinical skills and apply contemporary knowledge gained during teaching sessions.						

### Course Outcomes

<b>CO1</b>	To learn the punctuality and interaction with colleague and supporting staff during clinical training.
<b>CO2</b>	To develop assessment skills.
<b>CO3</b>	To develop appropriate treatment protocol.
<b>CO4</b>	To understand the importance of documentation of the case record and case presentation.
<b>CO5</b>	To develop discipline and improve overall quality of clinical work.

### CLINICAL POSTING ASSESSMENT FORM

<b>Name of Student:</b>		<b>Session:</b>	
<b>Enrolment Number:</b>		<b>Date:</b>	
<b>Name of Subject:</b>	<b>OT POSTING</b>	<b>Subject code:</b>	AT209
<b>Topics:</b>			

S. No.	Point to be Considered	Max. Marks	Marks Obtained
1.	Punctuality	4	
2.	Interaction with colleagues and supporting staff	2	
3.	Maintenance of case records	3	
4.	Presentation of case during rounds	2	
5.	Maintained OT records	2	
6.	OT Manners	2	
7.	Rapport with patients	2	
8.	Assistance during operative procedures	3	
9.	Discipline	2	
10.	Overall quality of clinical work	3	
<b>TOTAL SCORE</b>		<b>25</b>	

(Name and signature of Incharge)

(Head, Paramedical)

### GUIDELINES FOR CLINICAL TRAINING PROGRAM

The students of Post Graduate BAICT program must spend above mentioned allotted time period in the hospital based clinical training for specified clinical experiences to meet the objectives of the training program. This period of practical and theoretical experience will enable the students to acquire competency and experience to perform as an independent practice and will enable to adjust to the real practical life in different units in the hospital settings.

S.No.	Program Name	Year/Semester	Duration of Training
1.	BAICT	IInd Year/ IIIrd Semester	4 Months
2.		IInd Year/ IVth Semester	4 Months
3.		IIIrd Year/ Vth Semester	4 Months
4.		IIIrd Year/ VIth Semester	4 Months

By the successful completion of this clinical training period, the student is expected to fulfil the objectives of the program and will be examination as given below:

S.No.	Program Name	Year/Semester	Case file	Practical on Case	Voice/Viva	Attendance
1.	BAICT	Ird Year/ IIIrd Semester	10 Marks	10 Marks (1 Long Case and 2 Short Case)	25 Marks	5 Marks
2.		Ird Year/ IV th Semester				
3.		IIIrd Year/ Vth Semester				
4.		IIIrd Year/ VIth Semester				

### EVALUATION OF CLINICAL POSTING

BAICT- Students has to prepare 1 long case and 2 short cases during their clinical posting. The evaluation for internal clinical examination of 50 marks will be distributed:

Cases during clinical posting=**25 marks**.

Viva voce =**20 marks**

Attendance=**5 marks**

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	3	2	3	2	3	1	2	1	-	-	3	2	3	3	2
CO2	3	3	3	3	2	2	3	2	1	3	-	-	2	2	3	2	3
CO3	3	3	3	3	2	2	3	2	1	3	-	-	3	2	2	2	3
CO4	3	3	3	3	2	2	3	2	1	3	-	-	2	3	2	2	3
CO5	3	3	3	3	2	2	3	2	1	3	-	-	3	2	3	3	2

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

Attributes & SDGs

Course Code	Course Title	Attributes						SDGs No.
AT209	OT POSTING	Empleyability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics
		√	√	√			√	√



**INTEGRAL UNIVERSITY, LUCKNOW**  
INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES & RESEARCH

**DEPARTMENT OF PARAMEDICAL SCIENCES**

**BACHELOR OF SCIENCE IN ANESTHESIOLOGY  
AND INTENSIVE CARE TECHNOLOGY  
(B.Sc.AICT)**

**SYLLABUS**

**YEAR/ SEMESTER: II/IV**



**Integral University, Lucknow**  
**Department of Paramedical Sciences**  
**Study and Evaluation Scheme**

**Program: BAICT**

**Semester-IV**

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
<b>THEORIES</b>													
1	AT210	Medicine	Core	2	1	0	40	20	60	40	100	2:1:0	3
2	AT211	Basic of Surgical Procedures	Core	2	1	0	40	20	60	40	100	2:1:0	3
3	AT212	Principles of Sterilization Techniques	Core	3	1	0	40	20	60	40	100	3:1:0	4
4	AT213	Applied Anesthesia Technology	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	AT214	Human Values and Professional Ethics	Core	2	1	0	40	20	60	40	100	2:1:0	3
<b>PRACTICAL</b>													
1	AT215	Principles of Sterilization Techniques Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
2	AT216	Applied Anesthesia Technology Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
3	AT217	OT Posting	Core	0	0	10	25	25	50	00	50	0:0:1	5
<b>Total</b>				<b>12</b>	<b>05</b>	<b>14</b>	<b>305</b>	<b>165</b>	<b>470</b>	<b>280</b>	<b>750</b>	<b>24</b>	<b>24</b>

