2. PROGRAM EDUCATION OBJECTIVES (PEOs)

The overall objective of the learning outcome-based curriculum framework (LOCF) for Master of Science in Medical Laboratory Technology (Specialization - Clinical Biochemistry), M.Sc. MLT (Clinical Biochemistry) are as follows:

PEO No.	Education Objective
PEO 1	Students will be able to use their fundamental knowledge and clinical competence in various scientific aspects of Medical Laboratory profession
PEO 2	Students will demonstrate strong and well defined clinical / practical skills in Medical Laboratory profession
PEO 3	Students will be able to practice the profession with highly professional and ethical attitude, strong communication skills, and to work in an inter-disciplinary team.
PEO 4	Students will be able to use interpersonal and collaborative skills to identify, assess and formulate problems and execute the solution to assess in the field of Laboratory Science
PEO 5	Students will be able to imbibe the culture of research, innovation, entrepreneurship and incubation through evidence-based learning
PEO 6	Students will be able to participate in lifelong learning process for a highly productive career and will be able to relate the concepts in the field of Laboratory science towards serving the cause of the society

3. GRADUATE ATTRIBUTES

S No.	Attribute	Description
1	**Domain Knowledge**	Demonstrate comprehensive knowledge, competency and understanding of one or more disciplines that form a part of a professional domain
2	**Clinical / Hands-on skills**	Demonstrate clinical / hands-on skills in order to deliver and manage quality health care services
3	**Communication Skills**	Demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups using appropriate media
4	**Team work**	Demonstrate the ability to effectively and efficiently work and collaborate with diverse teams in the best interest of health care needs of the community
5.	**Professional ethics**	Demonstrate the ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in professional life
6.	**Research / Innovation-related Skills**	A sense of inquiry and investigation for raising relevant and contemporary questions, synthesizing and articulating
7.	**Critical thinking and problem solving**	Demonstrate capacity to think critically and extrapolate from what one has learned by applying their competencies and knowledge to solve different kinds of non-familiar problems in real life situations

S No.	Attribute	Description
8	**Information/Digital Literacy**	Demonstrate capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources and to use appropriate software for analysis of data
9	**Multicultural Competence**	Demonstrate knowledge of the values and beliefs of multiple cultures and a global perspective, effectively engage in a multicultural society, interact respectfully with diverse groups
11.	**Leadership qualities**	Demonstrate leadership capability to formulate an inspiring vision, build a team, motivate and inspire team members to attain organizational vision
12.	**Lifelong Learning**	Demonstrate the ability to acquire knowledge and skills, that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to demands of workplace through knowledge/skill development/reskilling

5. PROGRAM OUTCOMES (POs):

After successful completion of Master of Science in Medical Laboratory Technology (Specialization– Clinical Biochemistry), M.Sc. MLT (Clinical Biochemistry) program students will be able to:

PO No.	Attribute	Competency
PO 1	Domain knowledge	Possess and acquire **scientific knowledge** to work as a health care professional
PO 2	Clinical/ Hands-on skills	Demonstrate and possess **clinical and hands-on skills** to provide quality health care services
PO 3	Team work	Demonstrate **team work skills** to support shared goals with the interdisciplinary health care team to improve societal health
PO 4	Ethical value & professionalism	Possess and demonstrate **ethical values and professionalism** within the legal framework of the society
PO 5	Communication	**Communicate effectively** and appropriately with the interdisciplinary health care team and the society
PO 6	Evidence based practice	Demonstrate high quality **evidence based practice** that leads to excellence in professional practice
PO 7	Life-long learning	Enhance knowledge and skills with the use of advancing technology for the **continual improvement** of professional practice
PO 8	Entrepreneurship, leadership and mentorship	Display **entrepreneurship, leadership and mentorship** skills to practice independently as well as in collaboration with the interdisciplinary health care team

MANIPAL COLLEGE
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(A constituent unit of MAHE, Manipal)

The subject code equivalence for subjects mentioned in syllabus copy of course **M.Sc. MLT (Clinical Biochemistry)** from the academic year **2021-22** onwards. These changes have been discussed in BOS meeting held on 13.12.2021 and subsequently approved in the 70th Academic Council meeting held on 14.01.2022.

SEMESTER - I

Course Title	Old Course Code	Revised Course Code
General Microbiology	MLT6001	MLT5001
Immunology and Immunopathology	MLT6003	MLT5003
Microbiology and Immunological Techniques	MLT6005	MLT5005
Diagnostic Biochemistry	MLT6007	MLT5007
Clinical Biochemistry	MLT6009	MLT5009
Advanced Biostatistics and Research Methodology	ABS6101	ABS5101

SEMESTER - II

Course Title	Old Course Code	Revised Course Code
Molecular Biology and Applied Genetics	MLT6002	MLT5002
Molecular Biology Techniques	MLT6004	MLT5004
Hematology and Clinical Pathology	MLT6006	MLT5006
Clinical Lab and Hematology	MLT6008	MLT5008
Research Project- IRC, IEC	MLT6080	MLT5080
Ethics and Pedagogy	EPG6201	EPG5201

SEMESTER - III

Course Title	Old Course Code	Revised Course Code
Applied Biochemistry I	MLT7201	MLT6201
Clinical Lab - Biochemistry I	MLT7203	MLT6203
Research Project- Data Collection	MLT7070	MLT6070
Program Elective:		
Histopathology and Cytology Techniques	MLT7011	MLT6011
Biomedical Techniques	MLT7021	MLT6021

SEMESTER - IV

Course Title	Course Code	Revised Course Code
Metabolic Disorders and Applied Biochemistry II	MLT7202	MLT6202
Clinical Lab - Biochemistry II	MLT7204	MLT6204
Dissertation	MLT7080	MLT6080

HOD **DEAN** **DEPUTY-REGISTRAR ACADEMICS** **REGISTRAR**

Dean
Manipal College of Health Professions
MAHE, Manipal - 576104

Deputy Registrar - Academics
MANIPAL ACADEMY OF HIGHER EDUCATION
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REGISTRAR
MANIPAL ACADEMY OF HIGHER EDUCATION
MANIPAL

Head
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Manipal College of Health Professions
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OVERALL CREDIT DISTRIBUTION

Semester	Credit distribution					Marks Distribution		
	L	T	PW	CL	CR	IAC	ESE	Total
I - SEMESTER	6	6	-	24	20	280	320	600
II - SEMESTER	3	5	12	24	20	400	200	600
III - SEMESTER	2	4	18	24	20	250	150	400
IV - SEMESTER	1	3	24	24	20	150	150	300
Grand Total	**12**	**18**	**54**	**96**	**80**	**1080**	**820**	**1900**

INTERNAL ASSESSMENT COMPONENT (IAC) WEIGHTAGE DISTRIBUTION

Theory		Practical	
Components	**%**	**Components**	**%**
Mid semester exam	50	Mid semester exam	50
MCQ	20	Case Presentation	10
Presentation	20	OSPE/Viva	15
Assignments	10	Competency in bench mark	10
		Logbook/ Record Book	15