

Name of the Institute: Symbiosis Institute of Health Sciences (SIHS)

Name of the Programme: M.Sc. Medical Technology

Revision in Syllabus

Programme Code	Program Name	Catalog Course Code	Catalog Course Name	Course Type	Batch 2020	Batch 2021	Change in T-Code Yes / No	Change in course/Nature	Change in Pedagogy	Change in evaluation	Change in instruction method	Add on course	Changes Yes: Revised No: Not Revised
40143	M.Sc. (Medical Technology)	GEN003	Summer Internship	Core	Base PS	No Change	No						no
40143	M.Sc. (Medical Technology)	GEN004	Dissertation	Core	Base PS	No Change	No				Yes		Yes
40143	M.Sc. (Medical Technology)	T0100	Research Publication	Core	Base PS	No Change	No		Yes				Yes
40143	M.Sc. (Medical Technology)	T2216	Business Statistics	Core	Base PS	No Change	No						no
40143	M.Sc. (Medical Technology)	T2225	Research Methodology	Core	Base PS	No Change	No		yes				yes
40143	M.Sc. (Medical Technology)	T2560	Principles and Practices of Management	Core	Base PS	No Change	No						no
40143	M.Sc. (Medical Technology)	T4004	Biostatistics & Basic Epidemiology	Core	Base PS	No Change	No						no
40143	M.Sc. (Medical Technology)	T4005	Integrated Disaster Management	Core	Base PS	No Change	No						no
40143	M.Sc. (Medical Technology)	T4023	Pathology and Case Presentation-I*	Core	Base PS	No Change	No		yes				yes
40143	M.Sc. (Medical Technology)	T4029	Applied Physics in Medical Imaging*	Core	Base PS	No Change	No			yes			yes
40143	M.Sc. (Medical Technology)	T4043	Pathology and Case Presentation-II*	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4045	Teaching Methodology -II	Core	Base PS	No Change	No				yes		yes
40143	M.Sc. (Medical Technology)	T4061	Pathology and Case Presentation-III*	Core	Base PS	No Change	No						no
40143	M.Sc. (Medical Technology)	T4063	Teaching Methodology -III	Core	Base PS	No Change	No						no
40143	M.Sc. (Medical Technology)	T4072	Systemic Bacteriology	Core	Base PS	No Change	No				yes		yes
40143	M.Sc. (Medical Technology)	T4084	Applied Management in Cardiac Care Unit	Core	Base PS	No Change	No						no
40143	M.Sc. (Medical Technology)	T4085	Teaching Methodology -IV	Core	Base PS	No Change	No				yes		yes
40143	M.Sc. (Medical Technology)	T4089	Applied Management in Respiratory Therapy Unit	Core	Base PS	No Change	No						no
40143	M.Sc. (Medical Technology)	T4094	Applied Management in Radiology Unit	Core	Base PS	No Change	No						no
40143	M.Sc. (Medical Technology)	T4098	Newer Diagnostic Techniques	Core	Base PS	No Change	No			yes			yes
40143	M.Sc. (Medical Technology)	T4309	Pre-Anesthetic Patient Assessment	Core	Base PS	No Change	No				yes		yes
40143	M.Sc. (Medical Technology)	T4312	Procedures in Ear, Nose, Throat (ENT), Ophthalmic and Paediatric OT	Core	Base PS	No Change	No						no
40143	M.Sc. (Medical Technology)	T4319	Transfusion and IV Therapy	Core	Base PS	No Change	No						no

40143	M.Sc. (Medical Technology)	T4438	Computer Language	Elective	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4493	Development of Cardiovascular System and Circulation (Fetal, Neonatal & Adult)	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4494	Etiopathogenesis of Heart Disease	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4495	Cardiology Basics and Chest Roentgenogram	Core	Base PS	No Change	No					yes		yes
40143	M.Sc. (Medical Technology)	T4497	Teaching Methodology – I	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4498	IT Applications for Allied Health Care	Elective	Base PS	No Change	No				yes			yes
40143	M.Sc. (Medical Technology)	T4499	Medical Physics	Elective	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4501	Emerging Trends in Allied Health Care	Elective	Base PS	No Change	No				yes	yes		yes
40143	M.Sc. (Medical Technology)	T4506	Innovation and Entrepreneurship	Elective	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4512	Cardiopulmonary Pharmacology	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4515	Critical Care Medicine-II	Core	Base PS	No Change	No			yes				yes
40143	M.Sc. (Medical Technology)	T4517	Neonatal and Pediatric Respiratory Care	Core	Base PS	No Change	No			yes				yes
40143	M.Sc. (Medical Technology)	T4519	Emergency Medical Services-II	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4522	Radiation Physics and Protection	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4527	Imaging Equipment and Techniques in Ultrasonography (USG)	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4532	Cross-Sectional Anatomy (CT, MRI)	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4543	Applied Management in Clinical Laboratory	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4536	Picture Archiving and Communications System (PACS) and Radiology Information System (RIS) & Teleradiology	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4551	Applied Management in Renal Care Unit	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4561	Applied Management in OT and Anaesthesia Unit	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4562	Procedures in Orthopedic and Trauma Care	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4571	Hospital Information System	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4638	Advances in Medical Imaging	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4797	Electro-Physiology, ECG and Stress Test Technique	Core	Base PS	No Change	No					yes		yes
40143	M.Sc. (Medical Technology)	T4798	Clinical Cardiology	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4799	Echocardiography and Peripheral Doppler – I	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4800	Biomedical Instrumentation in Cardiac Care	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4801	Echocardiography and Peripheral Doppler-II	Core	Base PS	Dropped	Yes							no

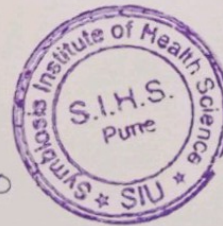
40143	M.Sc. (Medical Technology)	T4801	Community Project	Core	Base PS	No Change	Yes							no
40143	M.Sc. (Medical Technology)	T4802	Cardiac Pacemakers and Cardioverter Defibrillators	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4803	Cardiac Catheterization	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4804	Peripheral Catheterization	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4805	Intensive Cardiac Care Unit (ICCU) and Cardiopulmonary Resuscitation (CPR)	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4806	Recent Advances in Cardiology	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4807	Quality Assurance, Standardization and Accreditation (Cardiac Care)	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4808	Techniques in X-Ray and Mammography	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4809	Imaging Equipment (I) -X-Ray and Mammography	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4810	Image Interpretation (X-Ray and Mammography)	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4811	Imaging Equipment (II)-Computed Tomography (CT)	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4812	Techniques in Computed Tomography (CT)	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4813	Imaging Equipment (III)-Magnetic Resonance Imaging (MRI)	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4814	Techniques in Magnetic Resonance Imaging (MRI)	Core	Base PS	No Change	No					yes		yes
40143	M.Sc. (Medical Technology)	T4815	Special Investigations and Techniques	Core	Base PS	No Change	No					yes		yes
40143	M.Sc. (Medical Technology)	T4816	Quality Assurance, Standardization and Accreditation (Imaging Sciences)	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4817	Calibration and Quality Control in Computerized Tomography (CT) & Magnetic Resonance Imaging (MRI)	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4818	Basic Sciences (Anatomy and Physiology)	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4819	Cardiopulmonary Diseases	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4820	Advanced Respiratory Therapy-I	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4821	Advanced Respiratory Therapy-II	Core	Base PS	No Change	No					yes		yes
40143	M.Sc. (Medical Technology)	T4822	Critical Care Medicine-I	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4823	Biomedical Instrumentation in Respiratory Therapy	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4824	Advanced Respiratory Therapy-III	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4825	Emergency Medical Services-I	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4826	Cardiopulmonary Rehabilitation	Core	Base PS	No Change	No					yes		yes
40143	M.Sc. (Medical Technology)	T4827	Critical Care Medicine-III	Core	Base PS	No Change	No							no
40143	M.Sc. (Medical Technology)	T4828	Quality Assurance, Standardization and Accreditation (Respiratory Therapy)	Core	Base PS	No Change	No					yes		yes

