

**MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB**  
**Syllabus of B. Sc. In Medical Lab Technology**  
**(Effective for 2020-2021 Admission Session)**  
**Choice Based Credit System**  
**140 Credit (3-Year UG) MAKAUT Framework**  
**w.e.f 2020-21**

**Curriculum Structure**

**CBCS – MAKAUT UG degree (Hons) 140 Credit FRAMEWORK (Revised)**

<b>Subject Type</b>	<b>Semester I</b>	<b>Semester II</b>	<b>Semester III</b>	<b>Semester IV</b>	<b>Semester V</b>	<b>Semester VI</b>
<b>CC</b>	C1, C2	C3, C4	C5,C6,C7	C8,C9,C10	C11,C12	C13,C14
<b>DSE</b>					DSE1, DSE2	DSE3, DSE4
<b>GE</b>	GE1	GE2	GE3	GE4		
<b>AECC</b>	AECC 1	AECC 2				
<b>SEC</b>			SEC 1	SEC 2		
	4 (20)	5 (20)	4 (26)	5(26)	4 (24)	4 (24)

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**1<sup>st</sup> Semester**

Subject Type	Course Name	Course Code	Credit Distribution			Credit Points	Mode of Delivery			Proposed Moocs
			Theory	Practical	Tutorial		Offline	Online	Blended	
CC 1	Human Anatomy I	BML(T) 101	4	0	0	6	✓			As per MAKAUT Notification
		BML 191	0	2	0					
CC 2	Human Physiology I	BML(T) 102	4	0	0	6	✓			
		BML 192	0	2	0					
GE 1	Students will have to select from the GE Basket					6			✓	
AECC 1	English Communications	BML 164	2	0	0	2	✓			
<b>Semester Credits</b>						<b>20</b>				

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**2<sup>nd</sup> Semester**

Subject Type	Course Name	Course Code	Credit Distribution			Credit Points	Mode of Delivery			Proposed Moocs
			Theory	Practical	Tutorial		Offline	Online	Blended	
CC 3	Human Anatomy II	BML(T) 201	4	0	0	6	✓			As per MAKAUT Notification
		BML 291	0	2	0					
CC 4	Human Physiology II	BML(T) 202	4	0	0	6	✓			
		BML 292	0	2	0					
GE 2	Students will have to select from the GE Basket					6			✓	
AECC 2	Environmental Science	BML 265	2	0	0	2	✓			
<b>Semester Credits</b>						<b>20</b>				

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**3<sup>rd</sup> Semester**

Subject Type	Course Name	Course Code	Credit Distribution			Credit Points	Mode of Delivery			Proposed Moocs
			Theory	Practical	Tutorial		Offline #	Online	Blended	
CC 5	Pathology	BML(T) 301	4	0	0	6	✓			As per MAKAUT Notification
		BML 391	0	2	0					
CC 6	Haematology-I	BML(T) 302	4	0	0	6	✓			
		BML 392	0	2	0					
CC 7	Biochemistry	BML(T) 303	4	0	0	6				
		BML 393	0	2	0					
GE 3	Students will have to select from the GE Basket					6			✓	
SEC 1	Lab Management and Medical Ethics	BML 354	1	0	1	2	✓			
<b>Semester Credits</b>						<b>26</b>				

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**4<sup>th</sup> Semester**

Subject Type	Course Name	Course Code	Credit Distribution			Credit Points	Mode of Delivery			Proposed Moocs
			Theory	Practical	Tutorial		Offline #	Online	Blended	
CC 8	Microbiology	BML(T) 401	4	0	0	6	✓			As per MAKAUT Notification
		BML 491	0	2	0					
CC 9	Haematology- II	BML(T) 402	4	0	0	6	✓			
		BML 492	0	2	0					
CC 10	Immunology	BML(T) 403	4	0	0	6				
		BML 493	0	2	0					
GE 4	Students will have to select from the GE Basket					6			✓	
SEC 2	Histotechnique	BML 455	1	0	1	2	✓			
<b>Semester Credits</b>						<b>26</b>				

