



# Galgotias University

## Galgotias University Vision

- To be known globally for value-based education, research, creativity and innovation"

## Galgotias University Mission

- Establish state-of-the-art facilities for world class education and research.
- Collaborate with industry and society to align the curriculum,
- Involve in societal outreach programs to identify concerns and provide sustainable ethical solutions.
- Encourage life-long learning and team-based problem solving through an enabling environment.



## School of Medical & Allied Sciences (SMAS)

### School Vision


To be known globally as a Centre of excellence for medical & allied science education, innovation, interdisciplinary research and practice for enhancing health.

### School Mission

**M1-** Establish state of art facilities for excellent medical & allied education and interdisciplinary research

**M2-** Collaborate with health care sector professionals to align curriculum and develop strong foundation for fundamental & practice health

**M3-** Involve students in community health programmes to develop lifelong learning and communication skills

  
DEAN  
SCHOOL OF MEDICAL  
& ALLIED SCIENCES  
GALGOTIAS UNIVERSITY  
★ UTTAR PRADESH ★

SMAS/ Paramedical/ B.Sc.MLT/ 1.1.1/ 25/46




**GALGOTIAS UNIVERSITY**  
**SCHOOL OF MEDICAL AND ALLIED SCIENCES**  
**Department of Paramedical and Allied Health Sciences**  
**PROGRAMME NAME: B.Sc. Medical Laboratory Technology**

Vision

To be known globally in preparing highly competent Medical laboratory scientists through innovation, interdisciplinary research and excel in laboratory medicine field.

Mission

- M1 Establish state of art facilities for advancement and excellence in the field of Medical laboratory Technology education.
- M2 Collaborate with Medical laboratory professionals to align the curriculum and develop strong foundation.
- M3 Make expertise health care professionals with global competency in handling advanced laboratory automation to work effectively in a wide range of laboratory settings

  
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**PROGRAMME NAME: B.Sc.Medical Laboratory Technology**

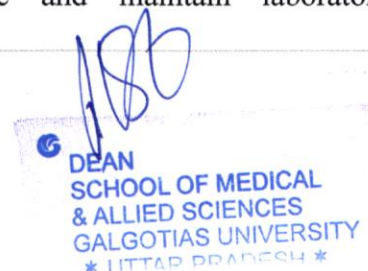
**Programme Outcomes (PO's)**

At the time of graduation Students of Medical Laboratory Technology programme shall able to,

S.No	PO No	PO Title	PO statement
1	PO1	Thinking Abilities	Develop the principles of scientific enquiry, thinking analytically, clearly and critically, while solving problems and making decisions during daily practice and verify the accuracy of laboratory results obtained.
2	PO2	Planning Abilities	Develop effective planning abilities including time management, resource management, delegation skills and organizational skills. Develop and implement plans and organize work to meet deadlines
3	PO3	Communication	Develop professional conduct and interpersonal communication skills with patients, laboratory personnel, other health care professionals, and with the public & communicate effectively with society at large.
4	PO4	Medical Laboratory Technology Knowledge	Possess and comprehend the core and basic knowledge associated with the profession of Medical laboratory Technology including basic diagnosis. Provide technical information about test results; Prepare and document medical tests and clinical results.
5	PO5	Medical Laboratory Technology Ethics	Honor personal values and apply ethical principles in professional and social contexts. Perform within the guidelines of the code of ethics established by state and local regulatory groups.
6	PO6	Environment sustainability and	Understand the impact of the professional medical laboratory technology solutions in environmental contexts and demonstrate the knowledge of and need for sustainable development
7	PO7	Life-long learning	Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change in identify learning needs and to satisfy these needs on an ongoing basis upgrading skills in laboratory Sciences.
8	PO8	Modern tool usage	Learn, select, apply & develop appropriate methods and procedures, resources, and modern laboratory-related computing tools with an understanding of the limitations to operate and maintain laboratory equipment



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**PROGRAMME NAME: B.Sc. Medical Laboratory Technology**

