M.Sc. (Medical Radiochemistry) to be offered as integrated M.Sc.-PhD program subject to MAHE regulations for Integrated Master's-PhD programs

SEMESTER-I

Course Code	Course title	Credit distribution (L,T,P are hours/week)					Marks Distribution		
		L	T	P	CL	C	IAC	ESE	Total
ABS5101	Advanced Biostatistics and Research Methodology	3	1	-	-	4	30	70	100
MRC5101	Radiation physics and Nuclear Medicine instrumentation	2	1	-	-	3	50	50	100
MRC5102	Radiopharmaceutical production & Quality Control	3	1	-	-	4	50	50	100
MRC5103	Radiation safety and regulations	2	1	-	-	3	50	50	100
MRC5104	Chemistry-I	2	1	-	-	3	50	50	100
MRC5111	Practicum-I	-	1	4	-	3	100	-	100
	Total	12	6	4	-	20	330	270	600
Note: ESE for MRC5101, MRC5102, MRC5103 and MRC5104 will be conducted for 100 marks and normalized to 50 marks. ESE for ABS5101 will be conducted for 50 marks and normalized to 70 marks.									

Semester-II

Course Code	Course title	Credit distribution (L,T,P are hours/week)					Marks Distribution		
		L	T	P	CL	C	IAC	ESE	Total
EPG5201	Ethics & Pedagogy	1	1	-	-	2	100	-	100
MRC5201	Medical cyclotron operations and PET radiopharmaceuticals	2	1	-	-	3	50	50	100
MRC5202	Radiopharmaceutics & Radiopharmacokinetics	3	1	-	-	4	50	50	100
MRC5203	Computer-aided drug design	2	1	-	-	3	50	50	100
MRC5204	Chemistry-II	3	1	-	-	4	50	50	100
MRC5231	Clinical Practices-I	-	-	-	9	3	100	-	100
	Total	11	5	-	9	19	400	200	600
Note: ESE for MRC5201, MRC5202, MRC5203 AND MRC5204 will be conducted for 100 marks and normalized to 50 marks.									

Semester III

Course Code	Course title	Credit distribution (L,T,P are hours/week)					Marks Distribution		
		L	T	P	CL	C	IAC	ESE	Total
MRC6101	Radiobiology	2	1	-	-	3	50	50	100
MRC6102	Physicochemical & analytical techniques in radiopharmaceutical development	2	1	-	-	3	50	50	100

MRC6111	Medical Cyclotron Field training & Practicum-II	-	-	6	-	3	50	50	100
MRC6151	Research work phase I	-	1	8		5	50	50	100
MRC6131	Clinical Practices-II	-	-	-	9	3	100	-	100
MRC***	Program Elective	1	2	-	-	3	50	50	100
	Total	5	5	14	9	20	350	250	600
Note: ESE for MRC6101, MRC6102, MRC6111, MRC6151 will be conducted for 100 marks and normalized to 50 marks. ESE for MRC*** will be conducted for 50 marks. Student can take a choice of either one program elective from the list of program electives									

Semester IV

Course Code	**Course title**	**Credit distribution (L,T,P are hours/week)**					**Marks Distribution**		
		L	**T**	**P**	**CL**	**C**	**IAC**	**ESE**	**Total**
MRC6201	Regulatory affairs in radiopharmaceuticals	2	-	-	-	2	50	50	100
MRC6202	Clinical nuclear medicine	2	-	-	-	2	50	50	100
MRC6203	SPECT and therapeutic radiopharmaceuticals	2	1	-	-	3	50	50	100
MRC6251	Research work phase II	-	1	26	-	14	50	50	100
	Total	5	2	26	-	21	200	200	400
Note: ESE for MRC6203 and MRC6251 will be conducted for 100 marks and normalized to 50 marks.									

Elective Code* **	**Elective title**	**Credit distribution (L,T,P are hours/week)**					**Marks Distribution**		
		L	**T**	**P**	**CL**	**C**	**IAC**	**ESE**	**Total**
MRC6011	Elective: Pre-clinical studies in Nuclear Medicine	1	2	-	-	3	50	50	100
MRC6012	Elective: Radiation dosimetry in Nuclear Medicine								
MRC6013	Cross-sectional Imaging								
Note: ESE for MRC6011, MRC6012, MRC6013 will be conducted for 50 marks.									