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**5<sup>th</sup> Semester**

Subject Type	Course Name	Course Code	Credit Distribution			Credit Points	Mode of Delivery			Proposed Moocs
			Theory	Practical	Tutorial		Offline	Online	Blended	
CC 11	Immunohematology and blood banking	BML(T) 501	4	0	0	6	√			As per MAKUT Notification
		BML 591	0	2	0					
CC 12	Parasitology and virology	BML(T) 502	4	0	0	6	√			
		BML 592	0	2	0					
DSE 1 (Any one)	Diagonostic cytology	BML 503 (A)	4	0	0	6			√	
		BML 593 (A)	0	2	0					
	Diagnostic Histopathology	BML503 (B)	4	0	0					
		BML593 (B)	0	2	0					
DSE 2 (Any one)	Clinical Enzymology	BML 504 (A)	4	0	0	6			√	
		BML 594 (A)	0	2	0					
	Biochemistry & Nutrition	BML 504 (B)	4	0	0					
		BML 594 (B)	0	2	0					
<b>Semester Credits</b>						<b>24</b>				

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**6<sup>th</sup> Semester**

Subject Type	Course Name	Course Code	Credit Distribution			CreditPoints	Mode of Delivery			Proposed MOOCs
			Theory	Practical	Tutorial		Offline	Online	Blended	
CC 13	Clinical Endocrinology & Toxicology	BML(T)601	4	0	0	6				As per MAKAUT Notification
		BML691	0	2	0				√	
CC 14	Diagnostic Molecular Biology	BML(T) 602	4	0	0	6				
		BML692	0	2	0				√	
DSE 3(Any one)	Advanced Diagnostic Techniques	BML 603 (A)	4	0	0	6				
		BML 693 (A)	0	2	0				√	
	Basic Laboratory Management	BML 603 (B)	4	0	0					
		BML 693 (B)	0	2	0					
DSE 4 (Any One)	Major Project	BML 681(A)	1	5	0	6				
	Internship	BML 681(B)	1	5	0				√	
Semester Credits						24				

**Note:**

Major Project/Internship- (Students have to engage in a full length/capstone project with a pre-specified Internal Guide (faculty member) throughout the semester). Industry collaboration is highly encouraged in case of Internship. (At least two-three times progress needs to be checked and evaluation needs to be done through PCA.) It will be followed by a report submission and viva as part of University examination.

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**B.Sc in Medical Lab Technology**

Program Outcomes or Graduate Attributes of B.Sc Medical Lab Technology Program under MAKAUT:

*Graduates will be able to demonstrate the following program outcomes:*

**PO1- Medical Laboratory Knowledge:** Apply the knowledge of clinical haematology, pathology, histopathology, clinical biochemistry, clinical enzymology, clinical immunology, clinical microbiology, clinical endocrinology & toxicology, diagnostic molecular biology and other medical lab technology specialisations to the solution of complex disease diagnosis.

**PO2- Design/Development of Solutions:** Identify, formulate, review and research design solutions for complex medical diagnostic problems and design medical experimental components or processes to meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal and environmental considerations.

**PO3- Medical Laboratory Professional and Society:** Create, select and apply techniques, resources and modern medical laboratory tools and techniques to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional Medical Laboratory Technology practice.

**PO4- Individual and teamwork:** Apply ethical principles and commit to professional ethics, responsibilities, and norms of the medical laboratory technologist practice as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.

**PO5- Communication:** Communicate effectively on complex medical laboratory technologist activities with the medical laboratory technologist community and with society, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO6- Lifelong Learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broad context of technological change.



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**Program Outcomes (PO) Mapping**

<b>PO#</b>	<b>Program Outcome</b>	<b>Mapped courses</b>
1	Medical Laboratory Knowledge	BML 101, BML 102, BML 201, BML 202, BML 301, BML 302, BML 303, BML 354, BML 401, BML 402, BML 501, BML 502, BML 543, BML 601, BML 602
2	Design/Development of Solutions	BML 455, BML 543, BML 544, BML 643, BML 644
3	Medical Laboratory Professional and Society	BML 265, BML 403, BML 455
4	Individual and Team Work	BML 403, BML 455, BML 543, BML 544, BML 643, BML 644
5	Communication	BML 164, BML 403, BML 644
6	Life-Long Learning	BML 455, BML 643, BML 644

**\*GE Courses are not in the above mapped list. Based on the choice of the learner that would necessarily be part of PO6 and the relevant PO's**