40143	M.Sc. (Medical Technology)	T4829	Biochemistry	Core	Base PS	No Change	No			yes	yes		yes
40143	M.Sc. (Medical Technology)	T4830	Parasitology	Core	Base PS	No Change	No				yes		yes
40143	M.Sc. (Medical Technology)	T4831	Clinical Pathology	Core	Base PS	No Change	No			yes			yes
40143	M.Sc. (Medical Technology)	T4832	Clinical Haematology	Core	Base PS	No Change	No			yes			yes
40143	M.Sc. (Medical Technology)	T4833	Diagnostic Microbiology	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4834	Instrumentation in Clinical Laboratory	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4835	Clinical Biochemistry	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4836	Virology and Mycology	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4837	Blood Banking	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4838	Immunology	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4839	Cytology	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4840	Histopathology	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4841	Quality Assurance, Standardization and Accreditation (Clinical Laboratory)	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4842	Renal Anatomy and Physiology	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4843	Water Treatment	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4844	Aetio-Pathology of Renal Disease	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4845	Renal Pharmacology	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4846	Theory and Principles of Haemodialysis	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4847	Clinical Nephrology	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4848	Dialysis Equipment	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4849	Theory and Principles of Peritoneal Dialysis	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4850	Investigations in Renal Diseases	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4851	Patient Care in Renal Technology	Core	Base PS	Dropped	Yes						No
40143	M.Sc. (Medical Technology)	T4852	Theory and Principles of other Renal Procedures	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4853	Quality Assurance, Standardization and Accreditation (Dialysis and Renal Technology)	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4854	Recent Advances in Renal Technology	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4855	Pre-Operative Patient Investigation	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4856	Patient Preparation	Core	Base PS	No Change	No						No
40143	M.Sc. (Medical Technology)	T4857	Anesthetic Fitness Criteria and Pre Surgery Checklist	Core	Base PS	No Change	No						No

40143	M.Sc. (Medical Technology)	T4858	Infection Control in Operation Theatre	Core	Base P5	No Change	No							No
40143	M.Sc. (Medical Technology)	T4859	Anesthetic Agents	Core	Base P5	No Change	No							No
40143	M.Sc. (Medical Technology)	T4860	Techniques in Anesthesia	Core	Base P5	No Change	No							No
40143	M.Sc. (Medical Technology)	T4861	Safety Measures in Operation Theatre	Core	Base P5	No Change	No							No
40143	M.Sc. (Medical Technology)	T4862	Biomedical Instrumentation in OT and Anesthesia	Core	Base P5	No Change	No							No
40143	M.Sc. (Medical Technology)	T4863	Procedures in Thoracic and Cardiac OT	Core	Base P5	No Change	No							No
40143	M.Sc. (Medical Technology)	T4864	Procedures in Abdomen, Obstetric, Gynaecology and Urology (OBGY & URD)OT	Core	Base P5	No Change	No							No
40143	M.Sc. (Medical Technology)	T4865	Critical Care Services	Core	Base P5	No Change	No							No
40143	M.Sc. (Medical Technology)	T4866	Recovery Room and Day Care	Core	Base P5	No Change	No							No
40143	M.Sc. (Medical Technology)	T4867	Quality Assurance, Standardization and Accreditation [OT and Anaesthesia]	Core	Base P5	No Change	No							No
40143	M.Sc. (Medical Technology)	T4873	Radiographic Photography	Core	Base P5	No Change	No							No
40143	M.Sc. (Medical Technology)	T4901	On Job Training	Core	-	Added	Yes							No
40143	M.Sc. (Medical Technology)	TH4086	Procedures on Neuro OT	Core	Base P5	No Change	No							No
40143	M.Sc. (Medical Technology)	TH4087	Review of Literature	Core	Base P5	No Change	No							No

Total number courses                    122  
Revision in number of courses            25  
% Revision                                        20

*D. J. D. S. D.*

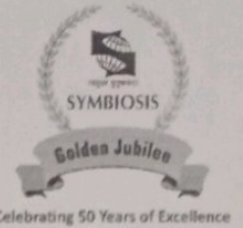


**SYMBIOSIS INSTITUTE OF HEALTH SCIENCES****Symbiosis International (Deemed University)**

(Established under section 3 of the UGC Act, 1956)

Re-accredited by NAAC with 'A' grade (3.58/4) | Awarded Category - I by UGC

Founder: Prof. Dr. S. B. Mujumdar, M.Sc., Ph.D. (Awarded Padma Bhushan and Padma Shri by President of India)



Percentage of Programmes where syllabus revision was carried out from AY 2020-2021 to 2021-2022

Name of the Institute: Symbiosis Institute of Health Sciences

(SIHS) Name of the Programme: M.Sc. Medical Technology

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Dr. Dwight Figueiredo  
Assistant Professor,  
Medical Technology





**Symbiosis Institute of Health Sciences, Pune**  
**Master of Science (Medical Technology)**  
**Programme Structure 2021-23**

<b>1. OBJECTIVE</b>	To provide in-depth knowledge in the specific modality of Medical Technology and prepare the students for leadership roles in hospitals/ diagnostic labs./ research centers/ healthcare industry and provide professional growth to the students in following specializations: a) Cardiac Care b) Respiratory Therapy c) Imaging Sciences d) Clinical Laboratory e) Dialysis & Renal Technology f) OT & Anaesthesia Technology			
<b>2. DURATION (IN MONTHS)</b>	24 (Full Time)			
<b>3. INTAKE</b>	30			
<b>4. RESERVATION</b>	<b>I. Within the sanctioned intake</b>	<b>a) SC (In Percentage)</b>	<b>b) ST (In Percentage)</b>	<b>c) Differently abled (In Percentage)</b>
		15	7.5	3
	<b>II. Over and above the sanctioned intake</b>	<b>a) Kashmiri Migrants (In Seats)</b>		<b>b) International Students (In Percentage)</b>
		2		15
<b>5. ELIGIBILITY</b>	<p>Cardiac Care: Graduate from any recognized University/ Institution of National Importance with B.Sc. degree in Medical Technology with Cardiac Technology as specialization or equivalent from a recognized university/ Institution of National Importance. OR Bachelors in Life Sciences from a recognized University / Institution of National Importance and diploma / certificate Programme in Cardiac Technology /minimum one year of work experience in the department of Cardiology from a reputed institute / related field OR Bachelors in Medicine / Ayurveda / Homeopathy / Unani / Physiotherapy / Nursing from a recognized University / Institution of National Importance.</p> <p>Respiratory Therapy: Graduate from any recognized University/ Institution of National Importance with B.Sc. degree in Medical Technology with Respiratory Therapy as specialization or equivalent from a recognized university/ Institution of National Importance. OR Bachelors in Life Sciences from a recognized University / Institution of National Importance and diploma/ certificate Programme in Respiratory Therapy / Technology /minimum one year of work experience in the department of Respiratory Care from a reputed institute / related field OR Bachelors in Medicine / Ayurveda / Homeopathy / Unani / Physiotherapy / Nursing from a recognized University / Institution of National Importance.</p> <p>Imaging Sciences: Graduate from any recognized University/ Institution of National Importance with B.Sc. degree in Medical Technology with Imaging Sciences as specialization or equivalent from a recognized university/ Institution of National</p>			



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		<p>Importance OR Bachelors in Physics or Life Sciences as major or equivalent from recognized university / Institution of National Importance with diploma/ certificate Programme in Imaging Sciences /minimum one year of work experience in the department of Radiology from a reputed institute / related field OR Bachelors in Medicine / Ayurveda / Homeopathy / Unani from a recognized University / Institution of National Importance.</p> <p>Clinical Laboratory: Graduate from any recognized University/ Institution of National Importance with B.Sc. degree in Medical Technology with Clinical Laboratory Technology as specialization / Clinical Laboratory Science or equivalent from a recognized university/ Institution of National Importance OR Bachelors in Life Sciences or equivalent from recognized university / Institution of National Importance with diploma / certificate Programme in Clinical Laboratory /minimum one year of work experience in the department of Clinical laboratory from a reputed institute / related field OR Bachelors in Medicine / Ayurveda / Homeopathy / Unani from a recognized University / Institution of National Importance.</p> <p>Dialysis and Renal Technology : Graduate from any recognized University/ Institution of National Importance with B.Sc. degree in Medical Technology with Dialysis as specialization or equivalent from a recognized university/ Institution of National Importance OR Bachelors in Life Sciences or equivalent from recognized university / Institution of National Importance with diploma/ certificate Programme in Dialysis/Renal Technology / minimum one year of work experience in the department of Dialysis / Renal Sciences from a reputed institute / related field OR Bachelors in Medicine / Ayurveda / Homeopathy / Unani / Physiotherapy / Nursing from a recognized University / Institution of National Importance.</p> <p>OT and Anesthesia Technology: Graduate from any recognized University/ Institution of National Importance with B.Sc. degree in Medical Technology with OT &amp; / Anesthesia as specialization or equivalent from a recognized university/ Institution of National Importance OR Bachelors in Life Sciences or equivalent from recognized university / Institution of National Importance with diploma/ certificate Programme in OT/Anesthesia Technology / minimum one year of work experience in the department of OT/Anesthesia Technology from a reputed institute / related field OR Bachelors in Medicine / Ayurveda / Homeopathy / Unani / Physiotherapy / Nursing from a recognized University or / Institution of National Importance.</p>
6.	<b>SELECTION PROCEDURE</b>	Selection based on marks in Qualifying examination followed by Entrance Examination, Personal Interaction and Written Ability Test.
7.	<b>MEDIUM OF INSTRUCTION</b>	English
8.	<b>PROGRAMME PATTERN</b>	Semester
9.	<b>COURSE &amp; SPECIALIZATION</b>	As per Annexure A Students can opt for any one of the following specializations from the first semester. a) Cardiac Care





