

2. PROGRAM EDUCATION OBJECTIVES (PEOS)

The overall objective of the learning outcome-based curriculum framework (LOCF) for B.Sc RRT & DT Program are as follows:

PEO No.	Education Objective
PEO 1	Students will be able to use their fundamental knowledge and clinical and technical competence in renal replacement therapy as and when required to achieve professional excellence.
PEO 2	Students will demonstrate strong and well defined clinical and practical skills in renal replacement therapy.
PEO 3	Students will be able to practice the profession with a highly professional and ethical attitude, strong communication skills, and effective professional skills to work in an interdisciplinary team.
PEO 4	Students will be able to use interpersonal and collaborative skills to identify, assess and formulate problems and execute the solution.
PEO 5	Students will be able to imbibe the culture of research, innovation, entrepreneurship and incubation.
PEO 6	Students will be able to participate in a lifelong learning process for a highly productive career and will be able to relate the concepts of renal replacement therapy towards serving the cause of society.



3. GRADUATE ATTRIBUTES

S No.	Attribute	Description
1	Professional Knowledge	Demonstrate scientific knowledge and understanding to work as a health care professional
2	Clinical / technical/ practical skills	Demonstrate Clinical/technical/practical skills in order to implement the preventive, assessment and management plans for quality health care services
3.	Communication	Ability to communicate effectively and appropriately in writing and orally to patients/clients, caregivers, other health professionals and other members of the community
4.	Cooperation/ Teamwork	Ability to work effectively and respectfully with interdisciplinary team members to achieve coordinated, high quality health care
5.	Professional ethics	Ability to identify ethical issues and apply the ethical values in the 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	Ability to think critically and apply once learning to real-life situations
8.	Reflective thinking	Ability to employ reflective thinking along with the ability to create the sense of awareness of one self and society
9.	Information/digital literacy	Ability to use ICT in a variety of learning situations
10.	Multi-cultural competence	Ability to effectively engage in a multicultural society and interact respectfully
11.	Leadership readiness/qualities	Ability to respond in an autonomous and confident manner to planned and uncertain situations, and should be able to manage themselves and others effectively
12.	Lifelong Learning	Every graduate to be converted into lifelong learner and consistently update himself or herself with current knowledge, skills and technologies. Acquiring Knowledge and creating the understanding in learners that learning will continue throughout life.



5. PROGRAM OUTCOMES (POs):

After successful completion of Bachelor / BSc RRT & DT 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	Teamwork	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 (L, T, P, CL are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	TOTAL
ANA1101	Anatomy - I	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
RRT1101	Kidney Disease - I	3	1	-	-	4	50	50	100
RRT1102	Applied Dialysis - I	1	2	-	-	3	100	-	100
RRT1131	Clinical Skills - I	-	-	6	3	4	100	-	100
TOTAL		13	3	6	3	20	510	190	700

Note: ESE for

- ANA1101 and PHY1101 will be conducted for 50 marks and normalized to 70 marks for grading
- RRT1101 will be conducted for 100 marks and normalized to 50 marks for grading

SEMESTER - II

Course Code	Course title	Credit distribution (L, T, P, CL are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	TOTAL
ANA1201	Anatomy - II	2	-	-	-	2	30	70	100
PHY1201	Physiology - II	2	-	-	-	2	30	70	100
BIC1201	Biochemistry	3	-	-	-	3	30	70	100
RRT1201	Kidney Disease - II	3	1	-	-	4	50	50	100
RRT1202	Applied Dialysis - II	2	2	-	-	4	100	-	100
RRT1231	Clinical Skills - II	-	-	8	3	5	50	50	100
TOTAL		12	3	8	3	20	290	310	600

Note: ESE for

- ANA1201, PHY1201 and BIC1201 will be conducted for 50 marks and normalized to 70 marks for grading
- RRT1201 and RRT1231 will be conducted for 100 marks and normalized to 50 marks for grading.