S. N.	Course code	Course Title	Type of Paper	Attributes							United Nation Sustainable Development Goal (SDGs)
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
<b>THEORIES</b>											
1	AT210	Medicine	Core	√	√	√			√	√	3,4
2	AT211	Basic of Surgical Procedures	Core	√	√	√			√	√	3,4
3	AT212	Principles of Sterilization techniques	Core	√	√	√			√	√	3,4
4	AT213	Applied Anesthesia Technology	Core	√	√	√			√	√	3,4
5	AT214	Human Values and Professional Ethics	Core	√	√	√			√	√	3,4
<b>PRACTICAL</b>											
1	AT215	Principles of Sterilization techniques Lab	Core	√	√	√			√	√	3,4
2	AT216	Applied Anesthesia Technology Lab	Core	√	√	√			√	√	3,4
3	AT217	OT Posting	Core	√	√	√			√	√	3,4

**L:** Lecture      **T:** Tutorials      **P:** Practical      **CT:** Class Test      **TA:** Teacher Assessment      **ESE:** End Semester Examination,  
**AE=** Ability Enhancement, **DSE-** Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment      **Subject Total:** Sessional Total + End Semester Examination (ESE)





## Integral University, Lucknow

Effective from Session: 2023-24

Course Code	AT210	Title of the Course	MEDICINE	L	T	P	C
Year	II	Semester	IV	2	1	0	3
Pre-Requisite	Nil	Co-requisite	Nil				
Course Objectives	Be able to describe Etiology, Pathophysiology, Signs & Symptoms, and Clinical Evaluation & Management of the various clinical Conditions						

### Course Outcomes

CO1	Student able to understand about different infectious diseases
CO2	Student able to understand about disorder related to electrolyte imbalance & endocrine system.
CO3	Student able to understand about the conditions and disorders related to Cardio-Vascular.
CO4	Student able to understand about the Respiratory System related conditions.
CO5	Student able to understand about the Kidney & Urinary Tract illness.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>DISORDER OF HAEMOPOIESIS</b>	1. Anaemias iron deficiency anaemia, 2. Infectious diseases: Sepsis and septic stock, fever of unknown origin, infective endocarditic, infective of skin, muscle, soft tissue, infection control in hospital, diseases caused by bacteria, viruses, myobacterm, viruses, fungi and protozoa and helminthes, common secondary infection in HIV.	6	CO1
2	<b>ELECTROLYTE &amp; ENDOCRINE DISORDER</b>	1. <b>Electrolyte imbalance:</b> Electrolyte imbalance and Acid Base Disorder: (as per ABG) 2. <b>Endocrine Disorders:</b> Hypo & hyper thyroidism, Goiter, Grave's, Acromegaly, Diabetes Mellitus, Obesity.	6	CO2
3	<b>CARDIO-VASCULAR</b>	1. Hypertension, I.H.D.-Myocardial Infarction 2. Arrhythmia, 3. Congenital Heart Disease 4. Infective Endo Carditis, 5. Brief about ECG – Normal & Variations due to ischemia & infarction.	6	CO3
4	<b>RESPIRATORY SYSTEM</b>	1. Common Infectious diseases: Pneumonia, Lung Abscess, Bronchiectasis, Pleural Effusion, Pneumothorax. Hydropneumothorax, Empyema. 2. Restrictive Lung Diseases 3. Interstitial Lung Diseases 4. Obstructive Lung Diseases: COPD, Bronchial Asthma	6	CO4
5	<b>KIDNEY &amp; URINARY TRACT</b>	1. Acute renal failure, Glomerulonephritis, 2. Haemodialysis, Transplant, 3. Urinary tract infection	6	CO5

#### Reference Books:

1. Principles & Practical Medicine –Davidson
2. Medicine for students –Golwalla
3. Principle of Internal Medicine –Harrison
4. Principles & Practical Medicine – Kumar &Clarke

#### e-Learning Source:

1. <https://youtu.be/rTWx1DE-kOM>
2. <https://youtu.be/mLmKq5bQQg0>
3. [https://youtu.be/Tz07Uqx7\\_VY](https://youtu.be/Tz07Uqx7_VY)
4. <https://youtu.be/pNn7plCPAvU>

### Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO CO	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	-	-	-	-	-	2	-	2	3	3	2	3	3
CO2	3	3	3	2	-	-	-	-	-	1	-	3	3	3	3	3	3
CO3	3	3	3	2	-	-	-	-	-	2	-	2	3	2	2	3	3
CO4	3	3	3	3	-	-	-	-	-	3	-	3	3	3	2	3	3
CO5	3	3	3	2	-	2	-	-	2	2	-	2	3	2	3	3	3

### 1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.	
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics		
AT210	MEDICINE	√	√	√				√	√	3,4



## Integral University, Lucknow

<b>Effective from Session: 2023-24</b>							
<b>Course Code</b>	<b>AT211</b>	<b>Title of the Course</b>	<b>BASIC OF SURGICAL PROCEDURES</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>II</b>	<b>Semester</b>	<b>IV</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>3</b>
<b>Pre-Requisite</b>	Nil	<b>Co-requisite</b>	Nil				
<b>Course Objectives</b>	The objectives of this course are that students at the end of course should have a broad understanding about common medical diseases which they would be handling as a physiotherapist. They should have a brief idea about Etiology, Pathology and Type and Degree of Disability the patient will have as result of the disease, so that he/she as a Physiotherapist with Physician should help the patient to achieve cure and/or ameliorate his/her illness and sufferings.						