**Symbiosis Institute of Health Sciences, Pune**  
**Master of Science (Medical Technology)**  
**Programme Structure 2021-23**

		b) Respiratory Therapy c) Imaging Sciences d) Clinical Laboratory e) Dialysis & Renal Technology f) OT & Anaesthesia Technology					
<b>10.</b>	<b>FEE</b>		<b>Academic Fee p.a</b>	<b>Institute Deposit</b>	<b>Total</b>		
		<b>Indian Students</b>	200000	20000	220000		
		<b>International Students (USD equivalent to INR)</b>	300000	20000	320000		
<b>11.</b>	<b>ASSESSMENT</b>	All internal courses will have 100% component as internal evaluation at the institute level. All external courses will have 60% internal component and 40% component as external (University) examination.					
<b>12.</b>	<b>STANDARD OF PASSING</b>	The assessment of the student for each examination is done, based on relative performance. Maximum Grade Point (GP) is 10 corresponding to O (Outstanding). For all courses, a student is required to pass both internal and external examination separately with a minimum Grade Point of 4 corresponding to Grade P. Students securing less than 40% absolute marks in each head of passing will be declared FAIL. The University awards a degree to the student who has achieved a minimum CGPA of 4 out of maximum 10 for the programme.					
<b>13.</b>	<b>AWARD OF DEGREE/ DIPLOMA/ CERTIFICATE</b>	Master of Science (Medical Technology )will be awarded at the end of semester IV examination by taking into consideration the performance of all semester examinations after obtaining minimum 4.00 CGPA out of 10 CGPA for the programme.					
<b>14.</b>	<b>NATURE WISE DISTRIBUTION OF CREDITS</b>						
<b>Semester</b>	<b>Generic Core</b>	<b>Generic Elective</b>	<b>Specialization Core</b>	<b>Specialization Elective</b>	<b>Open Elective</b>	<b>Audit</b>	<b>Total</b>
1	6	1	13	0	0	0	20
2	11	1	10	0	0	1*	22
3	6	1	11	0	0	1*	18
4	10	0	10	0	0	0	20
<b>Total</b>	<b>33</b>	<b>3</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>80</b>
* Satisfactory completion of the non letter grade courses 'Integrated Disaster Management' and 'Research Publication' is mandatory for award of degree.							

This Programme Structure is aligned with the norms laid down by the University and is approved by the Academic Council.  
Hereafter changes (if any) which conform to the policy on "Curriculum Development and Review" would be permissible, subject to revision of the Programme Structure, following the specified processes.

Head - Academics

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**Symbiosis Institute of Health Sciences, Pune**  
**Master of Science (Medical Technology)**  
**Programme Structure 2021-23**

**Annexure A**

Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
<b>Semester : 1</b>									
<b>Generic Core Courses</b>									
T2225	0401430101	Research Methodology		2	60	40	0	0	100
T4497	0401430102	Teaching Methodology - I		2	50	0	0	50	100
T4004	0401430103	Biostatistics & Basic Epidemiology		2	60	40	0	0	100
<b>Total</b>				<b>6</b>	<b>170</b>	<b>80</b>	<b>0</b>	<b>50</b>	<b>300</b>
<b>Generic Elective Courses Group</b>									
T4498	0401430104	IT Applications for Allied Health Care		1	50	0	0	0	50
T4499	0401430105	Medical Physics		1	50	0	0	0	50
<b>Total Required Credits</b>				<b>1</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>50</b>
<b>Specialization Core Courses : Cardiac Care</b>									
T4495	0401430106	Cardiology Basics and Chest Roentgenogram	Cardiac Care	4	60	40	0	100	200
T4494	0401430107	Etiopathogenesis of Heart Disease	Cardiac Care	4	60	40	0	100	200
T4797	0401430108	Electro-Physiology, ECG and Stress Test Technique	Cardiac Care	3	60	40	0	50	150
T4493	0401430109	Development of Cardiovascular System and Circulation (Fetal, Neonatal & Adult)	Cardiac Care	2	60	40	0	0	100
<b>Total</b>				<b>13</b>	<b>240</b>	<b>160</b>	<b>0</b>	<b>250</b>	<b>650</b>
<b>Specialization Core Courses : Respiratory Therapy</b>									
T4819	0401430110	Cardiopulmonary Diseases	Respiratory Therapy	4	60	40	0	100	200
T4820	0401430111	Advanced Respiratory Therapy-I	Respiratory Therapy	4	60	40	0	100	200
T4818	0401430112	Basic Sciences (Anatomy and Physiology)	Respiratory Therapy	3	60	40	0	50	150
T4512	0401430113	Cardiopulmonary Pharmacology	Respiratory Therapy	2	60	40	0	0	100
<b>Total</b>				<b>13</b>	<b>240</b>	<b>160</b>	<b>0</b>	<b>250</b>	<b>650</b>
<b>Specialization Core Courses : Imaging Sciences</b>									
T4522	0401430114	Radiation Physics and Protection	Imaging Sciences	4	60	40	0	100	200



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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
T4809	0401430115	Imaging Equipment (I) -X-Ray and Mammography	Imaging Sciences	4	60	40	0	100	200
T4873	0401430116	Radiographic Photography	Imaging Sciences	3	60	40	0	50	150
T4029	0401430117	Applied Physics in Medical Imaging	Imaging Sciences	2	60	40	0	0	100
<b>Total</b>				<b>13</b>	<b>240</b>	<b>160</b>	<b>0</b>	<b>250</b>	<b>650</b>
<b>Specialization Core Courses : Clinical Laboratory</b>									
T4072	0401430118	Systemic Bacteriology	Clinical Laboratory	4	60	40	0	100	200
T4829	0401430119	Biochemistry	Clinical Laboratory	3	60	40	0	50	150
T4830	0401430120	Parasitology	Clinical Laboratory	3	60	40	0	50	150
T4831	0401430121	Clinical Pathology	Clinical Laboratory	3	60	40	0	50	150
<b>Total</b>				<b>13</b>	<b>240</b>	<b>160</b>	<b>0</b>	<b>250</b>	<b>650</b>
<b>Specialization Core Courses : Dialysis &amp; Renal Technology</b>									
T4844	0401430122	Aetio-Pathology of Renal Disease	Dialysis & Renal Technology	4	60	40	0	100	200
T4845	0401430123	Renal Pharmacology	Dialysis & Renal Technology	4	60	40	0	100	200
T4843	0401430124	Water Treatment	Dialysis & Renal Technology	3	60	40	0	50	150
T4842	0401430125	Renal Anatomy and Physiology	Dialysis & Renal Technology	2	50	0	0	50	100
<b>Total</b>				<b>13</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>300</b>	<b>650</b>
<b>Specialization Core Courses : Operation Theatre &amp; Anaesthesia Technology</b>									
T4309	0401430126	Pre-Anesthetic Patient Assessment	Operation Theatre & Anaesthesia Technology	3	60	40	0	50	150
T4857	0401430127	Anesthetic Fitness Criteria and Pre Surgery Checklist	Operation Theatre & Anaesthesia Technology	3	60	40	0	50	150



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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
T4858	0401430128	Infection Control in Operation Theatre	Operation Theatre & Anaesthesia Technology	3	60	40	0	50	150
T4855	0401430129	Pre-Operative Patient Investigation	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
T4856	0401430130	Patient Preparation	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
<b>Total</b>				<b>13</b>	<b>300</b>	<b>200</b>	<b>0</b>	<b>150</b>	<b>650</b>
<b>Semester : 2</b>									
<b>Generic Core Courses</b>									
TH4087	0401430201	Review of Literature		4	0	0	0	200	200
T2216	0401430202	Business Statistics		2	60	40	0	0	100
T4023	0401430203	Pathology and Case Presentation-I		2	50	0	0	50	100
T2560	0401430204	Principles and Practices of Management		2	60	40	0	0	100
T4045	0401430205	Teaching Methodology -II		1	50	0	0	0	50
T4005	0401430206	Integrated Disaster Management *		0	0	0	0	0	Non Letter Grade
<b>Total</b>				<b>11</b>	<b>220</b>	<b>80</b>	<b>0</b>	<b>250</b>	<b>550</b>
<b>Generic Elective Courses Group</b>									
T4438	0401430207	Computer Language		1	50	0	0	0	50
T4501	0401430208	Emerging Trends in Allied Health Care		1	50	0	0	0	50
<b>Total Required Credits</b>				<b>1</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>50</b>
<b>Specialization Core Courses : Cardiac Care</b>									
T4798	0401430209	Clinical Cardiology	Cardiac Care	4	60	40	0	100	200
T4799	0401430210	Echocardiography and Peripheral Doppler - I	Cardiac Care	4	60	40	0	100	200
T4800	0401430211	Biomedical Instrumentation in Cardiac Care	Cardiac Care	2	50	0	0	50	100
<b>Total</b>				<b>10</b>	<b>170</b>	<b>80</b>	<b>0</b>	<b>250</b>	<b>500</b>
<b>Specialization Core Courses : Respiratory Therapy</b>									



