5. PROGRAM OUTCOMES (POs):

After successful completion of Bachelor / BSc Medical Laboratory Technology program, students will be able to:

PO No.	Attribute	Competency
PO 1	Professional knowledge	Possess and acquire **scientific knowledge** to work as a health care professional
PO 2	Clinical/ Technical skills	Demonstrate and possess **clinical 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

6. COURSE STRUCTURE, COURSE WISE LEARNING OBJECTIVE, COURSE OUTCOMES (COs)

SEMESTER - I

Course Code	Course title	Credit distribution (Hours/week)					Marks distribution		
		L	T	P	CL	C	IAC	ESE	TOTAL
ANA1103	Anatomy	3	-	-	-	3	30	70	100
PHY1101	Physiology - I	2	-	-	-	2	30	70	100
CSK1001	Communication Skills	2	-	-	-	2	100	-	100
EIC1001	Environmental science and Indian constitution	2	-	-	-	2	100	-	100
MLT1101	Biomedical Instrumentation	2	1	-	-	3	50	50	100
MLT1161	Basic Laboratory Techniques	-	-	4	9	5	100	-	100
MLT1102	Laboratory Safety Management	2	1	-	-	3	100	-	100
	TOTAL	**13**	**2**	**4**	**9**	**20**	**510**	**190**	**700**

Note:
ESE for ANA1103, PHY1101 will be conducted for 50 marks and normalized to 70 marks
ESE for MLT1101 will be conducted for 100 marks and normalized to 50 marks

SEMESTER - II

Course Code	Course title	Credit distribution (Hours/week)					Marks distribution		
		L	T	P	CL	C	IAC	ESE	TOTAL
PHY1201	Physiology - II	2	-	-	-	2	30	70	100
BIC1201	Biochemistry	3	-	-	-	3	30	70	100
MLT1261	Basics of Clinical Biochemistry	-	-	4	6	4	100	-	100
MLT1201	Clinical Laboratory Management and Automation	2	1	-	-	3	50	50	100
MLT1262	Clinical Pathology	-	2	2	3	4	100	-	100
MLT1202	Ethics in Medical Laboratory Science	1	1	-	-	2	100	-	100
MLT1203	Pharmacology	1	1	-	-	2	100	-	100
	TOTAL	**9**	**5**	**6**	**9**	**20**	**510**	**190**	**700**

Note:
ESE for PHY1201 & BIC1201 will be conducted for 50 marks and normalized to 70 marks
ESE for MLT1201 will be conducted for 100 marks and normalized to 50 marks

SEMESTER - III

Course Code	Course title	Credit distribution (Hours/week)					Marks distribution		
		L	T	P	CL	C	IAC	ESE	TOTAL
MLT2101	Basic Hematology	1	1	-	-	2	50	50	100
MLT2161	Hematology - I	-	-	4	3	3	50	50	100
MLT2102	Applied Biochemistry - I	2	1	-	-	3	50	50	100
MLT2162	Clinical Biochemistry - I	-	-	4	3	3	50	50	100
MLT2103	Immunology and Immunohematology	2	1	-	-	3	50	50	100
MLT2163	Transfusion Medicine	-	-	4	3	3	50	50	100
*** ****	Open Elective - I	-	-	-	-	3	S/NS		
	TOTAL	**5**	**3**	**12**	**9**	**20**	**300**	**300**	**600**

Note:
ESE for MLT2161, MLT2102, MLT2162, MLT2103, MLT2163, will be conducted for 100 marks and normalized to 50 marks

SEMESTER - IV

Course Code	Course title	Credit distribution (Hours/week)					Marks distribution		
		L	T	P	CL	C	IAC	ESE	TOTAL
BST3201	Biostatistics and Research Methodology	3	-	-	-	3	30	70	100
GPY2203	General Psychology	2	-	-	-	2	50	50	100
MLT2201	Hematological Disorder	2	1	-	-	3	50	50	100
MLT2261	Hematology - II	-	-	4	3	3	100	-	100
MLT2202	Applied Biochemistry - II	2	1	-	-	3	50	50	100
MLT2262	Clinical Biochemistry - II	-	-	4	3	3	100	-	100
MLT****	Program Elective - I	2	1	-	-	3	50	50	100
	TOTAL	**11**	**3**	**8**	**6**	**20**	**430**	**270**	**700**