Course Outcomes	
<b>CO1</b>	Student able to understand about general surgical procedures and post surgical complications
<b>CO2</b>	Student able to understand various degree of burn their management and basic procedure and advantage of plastic surgery
<b>CO3</b>	Student able to understand various aspects of general surgeries
<b>CO4</b>	Student able to understand various conditions including Sinusitis & Rhinitis, Pharyngitis & laryngitis, Deafness
<b>CO5</b>	Student able to understand various ophthalmological conditions

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>GENERAL SURGICAL CARE</b>	1. Wound, Ulcer, Abscess 2. cellulitis 3. Tetanus 4. Cysts 5. Acne, Boil, Carbuncles	6	CO1
2	<b>BURN &amp; PLASTIC SURGERY</b>	1. Burn 2. Scar 3. Shocks, types, Clinical Feature and Management 4. Basics of Plastic Surgery & Skin grafting	6	CO2
3	<b>GENERAL SURGERIES</b>	1. Cholecystectomy 2. Nephrectomy & Cystectomy 3. Prostatectomy & Hysterectomy 4. Mastectomy 5. Colostomy, Hernia & Appendectomy	6	CO3
4	<b>ENT</b>	1. Sinusitis & Rhinitis, 2. ASOM & CSOM, 3. Otosclerosis & Meniere's disease, 4. Pharyngitis & laryngitis, 5. Deafness	6	CO4
5	<b>EYE</b>	1. Squint, Strabismus 2. Myopia, Heteromyopia 3. Cataract, Astigmatism 4. Keratitis, Keratoplasty. 5. Glaucoma, Uveitis and Retinopathy	6	CO5

**Reference Books:**

1. A Practical Guide to Operative Surgery: S.Das
2. Short practice of Surgery: Baily and Love
3. Principle of Surgery: Schwartz
4. Concise book of general Surgery by Aggrawal, N.K.
5. Essential of Surgery by Aggrawal, S.B.
6. Surgery A clinical Approach by Bongard, Fred S.
7. Text book of Ear, Nose & Throat disease By Mohammad Maqbool
8. General Surgical Operations by R. M. Kirk and R.C.N. Williamson.
9. A text of Clinical Ophthalmology

**e-Learning Source:**

1. [https://youtu.be/5\\_bPMZsmfp8](https://youtu.be/5_bPMZsmfp8)
2. <https://youtu.be/V1KhO6se7ko>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
	<b>CO1</b>	3	3	-	3	-	2	-	-	1	2	-	1	<b>3</b>	-	<b>1</b>	<b>1</b>
<b>CO2</b>	3	3	-	2	-	2	-	-	2	3	-	1	<b>3</b>	-	<b>1</b>	<b>1</b>	-
<b>CO3</b>	3	3	-	3	-	2	-	-	1	2	-	1	<b>3</b>	-	<b>2</b>	<b>2</b>	-
<b>CO4</b>	3	3	-	3	-	2	-	-	1	2	-	1	<b>3</b>	-	<b>1</b>	<b>1</b>	-
<b>CO5</b>	3	3	-	2	-	2	-	-	1	3	-	1	<b>3</b>	-	<b>1</b>	<b>1</b>	-

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs**

Course Code	Course Title	Attributes							SDGs No.	
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics		
AT211	<b>BASIC OF SURGICAL PROCEDURES</b>	√	√	√				√	√	<b>3,4</b>



## Integral University, Lucknow

<b>Effective from Session: 2023-24</b>							
<b>Course Code</b>	AT212	<b>Title of the Course</b>	PRINCIPLES OF STERILIZATION TECHNIQUES	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	II	<b>Semester</b>	IV	2	1	0	3
<b>Pre-Requisite</b>	Nil	<b>Co-requisite</b>	Nil				
<b>Course Objectives</b>	Acquire the knowledge of concepts of Sterilization Techniques, OT-Preparation, Electrical and Fire Hazards & Care And Maintenance Of Operation Records of OT.						

Course Outcomes	
<b>CO1</b>	Students able to understand the structure & functions of Layout of OT and Lighting of OT
<b>CO2</b>	Students able to understand the Cleanliness and sterilization of OT and Anesthesia
<b>CO3</b>	Students able to understand the OT preparation
<b>CO4</b>	Students able to understand the Electrical and fire hazards
<b>CO5</b>	Students able to learn Care and Maintenance of Operation records of OT