SEMESTER - III

Course Code	Course title	Credit distribution (L, T, P, CL are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	TOTAL
PAT2103	Pathology	3	-	-	-	3	30	70	100
MCB2103	Microbiology	3	-	-	-	3	30	70	100
RRT2101	Dialysis Technology - I	3	1	-	-	4	50	50	100
RRT2102	Applied Dialysis - III	1	2	-	-	3	100	-	100
RRT2131	Clinical Skills - III	-	-	6	3	4	100	-	100
*** ****	Open Elective - I	-	-	-	-	3	S/NS		
TOTAL		10	3	6	3	20	310	190	500

Note: ESE for

- PAT2103 and MCB2103 will be conducted for 50 marks and normalized to 70 marks for grading
- RRT2101 will be conducted for 100 marks and normalized to 50 marks for grading

SEMESTER - IV

Course Code	Course title	Credit distribution (L, T, P, CL are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	TOTAL
PHC2203	Pharmacology	3	-	-	-	3	30	70	100
GPY2201	General Psychology	2	-	-	-	2	30	70	100
RRT2201	Dialysis Technology - II	2	1	-	-	3	50	50	100
RRT2202	Cardiology, Laboratory, Imaging technology Related to Kidney Disease and Cardiac life support (CLS)	2	1	-	-	3	100	-	100
RRT2231	Clinical Skills - IV	-	-	10	3	6	50	50	100
RRT ****	Program Elective - I	2	1	-	-	3	50	50	100
TOTAL		11	3	10	3	20	310	290	600

Note: ESE for

- PHC2203 and GPY2201 will be conducted for 50 marks and normalized to 70 marks for grading
- RRT2201 and RRT2231 will be conducted for 100 marks and normalized to 50 marks for grading



SEMESTER - V

Course Code	Course title	Credit distribution (L, T, P, CL are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	TOTAL
RRT3101	Renal transplantation and Hemodialysis Guidelines	3	1	-	-	4	50	50	100
RRT3102	Dialysis Technology - III	3	1	-	-	4	50	50	100
RRT3103	Applied Dialysis - IV	2	1	-	-	3	100	-	100
RRT3131	Clinical Skills - V	-	-	10	3	6	100	-	100
*** ****	Open Elective - II	-	-	-	-	3	S/NS		
TOTAL		8	3	10	3	20	300	100	400

Note: ESE for

- RRT3101 and RRT3102 will be conducted for 100 marks and normalized to 50 marks for grading

SEMESTER - VI

Course Code	Course title	Credit distribution (L, T, P, CL are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	TOTAL
BST3201	Biostatistics and Research Methodology	3	-	-	-	3	30	70	100
RRT3201	Advanced Extracorporeal Blood Therapies for Renal and Non-renal Cases	3	1	-	-	4	50	50	100
RRT3202	Applied Dialysis - V	1	1	-	-	2	100	-	100
RRT3231	Clinical Skills - VI	-	-	14	3	8	50	50	100
RRT ****	Program Elective - II	2	1	-	-	3	50	50	100
TOTAL		9	3	14	3	20	280	220	500

Note: ESE for

- BST3201 will be conducted for 100 marks and normalized to 70 marks for grading
- RRT3201 and RRT3231 will be conducted for 100 marks and normalized to 50 marks for grading



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	RRT2241	Pediatric Dialysis	2	1	-	-	3
	RRT2242	Home Dialysis	2	1	-	-	3
VI Semester	RRT3241	Vascular Access Coordination Skills	2	1	-	-	3
	RRT3242	Kidney Transplant Coordination Skills	2	1	-	-	3

SEMESTER - VII and VIII
Internship (1 year, 48 hours/week)

Semester VII	Duration 6 months 48 hours in a week / 8 hours in a day
Semester VIII	Duration 6 months 48 hours in a week / 8 hours in a day

SUMMARY OF CREDITS AND MARKS DISTRIBUTION

Semester	Hours per week					Marks		
	Lecture	Tutorial	Practical	Clinics	Total Credits	IAC	ESE	Total
Semester I	13	3	6	3	20	510	190	700
Semester II	12	3	8	3	20	290	310	600
Semester III	10	3	6	3	20	310	190	500
Semester IV	11	3	10	3	20	310	290	600
Semester V	8	3	10	3	20	300	100	400
Semester VI	9	3	14	3	20	280	220	500
Semester VII	-	-	-	48	NA	-	-	-
Semester VIII	-	-	-	48	NA	-	-	-
Total	63	18	54	114	120	2000	1300	3300