Note: ESE for BST3201 will be conducted for 100 marks and normalized to 70 marks
ESE for MLT2201, MLT2202, will be conducted for 100 marks and normalized to 50 marks

SEMESTER - V

Course Code	Course title	Credit distribution (Hours/week)					Marks distribution		
		L	T	P	CL	C	IAC	ESE	TOTAL
MLT3101	Histopathology	2	1	-	-	3	50	50	100
MLT3161	Histopathological Techniques	-	-	4	6	4	50	50	100
MLT3102	General Microbiology	1	1	-	-	2	50	50	100
MLT3103	Systematic Bacteriology	3	1	-	-	4	50	50	100
MLT3162	Microbiology - I	-	-	4	6	4	50	50	100
*** ****	Open Elective - II	-	-	-	-	3	S/NS		
	TOTAL	**6**	**3**	**8**	**12**	**20**	**250**	**250**	**500**

Note:
ESE for MLT3101, MLT3161, MLT3103, MLT3162 will be conducted for 100 marks and normalized to 50 marks

SEMESTER - VI

Course Code	Course title	Credit distribution (Hours/week)					Marks distribution		
		L	T	P	CL	C	IAC	ESE	TOTAL
MLT3201	Medical Parasitology and Entomology	2	1	-	-	3	50	50	100
MLT3202	Medical Mycology & Virology	2	1	-	-	3	50	50	100
MLT3261	Microbiology - II	-	-	2	3	2	100	-	100
MLT3203	Cytology and Developmental Biology	2	1	-	-	3	50	50	100
MLT3262	Cytological Techniques	-	-	2	3	2	100	-	100
MLT3204	Public Health Laboratory Science	1	1	-	-	2	100	-	100
MLT3205	Molecular Biology	1	1	-	-	2	100	-	100
MLT****	Program Elective - II	2	1	-	-	3	50	50	100
	TOTAL	**10**	**6**	**4**	**6**	**20**	**600**	**200**	**800**

Note: ESE for MLT3201, MLT3202, MLT3203 will be conducted for 100 marks and normalized to 50 marks

Open Electives

Open elective is credited, choice-based and is graded as satisfactory / not satisfactory (S/NS). Students make a choice from pool of electives offered by MAHE institution / Online courses as approved by the department

Program Electives

Program elective is credited and choice-based. The students make a choice from pool of electives offered by the department. The ESE is conducted for 50 marks.

Semester	Course Code	Course Title	Credit (s) Distribution (L,T,P,CL are hours/ week)				
			L	T	P	CL	CR
IV Semester	MLT2241	Metabolic Disorder	2	1	-	-	3
	MLT2242	Nutrition and Health	2	1	-	-	3
VI Semester	MLT3241	Food Microbiology	2	1	-	-	3
	MLT3242	Advanced Diagnostic tests in Pathology	2	1	-	-	3

SEMESTER - VII and VIII

Internship (1 year, 48 hours/week)

Semester VII	**Internship -** I	Duration 6 months 48 hours in a week / 7 hours in a day 6days a week
Semester VIII	**Internship -** II	Duration 6 months 48 hours in a week / 7 hours in a day 6days a week

OVERALL CREDIT DISTRIBUTION

Semester	Hours per week				Total Credits	Marks		
	L	T	P	CL		IAC	ESE	Total
Semester -I	13	2	4	9	20	510	190	700
Semester - II	9	5	6	9	20	510	190	700
Semester - III	5	3	12	9	20	300	300	600
Semester - IV	11	3	8	6	20	430	270	700
Semester - V	6	3	8	12	20	250	250	500
Semester - VI	10	6	4	6	20	600	200	800
Semester - VII	-	-	-	-	-	-	-	-
Semester -VIII	-	-	-	-	-	-	-	-
Total	**54**	**22**	**42**	**51**	**120**	**2800**	**1400**	**4200**

2600 4000

COLLEGE OF HEALTH PROFESSIONS MAHE Manipal 576104