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	LAYOUT OF OT AND LIGHTING OF OT	Described details of Layout of OT and Lighting of OT and also the its importance.	4	CO1
2	CLEANLINESS AND STERILIZATION OF OT AND ANESTHESIA	Carbolization, fumigation, principles of sterilization – autoclaving, pressure sterilization, boiling, dry heat, gas chemical sterilization, gamma rays sterilization	6	CO2
3	OT-PREPARATION	1. Preparation of spinal / eqidual / nerve block tray. 2. Preparation of patients for various types of anesthesia including laying out of trolleys, preparation of Boyle’s apparatus for administration of anesthesia, precaution to reduce antistatic friction hazards, preparation of sterile field, special precautions in handling patients with sepsis, blood borne infections – Hepatitis B, HCV, HIV, etc., 3. Cleaning and Disinfection of articles and OT 4. Various positions during surgeries – lithotomy/kidney/beach chair/lateral/prone	8	CO3
4	ELECTRICAL AND FIRE HAZARDS	Prevention of physical, electrical, chemical injuries and hazards to patients Ot pollution and scavenging	6	CO4
5	CARE AND MAINTENANCE OF OPERATION RECORDS OF OT	1) Maintenance of septic OT, Use and maintenance of defibrillator, cautery, OT light, suction, emergency light etc. 2) Admission and transfer procedures.	6	CO5

<b>Reference Books:</b>	
1.	Miller’s Basics of Anesthesia, 8th Edition
2.	Short Textbook of Anesthesia by Ajay Yadav
3.	The Anesthesia Technician and Technologist’s Manual, Lippincott Williams & Wilkins
4.	Basics of Anesthesia, Ronald D. Miller, Manuel Pardo (Jr.)
5.	Nurse Anesthesia Secrets, Mary Karlet

<b>e-Learning Source:</b>	
1.	<a href="https://youtu.be/WFm9j1rNkQs">https://youtu.be/WFm9j1rNkQs</a>
2.	<a href="https://youtu.be/vLCg_kyuyw4">https://youtu.be/vLCg_kyuyw4</a>
3.	<a href="https://youtu.be/xLEw7ceog8M">https://youtu.be/xLEw7ceog8M</a>
4.	<a href="https://youtu.be/80bzLTdAN4w">https://youtu.be/80bzLTdAN4w</a>
5.	<a href="https://youtu.be/dHURMD4v8Kk">https://youtu.be/dHURMD4v8Kk</a>

PO-PSO CO	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	-	3	-	2	-	-	1	2	2	1	3	-	1	1	-
CO2	3	3	2	2	-	2	2	-	2	3	-	1	2	-	1	1	-
CO3	3	3	-	3	-	2	-	-	1	2	2	1	2	2	2	2	-
CO4	3	3	3	3	-	2	-	-	1	2	-	1	3	-	1	1	-
CO5	3	3	-	2	-	2	-	-	1	3	-	1	3	-	1	1	-

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs**

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
AT212	PRINCIPLES OF STERILIZATION TECHNIQUES	√	√	√			√	√	3,4



## Integral University, Lucknow

<b>Effective from Session: 2023-24</b>							
Course Code	AT213	Title of the Course	APPLIED ANESTHESIA TECHNOLOGY	L	T	P	C
Year	II	Semester	IV	2	1	0	3
Pre-Requisite	Nil	Co-requisite	Nil				
Course Objectives	Concepts of diseases and techniques in regional & general Anesthesia including complications						

Course Outcomes	
CO1	Students able to understand the history of anaesthesia.
CO2	Students able to understand the Investigations and Pre-Anaesthetic Orders
CO3	Students able to understand the Intraoperative Management and Postoperative Complications & Management
CO4	Students able to understand the Minor Sequelae and Major Catastrophes.
CO5	Students able to learn the Anaesthetic Consideration in various diseases.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>HISTORY OF ANAESTHESIA</b>	1. First successful clinical demonstration: Modern anaesthetic era – Balanced anaesthesia, Minimum standard of anaesthesia, Who should give anaesthesia? Ten golden rules of anaesthesia, Assess & prepare, starve, check the drugs and equipment suction, keep the airway clear, be ready to control ventilation have a vein open, monitor pulse & BP, have someone in the room to apply cricoids pressure – if needed. 2. Pre-op preparation: Pre anaesthetic assessment, History – HOPI, Paise history – disease / surgery / anaesth, Personal history – smoking / alcohol, General physical assessment, Systemic examination – CVS, RS, CNS, PA Local examination.	6	CO1
2	<b>INVESTIGATIONS AND PRE-ANAESTHETIC ORDERS</b>	1. Routine – Urine, E.C.G, Chest x-ray 2. Patient – Informed consent, NPO 3. Premedication – advantages, drugs used, Special instructions – if any, Machine – Checking the machine, o2, N2O, suction apparatus, Laryngoscopes, ET tubes, airways, Things for IV accessibility, other monitoring systems 4. Drugs – Emergency drugs, Anaesthetic drugs.	6	CO2
3	<b>INTRAOPERATIVE MANAGEMENT AND POSTOPERATIVE COMPLICATIONS &amp; MANAGEMENT</b>	1. Confirm the identification of the patient, Monitoring – Noninvasive & invasive monitoring, Induction – drugs used, Endotracheal intubation, Maintenance of anesthesia, Positioning of the Patient, Blood / Fluid & electrolyte balance, Reversal from anaesthesia – drugs used, transferring the patient. 2. Recovery room – Set up, Things needed, Problems 3. Complications, Obesity, Anaemia	6	CO3
4	<b>MINOR SEQUELAE AND MAJOR CATASTROPHES</b>	1. Nausea & vomiting, Sore throat, Laryngeal granuloma, Neurological complications, Awareness, Vascul 2. Mortality, Causes of death, Cerebral damage, Prevention	6	CO4
5	<b>ANAESTHETIC CONSIDERATION</b>	1. Cardiac disease – CAD, Valvular heart disease, congenital heart disease, Hypertension 2. Respiratory disease – COPD, Bronchial Asthma 3. Endocrine disease – DM, Thyroid dysfunction 4. Renal disease – CRF 5. Obesity	6	CO5