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Catalog Course Code	Course Code	Course Title	Specialization	Cre-dits	Internal Marks	External Mark	Internal Practical Marks	External Practica I Marks	Total Marks
T4821	0401430212	Advanced Respiratory Therapy-II	Respiratory Therapy	4	60	40	0	100	200
T4822	0401430213	Critical Care Medicine-I	Respiratory Therapy	4	60	40	0	100	200
T4823	0401430214	Biomedical Instrumentation in Respiratory Therapy	Respiratory Therapy	2	50	0	0	50	100
<b>Total</b>				<b>10</b>	<b>170</b>	<b>80</b>	<b>0</b>	<b>250</b>	<b>500</b>
<b>Specialization Core Courses : Imaging Sciences</b>									
T4810	0401430215	Image Interpretation (X-Ray and Mammography)	Imaging Sciences	3	60	40	0	50	150
T4811	0401430216	Imaging Equipment (II)-Computed Tomography (CT)	Imaging Sciences	3	60	40	0	50	150
T4527	0401430217	Imaging Equipment and Techniques in Ultrasonography (USG)	Imaging Sciences	2	50	0	0	50	100
T4808	0401430218	Techniques in X-Ray and Mammography	Imaging Sciences	2	60	40	0	0	100
<b>Total</b>				<b>10</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>150</b>	<b>500</b>
<b>Specialization Core Courses : Clinical Laboratory</b>									
T4832	0401430219	Clinical Haematology	Clinical Laboratory	4	60	40	0	100	200
T4833	0401430220	Diagnostic Microbiology	Clinical Laboratory	4	60	40	0	100	200
T4834	0401430221	Instrumentation in Clinical Laboratory	Clinical Laboratory	2	50	0	0	50	100
<b>Total</b>				<b>10</b>	<b>170</b>	<b>80</b>	<b>0</b>	<b>250</b>	<b>500</b>
<b>Specialization Core Courses : Dialysis &amp; Renal Technology</b>									
T4846	0401430222	Theory and Principles of Haemodialysis	Dialysis & Renal Technology	4	60	40	0	100	200
T4847	0401430223	Clinical Nephrology	Dialysis & Renal Technology	4	60	40	0	100	200
T4848	0401430224	Dialysis Equipment	Dialysis & Renal Technology	2	50	0	0	50	100
<b>Total</b>				<b>10</b>	<b>170</b>	<b>80</b>	<b>0</b>	<b>250</b>	<b>500</b>
<b>Specialization Core Courses : Operation Theatre &amp; Anaesthesia Technology</b>									



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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
T4860	0401430225	Techniques in Anesthesia	Operation Theatre & Anaesthesia Technology	3	60	40	0	50	150
T4861	0401430226	Safety Measures in Operation Theatre	Operation Theatre & Anaesthesia Technology	3	60	40	0	50	150
T4859	0401430227	Anesthetic Agents	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
T4862	0401430228	Biomedical Instrumentation in OT and Anesthesia	Operation Theatre & Anaesthesia Technology	2	50	0	0	50	100
<b>Total</b>				<b>10</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>150</b>	<b>500</b>

**Semester : 3**

**Generic Core Courses**

T4043	0401430301	Pathology and Case Presentation-II		2	50	0	0	50	100
T5090	0401430302	Summer Internship		2	0	0	0	100	100
T4571	0401430303	Hospital Information System		1	50	0	0	0	50
T4063	0401430304	Teaching Methodology -III		1	50	0	0	0	50
T0100	0401430305	Research Publication *		0	0	0	0	0	Non Letter Grade
<b>Total</b>				<b>6</b>	<b>150</b>	<b>0</b>	<b>0</b>	<b>150</b>	<b>300</b>

**Generic Elective Courses Group**

T4801	0401430306	Community Project		1	50	0	0	0	50
T4506	0401430307	Innovation and Entrepreneurship		1	50	0	0	0	50
<b>Total Required Credits</b>				<b>1</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>50</b>

**Specialization Core Courses : Cardiac Care**

T4801	0401430308	Echocardiography and Peripheral Doppler-II	Cardiac Care	3	60	40	0	50	150
T4802	0401430309	Cardiac Pacemakers and Cardioverter Defibrillators	Cardiac Care	3	60	40	0	50	150
T4803	0401430310	Cardiac Catheterization	Cardiac Care	3	60	40	0	50	150
T4084	0401430311	Applied Management in Cardiac Care Unit	Cardiac Care	2	50	0	0	50	100



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Catalog Course Code	Course Code	Course Title	Specialization	Cre-dits	Internal Marks	External Mark	Internal Practical Marks	External Practica I Marks	Total Marks
<b>Total</b>				<b>11</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>200</b>	<b>550</b>
<b>Specialization Core Courses : Respiratory Therapy</b>									
T4515	0401430312	Critical Care Medicine-II	Respiratory Therapy	3	60	40	0	50	150
T4089	0401430313	Applied Management in Respiratory Therapy Unit	Respiratory Therapy	2	50	0	0	50	100
T4824	0401430314	Advanced Respiratory Therapy-III	Respiratory Therapy	2	60	40	0	0	100
T4825	0401430315	Emergency Medical Services-I	Respiratory Therapy	2	60	40	0	0	100
T4826	0401430316	Cardiopulmonary Rehabilitation	Respiratory Therapy	2	60	40	0	0	100
<b>Total</b>				<b>11</b>	<b>290</b>	<b>160</b>	<b>0</b>	<b>100</b>	<b>550</b>
<b>Specialization Core Courses : Imaging Sciences</b>									
T4814	0401430317	Techniques in Magnetic Resonance Imaging (MRI)	Imaging Sciences	3	60	40	0	50	150
T4094	0401430318	Applied Management in Radiology Unit	Imaging Sciences	2	50	0	0	50	100
T4532	0401430319	Cross-Sectional Anatomy (CT, MRI)	Imaging Sciences	2	50	0	0	50	100
T4812	0401430320	Techniques in Computed Tomography (CT)	Imaging Sciences	2	60	40	0	0	100
T4813	0401430321	Imaging Equipment (III)-Magnetic Resonance Imaging (MRI)	Imaging Sciences	2	60	40	0	0	100
<b>Total</b>				<b>11</b>	<b>280</b>	<b>120</b>	<b>0</b>	<b>150</b>	<b>550</b>
<b>Specialization Core Courses : Clinical Laboratory</b>									
T4835	0401430322	Clinical Biochemistry	Clinical Laboratory	3	60	40	0	50	150
T4836	0401430323	Virology and Mycology	Clinical Laboratory	3	60	40	0	50	150
T4837	0401430324	Blood Banking	Clinical Laboratory	3	60	40	0	50	150
T4543	0401430325	Applied Management in Clinical Laboratory	Clinical Laboratory	2	50	0	0	50	100
<b>Total</b>				<b>11</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>200</b>	<b>550</b>
<b>Specialization Core Courses : Dialysis &amp; Renal Technology</b>									





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Catalog Course Code	Course Code	Course Title	Specialization	Cre-dits	Internal Marks	External Mark	Internal Practical Marks	External Practica I Marks	Total Marks
T4849	0401430326	Theory and Principles of Peritoneal Dialysis	Dialysis & Renal Technology	3	60	40	0	50	150
T4850	0401430327	Investigations in Renal Diseases	Dialysis & Renal Technology	3	60	40	0	50	150
T4851	0401430328	Patient Care in Renal Technology	Dialysis & Renal Technology	3	60	40	0	50	150
T4551	0401430329	Applied Management in Renal Care Unit	Dialysis & Renal Technology	2	50	0	0	50	100
<b>Total</b>				<b>11</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>200</b>	<b>550</b>
<b>Specialization Core Courses : Operation Theatre &amp; Anaesthesia Technology</b>									
T4863	0401430330	Procedures in Thoracic and Cardiac OT	Operation Theatre & Anaesthesia Technology	3	60	40	0	50	150
T4561	0401430331	Applied Management in OT and Anaesthesia Unit	Operation Theatre & Anaesthesia Technology	2	50	0	0	50	100
T4312	0401430332	Procedures in Ear, Nose, Throat (ENT), Ophthalmic and Paediatric OT	Operation Theatre & Anaesthesia Technology	2	50	0	0	50	100
T4864	0401430333	Procedures in Abdomen, Obstretic, Gynaecology and Urology (OBGY & URO)OT	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
TH4086	0401430334	Procedures on Neuro OT	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
<b>Total</b>				<b>11</b>	<b>280</b>	<b>120</b>	<b>0</b>	<b>150</b>	<b>550</b>
<b>Semester : 4</b>									
<b>Generic Core Courses</b>									
T4704	0401430401	Dissertation		5	0	0	0	250	250
T4061	0401430402	Pathology and Case Presentation-III		2	50	0	0	50	100
T4901	0401430403	On Job Training		2	0	0	0	100	100
T4085	0401430404	Teaching Methodology -IV		1	50	0	0	0	50
<b>Total</b>				<b>10</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>400</b>	<b>500</b>