MSc Radiotherapy Technology (MSc RTT)

I Semester

Code	Subject	Credits					Marks		
		L	**T**	**P**	**CL**	**CR**	**IAC**	**ESE**	**Total**
ABS5101	Advanced Biostatistics and Research Methodology	3	**1**	**_**	**_**	4	**30**	**70**	100
RTT5101	Radiation Safety, Hazards, Evaluation and Control	2	1	-	-	3	50	50	100
RTT5102	Imaging in Radiotherapy	2		-	-	2	50	50	100
RTT5131	Clinical Practice -I	-	-	-	33	11	100	-	100
Total		7	2	-	33	20	230	170	400

Note:
ESE for ABS5101 will be conducted for 50 marks and normalised to 70 marks for grading
ESE for RTT5101 will be conducted for 100 marks and normalised to 50 marks for grading
ESE for RTT5102 will be conducted for 50 marks

II Semester

Code	Subject	Credits					Marks		
		L	**T**	**P/PW**	**CL**	**CR**	**IAC**	**ESE**	**Total**
EPG 5201	Ethics & Pedagogy	1	1	**_**	**_**	2	100	-	100
RTT5201	Dose measurement and Detection	2	-	-	-	2	50	50	100
RTT5202	Clinical Radiobiology	2	-	-	-	2	100	-	100
RTT5211	Practical – Patient simulation and QA in EBRT	-	-	4	-	2	-	100	100
RTT5231	Clinical Practice -II	-	-	-	24	8	100	-	100
RTT5251	Research Project-I	-	-	12	-	4	100	-	100
Total		5	1	16	24	20	450	150	600

Note:
ESE for RTT5201, will be conducted for 100 marks and normalised to 50 marks for grading purpose
ESE for RTT5211 will be conducted for 100 marks (practical = 50 marks and viva voce = 50marks)

III Semester

Code	Subject	Credits					Marks		
		L	**T**	**P/PW**	**CL**	**CR**	**IAC**	**ESE**	**Total**
RTT6101	Positioning and immobilization in Radiotherapy	1	1	-	-	2	50	50	100
RTT6131	Clinical Practice -III	-	-	-	30	10	100	-	100
RTT6151	Research Project-II	-	-	15	-	5	100	-	100
RTT****	Programe elective	-	3	-	-	3	50	50	100
Total		1	4	15	30	20	300	100	400

Note:
ESE for RTT****, will be conducted for 50 marks
ESE for RTT6101, will be conducted for 50 marks

IV Semester

Code	Subject	Credits					Marks		
		L	**T**	**P/PW**	**CL**	**CR**	**IAC**	**ESE**	**Total**
RTT6201	Advanced Radiotherapy Techniques	2	1	-	-	3	50	50	100
RTT6211	Practical – Advanced Radiotherapy and Verification	-	-	4	-	2	-	100	100
RTT6231	Clinical Practice -IV	-	-	-	30	10	100	-	100
RTT6251	Research Project-III	-	-	15	-	5	-	100	100
Total		2	1	19	30	20	150	250	400

Note:
ESE for RTT6201, will be conducted for 100 marks and normalised to 50 marks for grading
ESE for RTT 6211 will be conducted for 100 marks (practical = 50 marks and viva voce = 50marks)
ESE for RTT6251 will be conducted for 100 marks

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.

Code	Subject	Credits			
		L	**T**	**P**	**CR**
RTT6011	Introduction to Radiation Oncology	-	3	-	3
RTT6021	Patient care in Radiotherapy	-	3	-	3

Master of Occupational Therapy (Occupational Therapy for the Ageing Adults)

SEMESTER - I

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P/PW	CL	CR	IAC	ESE	Total
ABS5101	Advanced Biostatistics & Research Methodology	4	-	-	-	4	30	70	100
OCT5001	Constructs related to Human Occupation	2	2	-	-	4	50	50	100
OCT5003	Research in Occupational Therapy	1	2	2	-	4	50	50	100
OCT5005	Clinical Fieldwork - I	-	-	-	18	6	100	-	100
OCT5070	Research Projects - I	-	2	3	-	3	100	-	100
Total		**7**	**6**	**5**	**18**	**21**	**330**	**170**	**500**

Note:
ESE for ABS5101 will be conducted for 50 marks and normalised to 70 marks. ESE for OCT5001 will be conducted for 100 marks and normalised to 50 marks. ESE for OCT5003 theory will be conducted for 100 marks and normalised to 50 marks, and Practicals will be evaluated as IAC only.