<b>Reference Books:</b>	
1.	Miller's Basics of Anesthesia, 8th Edition
2.	Short Textbook of Anesthesia by Ajay Yadav
3.	The Anesthesia Technician and Technologist's Manual, Lippincott Williams & Wilkins
4.	Basics of Anesthesia, <u>Ronald D. Miller, Manuel Pardo (Jr.)</u>
5.	Nurse Anesthesia Secrets, <u>Mary Karlet</u>

<b>e-Learning Source:</b>	
1.	<a href="https://youtu.be/WFm9j1rNkQs">https://youtu.be/WFm9j1rNkQs</a>
2.	<a href="https://youtu.be/vLCg_kyuyw4">https://youtu.be/vLCg_kyuyw4</a>
3.	<a href="https://youtu.be/xLEw7ceog8M">https://youtu.be/xLEw7ceog8M</a>
4.	<a href="https://youtu.be/80bzLTdAN4w">https://youtu.be/80bzLTdAN4w</a>
5.	<a href="https://youtu.be/dHURMD4v8Kk">https://youtu.be/dHURMD4v8Kk</a>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	-	3	-	2	-	2	1	2	2	1	3	3	1	1	-
CO2	3	3	-	2	-	2	2	1	2	3	-	1	3	2	1	1	-
CO3	2	3	-	3	-	1	2	2	1	2	2	1	3	-	2	2	-
CO4	3	2	-	3	-	2	-	2	1	2	1	1	3	2	1	1	-
CO5	3	3	-	2	-	2	-	2	1	3	2	1	3	2	1	1	-

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs**

Course Code	Course Title	Attributes							SDGs No.
AT213	<b>APPLIED ANESTHESIA TECHNOLOGY</b>	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	3,4
		√	√	√			√	√	



## Integral University, Lucknow

**Effective from Session: 2023-24**

<b>Course Code</b>	<b>AT214</b>	<b>Title of the Course</b>	<b>HUMAN VALUES AND PROFESSIONAL ETHICS</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>II</b>	<b>Semester</b>	<b>IV</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>3</b>
<b>Pre-Requisite</b>	Nil	<b>Co-requisite</b>	Nil				
<b>Course Objectives</b>	Course Introduction - Need, Basic Guidelines, Content and Process for Value Education, Implications of the above Holistic Understanding of Harmony on Professional Ethics.						

### Course Outcomes

<b>CO1</b>	Students able to understand the Holistic Understanding of Harmony on Professional Ethics
<b>CO2</b>	Students able to understand the Holistic Understanding of Harmony on Professional Ethics
<b>CO3</b>	Students able to understand the Medical Ethics in medical professionals
<b>CO4</b>	Students able to understand the Malpractices.
<b>CO5</b>	Students able to learn the Medico Legal Aspects.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>HOLISTIC UNDERSTANDING OF HARMONY ON PROFESSIONAL ETHICS</b>	1. Natural acceptance of human values 2. Definitiveness of Ethical Human Conduct 3. Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order	6	CO1
2		1. Competence in professional ethics: 2. Ability to utilize the professional competence for augmenting universal human order 3. Ability to identify the scope and characteristics of people-friendly and eco- friendly production systems	6	CO2
3	<b>MEDICAL ETHICS</b>	1. Medical ethics - Definition - Goal - Scope 2. Code of conduct - Introduction – 3. Basic principles of medical ethics – Confidentiality	6	CO3
4	<b>MALPRACTICES</b>	1. Malpractice and negligence - Rational and irrational drug therapy 2. Autonomy and informed consent - Right of patients 3. Care of the terminally ill- Euthanasia	6	CO4
5	<b>MEDICO LEGAL ASPECTS</b>	1. Organ transplantation 2. Medico legal aspects of medical records - Medicolegal 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	6	CO5

#### Reference Books:

1. R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Value Education
2. A.N. Tripathy, 2003, Human Values, New Age International Publishers
3. Wylie & Churchill Davidson's – A practice of Anaesthesia
4. Grey, Nunn, Utting-General Anaesthesia Butterworth