**Programme Educational Objectives (PEO's):**

Graduates of Medical Laboratory Technology shall,

- |      |   |
|------|---|
| PEO1 | Establish/Maintain ethical standards of clinical laboratory as per regulations of accreditation bodies. |
| PEO2 | Undertake higher studies at any reputed institutions in the field of Medical and Allied sciences.       |
| PEO3 | Evolve the new technologies and engage in entrepreneur activities                                       |



  
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<b>Name of The Course</b>	Clinical Biochemistry			
<b>Course Code</b>	BMLT4003			
<b>Prerequisite</b>				
<b>Corequisite</b>				
<b>Antirequisite</b>				
	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
	3	0	0	3

### Course Objectives:

1. To develop the knowledge about liver function test
2. To gain the knowledge of renal function test and urolithiasis.
3. To gain the knowledge of gastric function and cardiac function.
4. To know clinical diagnosis of Diabetes Mellitus
5. To gain the knowledge of quality control in biochemistry laboratory

### Course Outcomes

On completion of course student will be able to,

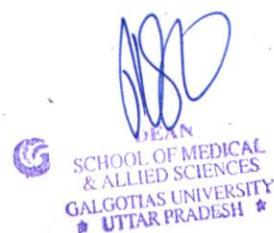
<b>CO1</b>	Perform liver function test by semi auto analyzer and interpret the test results.
<b>CO2</b>	Perform and assess renal functioning and describe urolithiasis.
<b>CO3</b>	Perform and understand gastric function and cardiac function.
<b>CO4</b>	Diagnose and describe Diabetes Mellitus and explain metabolic defects
<b>CO5</b>	Perform and explain quality control in biochemistry laboratory and automation used
<b>CO6</b>	Discuss the Laboratory diagnostic approaches in metabolic disorders

### Text Book (s)

- 1 Raju Bindu, Review of Medical Biochemistry.
- 2 Geeta Damodaran K, Practical Biochemistry.
- 3 Manipal manual of Biochemistry by S.Nayak

### Reference Book (s)

- 1 DS Sheriff, Textbook of Medical Biochemistry.
- 2 U. Satyanarayana: Textbook of Medical Biochemistry.



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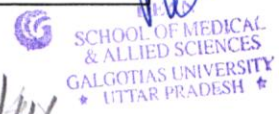
<b>Unit-1 Liver function tests hours</b>	<b>9</b>
Liver function tests: Liver functions, Assessments - Based on its metabolic functions, Measurement of serum enzyme levels, Bile Pigment metabolism, jaundice, its types, & their biochemical findings.	
<b>Unit-2 Urolithiasis &amp; Renal Function Tests hours</b>	<b>8</b>
RFT- Clearance tests, Concentration tests, dilution tests.  Renal calculi- Introduction, Etiology, Pathophysiology, Factors influencing, Types, Risk Factors, Control.	
<b>Unit-3 Gastric Function tests and Cardiac Profile hours</b>	<b>9</b>
Gastric Function tests: Composition of Gastric Juice, free acidity & total Acidity, Gastric stimulants, Tubeless gastric analysis Cardiac Profile- Hypertension, MI, pattern of Cardiac Enzymes in Heart diseases	
<b>Unit-4 Diabetes Mellitus. hours</b>	<b>8</b>
Diabetes Mellitus: Introduction, symptoms, types, Clinical Manifestations, Diabetic ketoacidosis, Control of Hyperglycemia. Lipoproteinemia, Atherosclerosis & control of Hypercholesterolemia.  Alkaptonuria, Albinism, Maple syrup urine disease.	
<b>Unit-5 Quality control &amp; Automation hours</b>	<b>6</b>
Quality control & Automation in clinical biochemistry laboratory	
<b>Unit-6 Laboratory diagnostic approaches in metabolic disorders hours-8</b>	
Laboratory diagnostic approaches in metabolic disorders, Diagnostic Advancement in Evaluating Inborn Errors of Metabolism	



**Continuous Assessment Pattern**

Internal Assessment (IA)	Mid Term Test (MTE)	End Term Test (ETE)	Total Marks
10	20	70	100

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