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Catalog Course Code	Course Code	Course Title	Specialization	Cre-dits	Internal Marks	External Mark	Internal Practical Marks	External Practica I Marks	Total Marks
<b>Specialization Core Courses : Cardiac Care</b>									
T4804	0401430405	Peripheral Catheterization	Cardiac Care	3	60	40	0	50	150
T4805	0401430406	Intensive Cardiac Care Unit (ICCU) and Cardiopulmonary Resuscitation (CPR)	Cardiac Care	3	50	0	0	100	150
T4806	0401430407	Recent Advances in Cardiology	Cardiac Care	2	60	40	0	0	100
T4807	0401430408	Quality Assurance, Standardization and Accreditation (Cardiac Care)	Cardiac Care	2	60	40	0	0	100
<b>Total</b>				<b>10</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>150</b>	<b>500</b>
<b>Specialization Core Courses : Respiratory Therapy</b>									
T4519	0401430409	Emergency Medical Services-II	Respiratory Therapy	3	60	40	0	50	150
T4517	0401430410	Neonatal and Pediatric Respiratory Care	Respiratory Therapy	3	60	40	0	50	150
T4827	0401430411	Critical Care Medicine-III	Respiratory Therapy	2	60	40	0	0	100
T4828	0401430412	Quality Assurance, Standardization and Accreditation (Respiratory Therapy)	Respiratory Therapy	2	60	40	0	0	100
<b>Total</b>				<b>10</b>	<b>240</b>	<b>160</b>	<b>0</b>	<b>100</b>	<b>500</b>
<b>Specialization Core Courses : Imaging Sciences</b>									
T4536	0401430413	Picture Archiving and Communications System (PACS) and Radiology Information System (RIS) & Teleradiology	Imaging Sciences	2	50	0	0	50	100
T4638	0401430414	Advances in Medical Imaging	Imaging Sciences	2	60	40	0	0	100
T4815	0401430415	Special Investigations and Techniques	Imaging Sciences	2	60	40	0	0	100
T4816	0401430416	Quality Assurance, Standardization and Accreditation (Imaging Sciences)	Imaging Sciences	2	60	40	0	0	100



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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
T4817	0401430417	Calibration and Quality Control in Computerized Tomography (CT) & Magnetic Resonance Imaging (MRI)	Imaging Sciences	2	60	40	0	0	100
<b>Total</b>				<b>10</b>	<b>290</b>	<b>160</b>	<b>0</b>	<b>50</b>	<b>500</b>
<b>Specialization Core Courses : Clinical Laboratory</b>									
T4098	0401430418	Newer Diagnostic Techniques	Clinical Laboratory	2	50	0	0	50	100
T4838	0401430419	Immunology	Clinical Laboratory	2	60	40	0	0	100
T4839	0401430420	Cytology	Clinical Laboratory	2	60	40	0	0	100
T4840	0401430421	Histopathology	Clinical Laboratory	2	60	40	0	0	100
T4841	0401430422	Quality Assurance, Standardization and Accreditation (Clinical Laboratory)	Clinical Laboratory	2	60	40	0	0	100
<b>Total</b>				<b>10</b>	<b>290</b>	<b>160</b>	<b>0</b>	<b>50</b>	<b>500</b>
<b>Specialization Core Courses : Dialysis &amp; Renal Technology</b>									
T4852	0401430423	Theory and Principles of other Renal Procedures	Dialysis & Renal Technology	4	60	40	0	100	200
T4854	0401430424	Recent Advances in Renal Technology	Dialysis & Renal Technology	4	100	0	0	100	200
T4853	0401430425	Quality Assurance, Standardization and Accreditation (Dialysis and Renal Technology)	Dialysis & Renal Technology	2	60	40	0	0	100
<b>Total</b>				<b>10</b>	<b>220</b>	<b>80</b>	<b>0</b>	<b>200</b>	<b>500</b>
<b>Specialization Core Courses : Operation Theatre &amp; Anaesthesia Technology</b>									
T4562	0401430426	Procedures in Orthopedic and Trauma Care	Operation Theatre & Anaesthesia Technology	2	50	0	0	50	100
T4319	0401430427	Transfusion and IV Therapy	Operation Theatre & Anaesthesia Technology	2	50	0	0	50	100



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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
T4865	0401430428	Critical Care Services	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
T4866	0401430429	Recovery Room and Day Care	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
T4867	0401430430	Quality Assurance, Standardization and Accreditation (OT and Anaesthesia)	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
<b>Total</b>				<b>10</b>	<b>280</b>	<b>120</b>	<b>0</b>	<b>100</b>	<b>500</b>



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Semester	Internal Credits	External Credits	Total Credits	Total Marks
<b>Cardiac Care</b>				
Semester 1	1	19	20	1000
Semester 2	2	20	22	1100
Semester 3	3	15	18	900
Semester 4	1	19	20	1000
<b>Total</b>	<b>7</b>	<b>73</b>	<b>80</b>	<b>4000</b>
<b>Respiratory Therapy</b>				
Semester 1	1	19	20	1000
Semester 2	2	20	22	1100
Semester 3	3	15	18	900
Semester 4	1	19	20	1000
<b>Total</b>	<b>7</b>	<b>73</b>	<b>80</b>	<b>4000</b>
<b>Imaging Sciences</b>				
Semester 1	1	19	20	1000
Semester 2	2	20	22	1100
Semester 3	3	15	18	900
Semester 4	1	19	20	1000
<b>Total</b>	<b>7</b>	<b>73</b>	<b>80</b>	<b>4000</b>
<b>Clinical Laboratory</b>				
Semester 1	1	19	20	1000
Semester 2	2	20	22	1100
Semester 3	3	15	18	900
Semester 4	1	19	20	1000
<b>Total</b>	<b>7</b>	<b>73</b>	<b>80</b>	<b>4000</b>
<b>Dialysis &amp; Renal Technology</b>				
Semester 1	1	19	20	1000
Semester 2	2	20	22	1100
Semester 3	3	15	18	900
Semester 4	1	19	20	1000
<b>Total</b>	<b>7</b>	<b>73</b>	<b>80</b>	<b>4000</b>
<b>Operation Theatre &amp; Anaesthesia Technology</b>				
Semester 1	1	19	20	1000
Semester 2	2	20	22	1100
Semester 3	3	15	18	900
Semester 4	1	19	20	1000
<b>Total</b>	<b>7</b>	<b>73</b>	<b>80</b>	<b>4000</b>