#### e-Learning Source:

- 1- [https://r.search.yahoo.com/\\_ylt=Awr.3GfGZLVnj3gAY3FXNyAo;\\_ylu=Y29sbwNncTEEcG9zAzEEdnRpZAMEc2VjA3Ny/RV=2/RE=1741150663/RO=10/RU=https%3a%2f%2fwww.asahq.org%2fstandards-and-practice-parameters%2fguidelines-for-the-ethical-practice-of-anesthesiology/RK=2/RS=JHt75I2c9OJSrPdcHP5XN9IgbM4-](https://r.search.yahoo.com/_ylt=Awr.3GfGZLVnj3gAY3FXNyAo;_ylu=Y29sbwNncTEEcG9zAzEEdnRpZAMEc2VjA3Ny/RV=2/RE=1741150663/RO=10/RU=https%3a%2f%2fwww.asahq.org%2fstandards-and-practice-parameters%2fguidelines-for-the-ethical-practice-of-anesthesiology/RK=2/RS=JHt75I2c9OJSrPdcHP5XN9IgbM4-)
2. [https://r.search.yahoo.com/\\_ylt=Awr.3GfGZLVnj3gAbXFXNyAo;\\_ylu=Y29sbwNncTEEcG9zAzIEdnRpZAMEc2VjA3Ny/RV=2/RE=1741150663/RO=10/RU=https%3a%2f%2fjournalofethics.ama-assn.org%2farticle%2fethics-and-practice-anesthesia%2f2015-03/RK=2/RS=PetYkIErcECnKQWslqxODyeJlvI-](https://r.search.yahoo.com/_ylt=Awr.3GfGZLVnj3gAbXFXNyAo;_ylu=Y29sbwNncTEEcG9zAzIEdnRpZAMEc2VjA3Ny/RV=2/RE=1741150663/RO=10/RU=https%3a%2f%2fjournalofethics.ama-assn.org%2farticle%2fethics-and-practice-anesthesia%2f2015-03/RK=2/RS=PetYkIErcECnKQWslqxODyeJlvI-)

### Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO CO	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
<b>CO1</b>	2	3	2	3	1	2	1	-	1	2	-	1	<b>3</b>	-	<b>1</b>	<b>1</b>	-
<b>CO2</b>	2	3	1	2	-	2	2	-1	2	3	-	1	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	-
<b>CO3</b>	3	2	1	3	1	2	1	3	1	2	1	1	<b>3</b>	<b>1</b>	<b>2</b>	<b>2</b>	-
<b>CO4</b>	3	3	2	3	-	2	1	2	1	2	1	1	<b>3</b>	-	<b>1</b>	<b>1</b>	-
<b>CO5</b>	3	2	-	2	1	2	-	2	1	3	-	1	<b>3</b>	-	<b>1</b>	<b>1</b>	-

### 1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs

Course Code	Course Title	Attributes						SDGs No.	
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value		Professional Ethics
<b>AT214</b>	<b>HUMAN VALUES AND PROFESSIONAL ETHICS</b>	√	√	√			√	√	<b>3,4</b>



## Integral University, Lucknow

<b>Effective from Session: 2023-24</b>							
<b>Course Code</b>	<b>AT215</b>	<b>Title of the Course</b>	<b>PRINCIPLES OF STERILIZATION TECHNIQUES LAB</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>II</b>	<b>Semester</b>	<b>IV</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>
<b>Pre-Requisite</b>	Nil	<b>Co-requisite</b>	Nil				
<b>Course Objectives</b>	Acquire the knowledge of concepts of Sterilization Techniques, OT-Preparation, Electrical and Fire Hazards & Care And Maintenance Of Operation Records of OT.						

Course Outcomes	
<b>CO1</b>	Students able to understand the structure & functions of Layout of OT and Lighting of OT
<b>CO2</b>	Students able to understand the Cleanliness and sterilization of OT and Anesthesia
<b>CO3</b>	Students able to understand the OT preparation
<b>CO4</b>	Students able to understand the Electrical and fire hazards
<b>CO5</b>	Students able to learn Care and Maintenance of Operation records of OT

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>LAYOUT OF OT AND LIGHTING OF OT</b>	Practical Aspects of Layout of OT and Lighting of OT and also the its importance.	4	CO1
2	<b>CLEANLINESS AND STERILIZATION OF OT AND ANESTHESIA</b>	Practical Aspects of Carbolization, fumigation, principles of sterilization – autoclaving, pressure sterilization, boiling, dry heat, gas chemical sterilization, gamma rays sterilization	4	CO2
3	<b>OT-PREPARATION</b>	Practical Aspects of: 1. Preparation of spinal / eqidural / nerve block tray. 2. Preparation of patients for various types of anesthesia including laying out of trolleys, preparation of Boyle’s apparatus for administration of anesthesia, 3. Various positions during surgeries – lithotomy/kidney/beach chair/lateral/prone	4	CO3
4	<b>ELECTRICAL AND FIRE HAZARDS</b>	Practical Aspects of: Prevention of physical, electrical, chemical injuries and hazards to patients Ot pollution and scavenging	4	CO4
5	<b>CARE AND MAINTENANCE OF OPERATION RECORDS OF OT</b>	Practical Aspects of: 1) Maintenance of septic OT, Use and maintenance of defibrillator, cautery, OT light, suction, emergency light etc. 2) Admission and transfer procedures.	4	CO5