SEMESTER - II

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P/PW	CL	CR	IAC	ESE	Total
EPG5201	Ethics & Pedagogy	1	1	-	-	2	100	-	100

OCT5002	Occupational Therapy Assessments and Interventions	1	2	2	-	4	50	50	100
OCT5004	Occupational Therapy Educators and Managers: Roles and Functions	1	2	-	-	3	50	50	100
OCT5006	Clinical Fieldwork-II	-	-	-	24	8	100	-	100
OCT5080	Research Projects - II	-	1	3	-	2	100	-	100
	Total	**3**	**6**	**5**	**24**	**19**	**400**	**100**	**500**
Note: ESE for OCT5002 theory will be conducted for 100 marks and normalised to 50 marks, and Practicals will be evaluated as IAC only. ESE for OCT5004 will be conducted for 100 marks and normalised to 50 marks.									

SEMESTER - III

Course Code	**Course Title**	**Credit Distribution (hours/week)**					**Marks Distribution**		
		L	**T**	**PW**	**CL**	**CR**	**IAC**	**ESE**	**Total**
OCT6501	Occupational Therapy for the Ageing Adult - I	2	3	-	-	5	50	50	100
OCT6503	Clinical Fieldwork - III	-	-	-	24	8	100	-	100
OCT6070	Research Projects - III	-	1	9	-	4	100	-	100
OCT* **	Program Elective	1	2	-	-	3	50	50	100
	Total	**3**	**6**	**9**	**24**	**20**	**300**	**100**	**400**
Note: ESE for OCT6501 will be conducted for 100 marks and normalised to 50 marks.									

SEMESTER - IV

Course Code	**Course Title**	**Credit Distribution (hours/week)**					**Marks Distribution**		
		L	**T**	**PW**	**CL**	**CR**	**IAC**	**ESE**	**Total**
OCT6502	Occupational Therapy for the Ageing Adult-II	2	3	-	-	5	50	50	100
OCT6504	Clinical Fieldwork - IV	-	-	-	27	9	50	50	100
OCT6080	Research Projects - IV	-	2	12	-	6	50	50	100
	Total	**2**	**5**	**12**	**27**	**20**	**150**	**150**	**300**
Note: ESE for OCT6502 and OCT6504 will be conducted for 100 marks and normalised to 50 marks.									

Program Electives

Program electives are credits and choice-based. The students can make a choice from the electives offered by the department. The ESE for these will be conducted for 50 marks.

Semester	Elective Code	Elective Title	L	T	P	CR
III	**OCT6011**	Entrepreneurship Tools for Occupational Therapists	1	2	-	3
III	**OCT6021**	Occupational Therapy Solutions for Community	1	2	-	3

Master of Physiotherapy (Oncology)

SEMESTER - I

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
ABS5101	Advanced Biostatistics & Research Methodology	3	1	-	-	4	30	70	100
PTH5001	Principles of Physiotherapy Practice	1	2	-	-	3	100	-	100
PTH5003	Clinical Practice in Physiotherapy	-	-	-	36	12	100	-	100
PTH5870	Research Proposal in Physiotherapy in Oncology	-	-	4	-	2	100	-	100
	Total	**4**	**3**	**4**	**36**	**21**	**330**	**70**	**400**
Note: ABS5101 will be conducted for 50 marks and normalized to 70 marks									