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<b>1. OBJECTIVE</b>	To provide in-depth knowledge in the specific modality of Medical Technology and prepare the students for leadership roles in hospitals/ diagnostic labs./ research centers/ healthcare industry and provide professional growth to the students in following specializations: a) Cardiac Care b) Respiratory Therapy c) Imaging Sciences d) Clinical Laboratory e) Dialysis & Renal Technology f) OT & Anaesthesia Technology			
<b>2. DURATION (IN MONTHS)</b>	24 (Full Time)			
<b>3. INTAKE</b>	30			
<b>4. RESERVATION</b>	<b>I. Within the sanctioned intake</b>	<b>a) SC (In Percentage)</b>	<b>b) ST (In Percentage)</b>	<b>c) Differently abled (In Percentage)</b>
		15	7.5	3
	<b>II. Over and above the sanctioned intake</b>	<b>a) Kashmiri Migrants (In Seats)</b>		<b>b) International Students (In Percentage)</b>
		2		15
<b>5. ELIGIBILITY</b>	<p>"Cardiac Care: Graduate from any statutory university with B.Sc. degree in Medical Technology with Cardiac Technology as specialization or equivalent from a recognized university/ Institution of National Importance. OR Bachelors in Life Sciences from a recognized University / Institution of National Importance and diploma / certificate Programme in Cardiac Technology /minimum one year of work experience in the department of Cardiology from a reputed institute / related field OR Bachelors in Medicine / Ayurveda / Homeopathy / Unani / Physiotherapy / Nursing from a recognized University / Institution of National Importance.</p> <p>Respiratory Therapy: Graduate from any statutory university with B.Sc. degree in Medical Technology with Respiratory Therapy as specialization or equivalent from a recognized university/ Institution of National Importance. OR Bachelors in Life Sciences from a recognized University / Institution of National Importance and diploma/ certificate Programme in Respiratory Therapy / Technology /minimum one year of work experience in the department of Respiratory Care from a reputed institute / related field OR Bachelors in Medicine / Ayurveda / Homeopathy / Unani / Physiotherapy / Nursing from a recognized University / Institution of National Importance.</p> <p>Imaging Sciences: Graduate from any statutory university with B.Sc. degree in Medical Technology with Imaging Sciences as specialization or equivalent from a recognized university/ Institution of National Importance OR Bachelors in Physics or Life Sciences as major or equivalent from recognized university / Institution of National Importance with diploma/ certificate Programme in Imaging Sciences /minimum one year of work experience in the department of Radiology from a reputed institute / related field OR Bachelors in Medicine / Ayurveda / Homeopathy / Unani from a recognized University / Institution of National Importance.</p> <p>Clinical Laboratory: Graduate from any statutory university with B.Sc. degree in Medical Technology with Clinical Laboratory Technology as specialization / Clinical Laboratory Science or equivalent from a recognized university/ Institution of National Importance OR Bachelors in Life Sciences or equivalent from recognized university / Institution of National Importance with diploma / certificate Programme in Clinical Laboratory /minimum one year of work experience in the department of Clinical laboratory from a reputed institute / related field OR Bachelors in Medicine / Ayurveda / Homeopathy / Unani from a recognized University / Institution of National Importance.</p> <p>Dialysis and Renal Technology : Graduate from any statutory university with B.Sc. degree in Medical Technology with Dialysis as specialization or equivalent from a recognized university/ Institution of National Importance OR Bachelors in Life Sciences or equivalent from recognized university / Institution of National Importance with diploma/ certificate Programme in Dialysis/Renal Technology / minimum one year of work experience in the department of Dialysis / Renal Sciences from a reputed institute / related field OR Bachelors in Medicine / Ayurveda / Homeopathy / Unani / Physiotherapy / Nursing from a recognized University / Institution of National Importance.</p> <p>OT and Anesthesia Technology: Graduate from any statutory university with B.Sc. degree in Medical Technology with OT &amp; / Anesthesia as specialization or equivalent from a recognized university/ Institution of National Importance OR</p>			



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		Bachelors in Life Sciences or equivalent from recognized university / Institution of National Importance with diploma/ certificate Programme in OT/Anesthesia Technology / minimum one year of work experience in the department of OT/Anesthesia Technology from a reputed institute / related field OR Bachelors in Medicine / Ayurveda / Homeopathy / Unani / Physiotherapy / Nursing from a recognized University or / Institution of National Importance.			
6.	<b>SELECTION PROCEDURE</b>	Selection based on marks in Qualifying examination followed by Entrance Examination, Personal Interaction and Written Ability Test.			
7.	<b>MEDIUM OF INSTRUCTION</b>	English			
8.	<b>PROGRAMME PATTERN</b>	Semester			
9.	<b>COURSE &amp; SPECIALIZATION</b>	<p>Annexure A</p> <p>The M.Sc. Medical Technology programme combines on campus classroom instructions and Lecture, Lecture demonstrations &amp; exhaustive Practical Training in the tertiary care hospitals under the mentorship of the respective guides. Students can opt for any one of the following specializations from the first semester.</p> <p>a) Cardiac Care  b) Respiratory Therapy  c) Imaging Sciences  d) Clinical Laboratory  e) Dialysis &amp; Renal Technology  f) OT &amp; Anaesthesia Technology</p> <p>Teaching Methodology will have theory (lecture demonstration) and practical component. The calculation of credits is based on  1 credit = 15 hours of lecture or lecture demonstration  1 credit = 30 hours of practical(supervised)</p>			
10.	<b>FEE</b>		<b>Academic Fee p.a</b>	<b>Institute Deposit</b>	<b>Total</b>
		<b>Indian Students</b>	200000	20000	220000
		<b>International Students (USD equivalent to INR)</b>	300000	20000	320000
11.	<b>ASSESSMENT</b>	All internal courses will have 100% component as internal evaluation at the institute level. All external courses will have 60% internal component and 40% component as external (University) examination.			
12.	<b>STANDARD OF PASSING</b>	The assessment of the student for each examination is done, based on relative performance. Maximum Grade Point (GP) is 10 corresponding to O (Outstanding). For all courses, a student is required to pass both internal and external examination separately with a minimum Grade Point of 4 corresponding to Grade P. Students securing less than 40% absolute marks in each head of passing will be declared FAIL. The University awards a degree to the student who has achieved a minimum CGPA of 4 out of maximum 10 for the programme.			
13.	<b>AWARD OF DEGREE/ DIPLOMA/</b>	Master of Science (Medical Technology )will be awarded at the end of semester IV examination by taking into consideration the performance of all semester			

	<b>CERTIFICATE</b>	examinations after obtaining minimum 4.00 CGPA out of 10 CGPA for the programme.					
<b>14. NATURE WISE DISTRIBUTION OF CREDITS</b>							
Semester	Generic Core	Generic Elective	Specialization Core	Specialization Elective	Open Elective	Audit	Total
1	6	1	13	0	0	0	20
2	11	1	10	0	0	1*	22
3	6	1	11	0	0	1*	18
4	10	0	10	0	0	0	20
<b>Total</b>	<b>33</b>	<b>3</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>80</b>
* Satisfactory completion of the non letter- grade courses 'Integrated Disaster Management' and 'Research Publication' is mandatory for award of degree.							

Programme Structure is approved by the Academic Council subject to its norms & conditions. Any provision in the Programme Structure which violates the basic rules & regulations is deemed to be termed "Null & Void".

Head-Academics

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Catalog Course Code	Course Code	Course Title	Specialization	Cre-dits	Internal Marks	External Mark	Internal Practical Marks	External Practica I Marks	Total Marks
<b>Semester : 1</b>									
<b>Generic Core Courses</b>									
T2225	0401430101	Research Methodology		2	60	40	0	0	100
T4497	0401430102	Teaching Methodology - I		2	50	0	0	50	100
T4004	0401430103	Biostatistics & Basic Epidemiology		2	60	40	0	0	100
<b>Total</b>				<b>6</b>	<b>170</b>	<b>80</b>	<b>0</b>	<b>50</b>	<b>300</b>
<b>Specialization Core Courses : Cardiac Care</b>									
T4495	0401430104	Cardiology Basics and Chest Roentgenogram	Cardiac Care	4	60	40	0	100	200
T4494	0401430105	Etiopathogenesis of Heart Disease	Cardiac Care	4	60	40	0	100	200
T4797	0401430106	Electro-Physiology, ECG and Stress Test Technique	Cardiac Care	3	60	40	0	50	150
T4493	0401430107	Development of Cardiovascular System and Circulation (Fetal, Neonatal & Adult)	Cardiac Care	2	60	40	0	0	100
<b>Total</b>				<b>13</b>	<b>240</b>	<b>160</b>	<b>0</b>	<b>250</b>	<b>650</b>
<b>Specialization Core Courses : Respiratory Therapy</b>									
T4819	0401430108	Cardiopulmonary Diseases	Respiratory Therapy	4	60	40	0	100	200
T4820	0401430109	Advanced Respiratory Therapy-I	Respiratory Therapy	4	60	40	0	100	200
T4818	0401430110	Basic Sciences (Anatomy and Physiology)	Respiratory Therapy	3	60	40	0	50	150
T4512	0401430111	Cardiopulmonary Pharmacology	Respiratory Therapy	2	60	40	0	0	100
<b>Total</b>				<b>13</b>	<b>240</b>	<b>160</b>	<b>0</b>	<b>250</b>	<b>650</b>
<b>Specialization Core Courses : Imaging Sciences</b>									
T4522	0401430112	Radiation Physics and Protection	Imaging Sciences	4	60	40	0	100	200
T4809	0401430113	Imaging Equipment (I) -X-Ray and Mammography	Imaging Sciences	4	60	40	0	100	200
T4873	0401430114	Radiographic Photography	Imaging Sciences	3	60	40	0	50	150
T4029	0401430115	Applied Physics in Medical Imaging	Imaging Sciences	2	60	40	0	0	100
<b>Total</b>				<b>13</b>	<b>240</b>	<b>160</b>	<b>0</b>	<b>250</b>	<b>650</b>
<b>Specialization Core Courses : Clinical Laboratory</b>									
T4072	0401430116	Systemic Bacteriology	Clinical Laboratory	4	60	40	0	100	200