<b>Reference Books:</b>
1. <b>Miller’s Basics of Anesthesia, 8th Edition</b>
2. Short Textbook of Anesthesia by Ajay Yadav
3. <b>The Anesthesia Technician and Technologist's Manual, Lippincott Williams &amp; Wilkins</b>
4. <b>Basics of Anesthesia, Ronald D. Miller, Manuel Pardo (Jr.)</b>

<b>e-Learning Source:</b>
1. <a href="https://youtu.be/WFm9j1rNkQs">https://youtu.be/WFm9j1rNkQs</a>
2. <a href="https://youtu.be/vLCg_kyuyw4">https://youtu.be/vLCg_kyuyw4</a>
3. <a href="https://youtu.be/xLEw7ceog8M">https://youtu.be/xLEw7ceog8M</a>
4. <a href="https://youtu.be/80bzLTdAN4w">https://youtu.be/80bzLTdAN4w</a>
5. <a href="https://youtu.be/dHURMD4v8Kk">https://youtu.be/dHURMD4v8Kk</a>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
	<b>CO1</b>	3	3	-	3	-	2	-	-	1	2	-	1	<b>3</b>	-	<b>1</b>	<b>1</b>
<b>CO2</b>	3	3	-	2	-	2	-	-	2	3	-	1	<b>3</b>	-	<b>1</b>	<b>1</b>	-
<b>CO3</b>	3	3	-	3	-	2	-	-	1	2	-	1	<b>3</b>	-	<b>2</b>	<b>2</b>	-
<b>CO4</b>	3	3	-	3	-	2	-	-	1	2	-	1	<b>3</b>	-	<b>1</b>	<b>1</b>	-
<b>CO5</b>	3	3	-	2	-	2	-	-	1	3	-	1	<b>3</b>	-	<b>1</b>	<b>1</b>	-

1-

**1. Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes &**

SDGs		Attributes							SDGs No.
Course Code	Course Title	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
AT212	<b>PRINCIPLES OF STERILIZATION TECHNIQUES</b>	√	√	√			√	√	<b>3,4</b>





## Integral University, Lucknow

<b>Effective from Session: 2023-24</b>							
<b>Course Code</b>	AT213	<b>Title of the Course</b>	APPLIED ANESTHESIA TECHNOLOGY LAB	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	II	<b>Semester</b>	IV	0	0	2	1
<b>Pre-Requisite</b>	Nil	<b>Co-requisite</b>	Nil				
<b>Course Objectives</b>	Concepts of diseases and techniques in regional & general Anesthesia including complications						

Course Outcomes	
<b>CO1</b>	Students able to understand the history of anaesthesia.
<b>CO2</b>	Students able to understand the Investigations and Pre-Anaesthetic Orders
<b>CO3</b>	Students able to understand the Intraoperative Management and Postoperative Complications & Management
<b>CO4</b>	Students able to understand the Minor Sequelae and Major Catastrophes.
<b>CO5</b>	Students able to learn the Anaesthetic Consideration in various diseases.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>HISTORY OF ANAESTHESIA</b>	<b>Practical Aspects of:</b> Pre-op preparation: Pre anaesthetic assessment, History – HOPI, Past history – disease / surgery / anaesth, Personal history – smoking / alcohol, General physical assessment, Systemic examination – CVS, RS, CNS, PA Local examination.	4	CO1
2	<b>INVESTIGATIONS AND PRE-ANAESTHETIC ORDERS</b>	<b>Practical Aspects of:</b> Premedication – advantages, drugs used, Special instructions – if any, Machine – Checking the machine, o2, N2O, suction apparatus, Laryngoscopes, ET tubes, airways, Things for IV accessibility, other monitoring systems Drugs – Emergency drugs, Anaesthetic drugs.	4	CO2
3	<b>INTRAOPERATIVE MANAGEMENT AND POSTOPERATIVE COMPLICATIONS &amp; MANAGEMENT</b>	<b>Practical Aspects of:</b> Confirm the identification of the patient, Monitoring – Noninvasive & invasive monitoring, Induction – drugs used, Endotracheal intubation, Maintenance of anaesthesia, Positioning of the Patient, Blood / Fluid & electrolyte balance, Reversal from anaesthesia – drugs used, transferring the patient. Recovery room – Set up, Things needed, Problems Complications, Obesity, Anaemia	4	CO3
4	<b>MINOR SEQUELAE AND MAJOR CATASTROPHES</b>	<b>Practical Aspects of:</b> Nausea & vomiting, Sorethroat, Laryngealgranuloma, Neurological complications, Awareness, Vascul Mortality, Causes of death, Cerebral damage, Prevention	4	CO4
5	<b>ANAESTHETIC CONSIDERATION</b>	<b>Practical Aspects of:</b> Cardiac disease – CAD, Valvular heart disease, congenital heart disease, Hypertension Respiratory disease – COPD, Bronchial Asthma Endocrine disease – DM, Thyroid dysfunction Renal disease – CRF Obesity	4	CO5

**Reference Books:**

1. Miller's Basics of Anesthesia, 8th Edition
2. Short Textbook of Anesthesia by Ajay Yadav
3. The Anesthesia Technician and Technologist's Manual, Lippincott Williams & Wilkins
4. Basics of Anesthesia, Ronald D. Miller, Manuel Pardo (Jr.)
5. Nurse Anesthesia Secrets, Mary Karlet