SEMESTER - II

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
EPG5201	Ethics and Pedagogy	1	1	-	-	2	100	-	100
PTH5802	Foundations of Physiotherapy in Oncology	1	2		-	3	50	50	100
PTH5804	Physiotherapy Clinical Practice in Oncology – I	-	-	-	36	12	100	-	100
PTH5880	Research Progress in Oncology – I	-	-	4	-	2	100	-	100
	Total	**2**	**3**	**4**	**36**	**19**	**350**	**50**	**400**
Note: PTH5802 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	CR	IAC	ESE	Total
PTH6801	Physiotherapy in General Oncology	1	2	-	-	3	50	50	100
PTH6803	Physiotherapy Clinical Practice in Oncology – II	-	-	-	36	12	50	50	100
PTH6805	Evidence Based Physiotherapy Practice in Oncology	1	1	-	-	2	100	-	100
PTH6870	Research Progress in Oncology -II	-	-	6	-	3	100	-	100
	Total	**2**	**3**	**6**	**36**	**20**	**300**	**100**	**400**
Note: PTH6801 will be conducted for 100 marks and normalized to 50 marks PTH6803 will be conducted for 100 marks and normalized to 50 marks									

SEMESTER – IV

Program Elective

The student may choose from anyone options from the list of Program Elective combinations provided in the table below.

Option-1: Elective in Physiotherapy in Medical Oncology

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
PTH6812	Physiotherapy in Medical Oncology	1	2	-	-	3	50	50	100
PTH6814	Clinical practice in Medical Oncology	-	-	-	36	12	50	50	100
PTH6880	Research Project in Oncology	-	-	10	-	5	50	50	100
	Total	**1**	**2**	**10**	**36**	**20**	**150**	**150**	**300**
Note: PTH6812 will be conducted for 100 marks and normalized to 50 marks PTH6814 will be conducted for 100 marks and normalized to 50 marks									

ption-2: Elective in Physiotherapy in Radiotherapy and Surgical Oncology

Course Code	Course Title	Credit Distribution (hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
PTH6822	Physiotherapy in Radiotherapy and Surgical Oncology	1	2	-	-	3	50	50	100
PTH6824	Clinical Practice of Physiotherapy in Radiotherapy and Surgical Oncology	-	-	-	36	12	50	50	100
PTH6880	Research Project in Oncology	-	-	10	-	5	50	50	100
	Total	**1**	**2**	**10**	**36**	**20**	**150**	**150**	**300**
Note: PTH6822 will be conducted for 100 marks and normalized to 50 marks PTH6824 will be conducted for 100 marks and normalized to 50 marks									

PROGRAM STRUCTURE M.Sc. by Research in Translational Immunology

SEMESTER-I

Code	Course Title	Hours per week			C	Maximum marks		
		L	T	P		IA	*UNI EXAM	TOTAL
TI 401	Fundamentals of Immunology	3	1	-	4	30	70	100
TI 403	Laboratory Methodologies.	3	1	-	4	30	70	100
TI 405	Principles of Regeneration	3	1	-	4	30	70	100
TI 407	Immune dysfunction and disorders	3	1	-	4	30	70	100
TI 409	Fundamentals in Immunology Lab	-	-	6	3	40	60	100
TI 411	Laboratory Methodologies	-	-	6	3	40	60	100
TI 413	Principles of Regeneration lab	-	-	4	2	40	60	100
TI 415	Immune dysfunction and disorders Lab	-	-	4	2	40	60	100
	TOTAL	12	4	20	26	-	-	800

*Minimum marks for all University Examinations for a pass credit = 50%

SEMESTER-II

Code	Course Title	Hours per week			C	Maximum marks		
		L	T	P		IA	UNI EXAM	TOTAL
TI 500	Elective 1	4	-	-	4	100	-	100
TI 501	Elective 1 Lab	-	-	10	5	100	-	100
TI 503	Research Project**	-	-	-	8	100		100
	TOTAL	-	-	-	17	-	-	300

L= Lecture, T= Tutorial, P= Practical, C= Credit, IA= Internal assessment, UNI Exam= University examination.
** Evaluation by subject experts.
*Minimum marks for all University Examinations for a pass credit = 50%
T1503 would involve proposal conceptualization, proposal writing, gap identification and setting pilot experiments for project in Semester III and IV

SEMESTER-III

Code	Course Title	Hours per week			C	Maximum marks		
		L	T	P		IA	UNI EXAM	TOTAL
TI 600	Elective 2	4	-	-	4	100	-	100
TI 601	Elective 2 Lab	-	-	10	5	100	-	100
TI 603	Research Project**	-	-	-	8		100	100
	TOTAL	-	-	-	17	-	-	300

L= Lecture, T= Tutorial, P= Practical, C= Credit, IA= Internal assessment, UNI Exam= University examination.
** Evaluation by subject experts.
*Minimum marks for all University Examinations for a pass credit = 50%

SEMESTER-IV

Code	Course Title	Hours per week			C	Maximum marks TOTAL
		L	T	P		
TI 604	Research Project work and dissertation**	-	-	-	20	300

L= Lecture, T= Tutorial, P= Practical, C= Credit, IA= Internal assessment, UNI Exam= University examination.
** Evaluation by subject experts.