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T4829	0401430117	Biochemistry	Clinical Laboratory	3	60	40	0	50	150
T4830	0401430118	Parasitology	Clinical Laboratory	3	60	40	0	50	150
T4831	0401430119	Clinical Pathology	Clinical Laboratory	3	60	40	0	50	150
<b>Total</b>				<b>13</b>	<b>240</b>	<b>160</b>	<b>0</b>	<b>250</b>	<b>650</b>
<b>Specialization Core Courses : Dialysis &amp; Renal Technology</b>									
T4844	0401430120	Aetio-Pathology of Renal Disease	Dialysis & Renal Technology	4	60	40	0	100	200
T4845	0401430121	Renal Pharmacology	Dialysis & Renal Technology	4	60	40	0	100	200
T4843	0401430122	Water Treatment	Dialysis & Renal Technology	3	60	40	0	50	150
T4842	0401430123	Renal Anatomy and Physiology	Dialysis & Renal Technology	2	50	0	0	50	100
<b>Total</b>				<b>13</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>300</b>	<b>650</b>
<b>Specialization Core Courses : Operation Theatre &amp; Anaesthesia Technology</b>									
T4309	0401430124	Pre-Anesthetic Patient Assessment	Operation Theatre & Anaesthesia Technology	3	60	40	0	50	150
T4857	0401430125	Anesthetic Fitness Criteria and Pre Surgery Checklist	Operation Theatre & Anaesthesia Technology	3	60	40	0	50	150
T4858	0401430126	Infection Control in Operation Theatre	Operation Theatre & Anaesthesia Technology	3	60	40	0	50	150
T4855	0401430127	Pre-Operative Patient Investigation	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
T4856	0401430128	Patient Preparation	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
<b>Total</b>				<b>13</b>	<b>300</b>	<b>200</b>	<b>0</b>	<b>150</b>	<b>650</b>
<b>Generic Elective Courses Group</b>									



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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
T4498	0401430129	IT Applications for Allied Health Care		1	50	0	0	0	50
T4499	0401430130	Medical Physics		1	50	0	0	0	50
<b>Total Required Credits</b>				<b>1</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>50</b>
<b>Semester : 2</b>									
<b>Generic Core Courses</b>									
TH4087	0401430201	Review of Literature		4	0	0	0	200	200
T2216	0401430202	Business Statistics		2	60	40	0	0	100
T4023	0401430203	Pathology and Case Presentation-I		2	50	0	0	50	100
T2560	0401430204	Principles and Practices of Management		2	60	40	0	0	100
T4045	0401430205	Teaching Methodology -II		1	50	0	0	0	50
T4005	0401430206	Integrated Disaster Management *		0	0	0	0	0	Non Letter Grade
<b>Total</b>				<b>11</b>	<b>220</b>	<b>80</b>	<b>0</b>	<b>250</b>	<b>550</b>
<b>Specialization Core Courses : Cardiac Care</b>									
T4798	0401430207	Clinical Cardiology	Cardiac Care	4	60	40	0	100	200
T4799	0401430208	Echocardiography and Peripheral Doppler - I	Cardiac Care	4	60	40	0	100	200
T4800	0401430209	Biomedical Instrumentation in Cardiac Care	Cardiac Care	2	50	0	0	50	100
<b>Total</b>				<b>10</b>	<b>170</b>	<b>80</b>	<b>0</b>	<b>250</b>	<b>500</b>
<b>Specialization Core Courses : Respiratory Therapy</b>									
T4821	0401430210	Advanced Respiratory Therapy-II	Respiratory Therapy	4	60	40	0	100	200
T4822	0401430211	Critical Care Medicine-I	Respiratory Therapy	4	60	40	0	100	200
T4823	0401430212	Biomedical Instrumentation in Respiratory Therapy	Respiratory Therapy	2	50	0	0	50	100
<b>Total</b>				<b>10</b>	<b>170</b>	<b>80</b>	<b>0</b>	<b>250</b>	<b>500</b>
<b>Specialization Core Courses : Imaging Sciences</b>									
T4810	0401430213	Image Interpretation (X-Ray and Mammography)	Imaging Sciences	3	60	40	0	50	150
T4811	0401430214	Imaging Equipment (II)-Computed Tomography (CT)	Imaging Sciences	3	60	40	0	50	150
T4527	0401430215	Imaging Equipment and Techniques in Ultrasonography (USG)	Imaging Sciences	2	50	0	0	50	100
T4808	0401430216	Techniques in X-Ray and Mammography	Imaging Sciences	2	60	40	0	0	100



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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
<b>Total</b>				<b>10</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>150</b>	<b>500</b>
<b>Specialization Core Courses : Clinical Laboratory</b>									
T4832	0401430217	Clinical Haematology	Clinical Laboratory	4	60	40	0	100	200
T4833	0401430218	Diagnostic Microbiology	Clinical Laboratory	4	60	40	0	100	200
T4834	0401430219	Instrumentation in Clinical Laboratory	Clinical Laboratory	2	50	0	0	50	100
<b>Total</b>				<b>10</b>	<b>170</b>	<b>80</b>	<b>0</b>	<b>250</b>	<b>500</b>
<b>Specialization Core Courses : Dialysis &amp; Renal Technology</b>									
T4846	0401430220	Theory and Principles of Haemodialysis	Dialysis & Renal Technology	4	60	40	0	100	200
T4847	0401430221	Clinical Nephrology	Dialysis & Renal Technology	4	60	40	0	100	200
T4848	0401430222	Dialysis Equipment	Dialysis & Renal Technology	2	50	0	0	50	100
<b>Total</b>				<b>10</b>	<b>170</b>	<b>80</b>	<b>0</b>	<b>250</b>	<b>500</b>
<b>Specialization Core Courses : Operation Theatre &amp; Anaesthesia Technology</b>									
T4860	0401430223	Techniques in Anesthesia	Operation Theatre & Anaesthesia Technology	3	60	40	0	50	150
T4861	0401430224	Safety Measures in Operation Theatre	Operation Theatre & Anaesthesia Technology	3	60	40	0	50	150
T4859	0401430225	Anesthetic Agents	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
T4862	0401430226	Biomedical Instrumentation in OT and Anesthesia	Operation Theatre & Anaesthesia Technology	2	50	0	0	50	100
<b>Total</b>				<b>10</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>150</b>	<b>500</b>
<b>Generic Elective Courses Group</b>									
T4438	0401430227	Computer Language		1	50	0	0	0	50
T4501	0401430228	Emerging Trends in Allied Health Care		1	50	0	0	0	50
<b>Total Required Credits</b>				<b>1</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>50</b>



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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
<b>Semester : 3</b>									
<b>Generic Core Courses</b>									
T4043	0401430301	Pathology and Case Presentation-II		2	50	0	0	50	100
T5090	0401430302	Summer Internship		2	0	0	0	100	100
T4571	0401430303	Hospital Information System		1	50	0	0	0	50
T4063	0401430304	Teaching Methodology -III		1	50	0	0	0	50
T0100	0401430305	Research Publication *		0	0	0	0	0	Non Letter Grade
<b>Total</b>				<b>6</b>	<b>150</b>	<b>0</b>	<b>0</b>	<b>150</b>	<b>300</b>
<b>Specialization Core Courses : Cardiac Care</b>									
T4801	0401430306	Echocardiography and Peripheral Doppler-II	Cardiac Care	3	60	40	0	50	150
T4802	0401430307	Cardiac Pacemakers and Cardioverter Defibrillators	Cardiac Care	3	60	40	0	50	150
T4803	0401430308	Cardiac Catheterization	Cardiac Care	3	60	40	0	50	150
T4084	0401430309	Applied Management in Cardiac Care Unit	Cardiac Care	2	50	0	0	50	100
<b>Total</b>				<b>11</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>200</b>	<b>550</b>
<b>Specialization Core Courses : Respiratory Therapy</b>									
T4515	0401430310	Critical Care Medicine-II	Respiratory Therapy	3	60	40	0	50	150
T4089	0401430311	Applied Management in Respiratory Therapy Unit	Respiratory Therapy	2	50	0	0	50	100
T4824	0401430312	Advanced Respiratory Therapy-III	Respiratory Therapy	2	60	40	0	0	100
T4825	0401430313	Emergency Medical Services-I	Respiratory Therapy	2	60	40	0	0	100
T4826	0401430314	Cardiopulmonary Rehabilitation	Respiratory Therapy	2	60	40	0	0	100
<b>Total</b>				<b>11</b>	<b>290</b>	<b>160</b>	<b>0</b>	<b>100</b>	<b>550</b>
<b>Specialization Core Courses : Imaging Sciences</b>									
T4814	0401430315	Techniques in Magnetic Resonance Imaging (MRI)	Imaging Sciences	3	60	40	0	50	150
T4094	0401430316	Applied Management in Radiology Unit	Imaging Sciences	2	50	0	0	50	100
T4532	0401430317	Cross-Sectional Anatomy (CT, MRI)	Imaging Sciences	2	50	0	0	50	100
T4812	0401430318	Techniques in Computed Tomography (CT)	Imaging Sciences	2	60	40	0	0	100
T4813	0401430319	Imaging Equipment (III)-Magnetic Resonance Imaging (MRI)	Imaging Sciences	2	60	40	0	0	100