**e-Learning Source:**

1. <https://youtu.be/WFm9j1rNkQs>
2. [https://youtu.be/vLCg\\_kyuyw4](https://youtu.be/vLCg_kyuyw4)
3. <https://youtu.be/xLEw7ceog8M>
4. <https://youtu.be/80bzLTdAN4w>
5. <https://youtu.be/dHURMD4v8Kk>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	-	3	-	2	-	2	1	2	2	1	3	3	1	1	-
CO2	3	3	-	2	-	2	2	1	2	3	-	1	3	2	1	1	-
CO3	2	3	-	3	-	1	2	2	1	2	2	1	3	-	2	2	-
CO4	3	2	-	3	-	2	-	2	1	2	1	1	3	2	1	1	-
CO5	3	3	-	2	-	2	-	2	1	3	2	1	3	2	1	1	-

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs**

Course Code	Course Title	Attributes							SDGs No.	
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics		
AT216	APPLIED ANESTHESIA TECHNOLOGY LAB	√	√	√				√	√	3,4



## Integral University, Lucknow

Effective from Session: 2023-24

<b>Course Code</b>	AT217	<b>Title of the Course</b>	OT POSTING	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	II	<b>Semester</b>	IV	0	0	10	5
<b>Pre-Requisite</b>	Nil	<b>Co-requisite</b>	Nil				
<b>Course Objectives</b>	Students will engage in clinical practice in Physiotherapy departments in the musculoskeletal, neurology, cardiopulmonary, sports settings to enhance their clinical skills and apply contemporary knowledge gained during teaching sessions.						

### Course Outcomes

<b>CO1</b>	To learn the punctuality and interaction with colleague and supporting staff during clinical training.
<b>CO2</b>	To develop assessment skills.
<b>CO3</b>	To develop appropriate treatment protocol.
<b>CO4</b>	To understand the importance of documentation of the case record and case presentation.
<b>CO5</b>	To develop discipline and improve overall quality of clinical work.

### CLINICAL POSTING ASSESSMENT FORM

<b>Name of Student:</b>		<b>Session:</b>	
<b>Enrolment Number:</b>		<b>Date:</b>	
<b>Name of Subject:</b>	OT POSTING	<b>Subject code:</b>	AT217
<b>Topics:</b>			

S. No.	Point to be Considered	Max. Marks	Marks Obtained
1.	Punctuality	4	
2.	Interaction with colleagues and supporting staff	2	
3.	Maintenance of case records	3	
4.	Presentation of case during rounds	2	
5.	Maintained OT records	2	
6.	OT Manners	2	
7.	Rapport with patients	2	
8.	Assistance during operative procedures	3	
9.	Discipline	2	
10.	Overall quality of clinical work	3	
<b>TOTAL SCORE</b>		<b>25</b>	

(Name and signature of Incharge)

(Head, Paramedical)

### GUIDELINES FOR CLINICAL TRAINING PROGRAM

The students of Post Graduate BAICT program must spend above mentioned allotted time period in the hospital based clinical training for specified clinical experiences to meet the objectives of the training program. This period of practical and theoretical experience will enable the students to acquire competency and experience to perform as an independent practice and will enable to adjust to the real practical life in different units in the hospital settings.

S.No.	Program Name	Year/Semester	Duration of Training
1.	BAICT	IInd Year/ IIIrd Semester	4 Months
2.		IInd Year/ IVth Semester	4 Months
3.		IIIrd Year/ Vth Semester	4 Months
4.		IIIrd Year/ VIth Semester	4 Months

By the successful completion of this clinical training period, the student is expected to fulfil the objectives of the program and will be examination as given below:

S.No.	Program Name	Year/Semester	Case file	Practical on Case	Voice/Viva	Attendance
1.	BAICT	IInd Year/ IIIrd Semester	10 Marks	10 Marks (1 Long Case and 2 Short Case)	25 Marks	5 Marks
2.		IInd Year/ IV th Semester				
3.		IIIrd Year/ Vth Semester				
4.		IIIrd Year/ VIth Semester				

### EVALUATION OF CLINICAL POSTING

BAICT- Students has to prepare 1 long case and 2 short cases during their clinical posting. The evaluation for internal clinical examination of 50 marks will be distributed:

Cases during clinical posting=25 marks.

Viva voce =20 marks

Attendance=5 marks

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																		
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	2	3	3	2	3	2	3	1	2	1	-	-	3	2	3	3	2	
CO2	3	3	3	3	2	2	3	2	1	3	-	-	2	2	3	2	3	
CO3	3	3	3	3	2	2	3	2	1	3	-	-	3	2	2	2	3	
CO4	3	3	3	3	2	2	3	2	1	3	-	-	2	3	2	2	3	
CO5	3	3	3	3	2	2	3	2	1	3	-	-	3	2	3	3	2	

1-

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
AT217	OT POSTING	Emplo yability	Entrep reurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	3,4,11
		√	√	√			√	√	