Master of Engineering – ME (Computer Science)

Program Structure

ME (Computer Science) – I Semester									
Course Code	Course Name	No. of Hours/week				Duration of Exam in Hrs	Maximum Marks		
		Lecture	Tutorial	Practical	Credit		Internal 50	External 50	Total 100
ESD 5102	Data Structures and Algorithms	3	-	-	3	3	50	50	100
ESD 5104	Real Time Operating Systems	3	-	-	3	3	50	50	100
AML 5102	Applied Machine Learning	3	-	-	3	3	50	50	100
CDC 5001	DevOps for Cloud	3	-	-	3	3	50	50	100
	Elective – I	3	-	-	3	3	50	50	100
ESD 5152	Data Structures and Algorithms Lab	-	-	3	1	3	50	50	100
ESD 5154	Real Time Operating Systems Lab	-	-	3	1	3	50	50	100
AML 5152	Applied Machine Learning Lab	-	-	3	1	3	50	50	100
CDC 5051	DevOps for Cloud Lab	-	-	3	1	3	50	50	100
	Elective – I Lab	-	-	3	1	3	50	50	100
MPT 5100	Mini Project – I	-	-	-	4	-	100	-	100
PSD 5100	Professional Skill Development – I	-	-	-	1	-	100	-	100
Total		**15**	**-**	**15**	**25**				

ME (Computer Science) – II Semester									
Course Code	Course Name	No. of Hrs. / week				Duration of Exam in Hrs	Maximum Marks		
		Lecture	Tutorial	Practical	Credit		Internal 50	External 50	Total 100
AML 5202	Deep Learning	3	-	-	3	3	50	50	100
BDA 5202	Modern Databases for Big Data	3	-	-	3	3	50	50	100
CYS 5204	Web Application Security	3	-	-	3	3	50	50	100
ESD 5201	Device Drivers	3	-	-	3	3	50	50	100
	Elective – II	3	-	-	3	3	50	50	100
AML 5252	Deep Learning Lab	-	-	3	1	3	50	50	100
BDA 5252	Modern Databases for Big Data Lab	-	-	3	1	3	50	50	100
CYS 5254	Web Application Security Lab	-	-	3	1	3	50	50	100
ESD 5251	Device Drivers Lab	-	-	3	1	3	50	50	100
	Elective – II Lab	-	-	3	1	3	50	50	100
MPT 5200	Mini Project – II	-	-	-	4	-	100	-	100
PSD 5200	Professional Skill Development – II	-	-	-	1	-	100	-	100
TOTAL		**15**	**-**	**15**	**25**				

ME. (Computer Science) – III & IV Semesters									
CSC 6098	Project Work	-	-	-	25				
Total Number of Credits to Award Degree							75		

List of Electives (Theory)

Elective - I		Elective - II	
Course Code	**Course Name**	**Course Code**	**Course Name**
BDA 5132	Principles of Data Visualization	AML 5232	Convolutional Neural Networks for Computer Vision
CDC 5101	Cloud Application with JAVA and Database	AML 5233	Natural Language Processing Principles and Applications
CYS 5131	Computer Networks and Security	CYS 5203	Secure Coding
		ENP 5230	Entrepreneurship
		CDC 5231	Cloud Operations

List of Electives (Lab)

Elective - I		Elective - II	
Course Code	**Course Name**	**Course Code**	**Course Name**
BDA 5182	Principles of Data Visualization Lab	AML 5282	Convolutional Neural Networks for Computer Vision Lab
CDC 5151	Cloud Application with JAVA and Database Lab	AML 5283	Natural Language Processing Principles and Applications Lab
CYS 5181	Computer Networks and Security Lab	CYS 5253	Secure Coding Lab
		ENP 5280	Entrepreneurship Lab
		CDC 5281	Cloud Operations Lab