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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
<b>Total</b>				<b>11</b>	<b>280</b>	<b>120</b>	<b>0</b>	<b>150</b>	<b>550</b>
<b>Specialization Core Courses : Clinical Laboratory</b>									
T4835	0401430320	Clinical Biochemistry	Clinical Laboratory	3	60	40	0	50	150
T4836	0401430321	Virology and Mycology	Clinical Laboratory	3	60	40	0	50	150
T4837	0401430322	Blood Banking	Clinical Laboratory	3	60	40	0	50	150
T4543	0401430323	Applied Management in Clinical Laboratory	Clinical Laboratory	2	50	0	0	50	100
<b>Total</b>				<b>11</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>200</b>	<b>550</b>
<b>Specialization Core Courses : Dialysis &amp; Renal Technology</b>									
T4849	0401430324	Theory and Principles of Peritoneal Dialysis	Dialysis & Renal Technology	3	60	40	0	50	150
T4850	0401430325	Investigations in Renal Diseases	Dialysis & Renal Technology	3	60	40	0	50	150
T4851	0401430326	Patient Care in Renal Technology	Dialysis & Renal Technology	3	60	40	0	50	150
T4551	0401430327	Applied Management in Renal Care Unit	Dialysis & Renal Technology	2	50	0	0	50	100
<b>Total</b>				<b>11</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>200</b>	<b>550</b>
<b>Specialization Core Courses : Operation Theatre &amp; Anaesthesia Technology</b>									
T4863	0401430328	Procedures in Thoracic and Cardiac OT	Operation Theatre & Anaesthesia Technology	3	60	40	0	50	150
T4561	0401430329	Applied Management in OT and Anaesthesia Unit	Operation Theatre & Anaesthesia Technology	2	50	0	0	50	100
T4312	0401430330	Procedures in Ear, Nose, Throat (ENT), Ophthalmic and Paediatric OT	Operation Theatre & Anaesthesia Technology	2	50	0	0	50	100
T4864	0401430331	Procedures in Abdomen, Obstetric, Gynaecology and Urology (OBGY & URO)OT	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100



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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
TH4086	0401430332	Procedures on Neuro OT	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
<b>Total</b>				<b>11</b>	<b>280</b>	<b>120</b>	<b>0</b>	<b>150</b>	<b>550</b>
<b>Generic Elective Courses Group</b>									
T4506	0401430333	Innovation and Entrepreneurship		1	50	0	0	0	50
T4801	0401430334	Community Project		1	50	0	0	0	50
<b>Total Required Credits</b>				<b>1</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>50</b>
<b>Semester : 4</b>									
<b>Generic Core Courses</b>									
T4704	0401430401	Dissertation		5	0	0	0	250	250
T4061	0401430402	Pathology and Case Presentation-III		2	50	0	0	50	100
T4901	0401430403	On Job Training		2	0	0	0	100	100
T4085	0401430404	Teaching Methodology -IV		1	50	0	0	0	50
<b>Total</b>				<b>10</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>400</b>	<b>500</b>
<b>Specialization Core Courses : Cardiac Care</b>									
T4804	0401430405	Peripheral Catheterization	Cardiac Care	3	60	40	0	50	150
T4805	0401430406	Intensive Cardiac Care Unit (ICCU) and Cardiopulmonary Resuscitation (CPR)	Cardiac Care	3	50	0	0	100	150
T4806	0401430407	Recent Advances in Cardiology	Cardiac Care	2	60	40	0	0	100
T4807	0401430408	Quality Assurance, Standardization and Accreditation (Cardiac Care)	Cardiac Care	2	60	40	0	0	100
<b>Total</b>				<b>10</b>	<b>230</b>	<b>120</b>	<b>0</b>	<b>150</b>	<b>500</b>
<b>Specialization Core Courses : Respiratory Therapy</b>									
T4519	0401430409	Emergency Medical Services-II	Respiratory Therapy	3	60	40	0	50	150
T4517	0401430410	Neonatal and Pediatric Respiratory Care	Respiratory Therapy	3	60	40	0	50	150
T4827	0401430411	Critical Care Medicine-III	Respiratory Therapy	2	60	40	0	0	100
T4828	0401430412	Quality Assurance, Standardization and Accreditation (Respiratory Therapy)	Respiratory Therapy	2	60	40	0	0	100



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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
<b>Total</b>				<b>10</b>	<b>240</b>	<b>160</b>	<b>0</b>	<b>100</b>	<b>500</b>
<b>Specialization Core Courses : Imaging Sciences</b>									
T4536	0401430413	Picture Archiving and Communications System (PACS) and Radiology Information System (RIS) & Teleradiology	Imaging Sciences	2	50	0	0	50	100
T4638	0401430414	Advances in Medical Imaging	Imaging Sciences	2	60	40	0	0	100
T4815	0401430415	Special Investigations and Techniques	Imaging Sciences	2	60	40	0	0	100
T4816	0401430416	Quality Assurance, Standardization and Accreditation (Imaging Sciences)	Imaging Sciences	2	60	40	0	0	100
T4817	0401430417	Calibration and Quality Control in Computerized Tomography (CT) & Magnetic Resonance Imaging (MRI)	Imaging Sciences	2	60	40	0	0	100
<b>Total</b>				<b>10</b>	<b>290</b>	<b>160</b>	<b>0</b>	<b>50</b>	<b>500</b>
<b>Specialization Core Courses : Clinical Laboratory</b>									
T4098	0401430418	Newer Diagnostic Techniques	Clinical Laboratory	2	50	0	0	50	100
T4838	0401430419	Immunology	Clinical Laboratory	2	60	40	0	0	100
T4839	0401430420	Cytology	Clinical Laboratory	2	60	40	0	0	100
T4840	0401430421	Histopathology	Clinical Laboratory	2	60	40	0	0	100
T4841	0401430422	Quality Assurance, Standardization and Accreditation (Clinical Laboratory)	Clinical Laboratory	2	60	40	0	0	100
<b>Total</b>				<b>10</b>	<b>290</b>	<b>160</b>	<b>0</b>	<b>50</b>	<b>500</b>
<b>Specialization Core Courses : Dialysis &amp; Renal Technology</b>									
T4852	0401430423	Theory and Principles of other Renal Procedures	Dialysis & Renal Technology	4	60	40	0	100	200
T4854	0401430424	Recent Advances in Renal Technology	Dialysis & Renal Technology	4	100	0	0	100	200





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**Annexure A**

Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
T4853	0401430425	Quality Assurance, Standardization and Accreditation (Dialysis and Renal Technology)	Dialysis & Renal Technology	2	60	40	0	0	100
<b>Total</b>				<b>10</b>	<b>220</b>	<b>80</b>	<b>0</b>	<b>200</b>	<b>500</b>
<b>Specialization Core Courses : Operation Theatre &amp; Anaesthesia Technology</b>									
T4562	0401430426	Procedures in Orthopedic and Trauma Care	Operation Theatre & Anaesthesia Technology	2	50	0	0	50	100
T4319	0401430427	Transfusion and IV Therapy	Operation Theatre & Anaesthesia Technology	2	50	0	0	50	100
T4865	0401430428	Critical Care Services	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
T4866	0401430429	Recovery Room and Day Care	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
T4867	0401430430	Quality Assurance, Standardization and Accreditation (OT and Anaesthesia)	Operation Theatre & Anaesthesia Technology	2	60	40	0	0	100
<b>Total</b>				<b>10</b>	<b>280</b>	<b>120</b>	<b>0</b>	<b>100</b>	<b>500</b>



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Semester	Internal Credits	External Credits	Total Credits	Total Marks
<b>Cardiac Care</b>				
Semester 1	1	19	20	1000
Semester 2	2	20	22	1100
Semester 3	3	15	18	900
Semester 4	1	19	20	1000
<b>Total</b>	<b>7</b>	<b>73</b>	<b>80</b>	<b>4000</b>
<b>Respiratory Therapy</b>				
Semester 1	1	19	20	1000
Semester 2	2	20	22	1100
Semester 3	3	15	18	900
Semester 4	1	19	20	1000
<b>Total</b>	<b>7</b>	<b>73</b>	<b>80</b>	<b>4000</b>
<b>Imaging Sciences</b>				
Semester 1	1	19	20	1000
Semester 2	2	20	22	1100
Semester 3	3	15	18	900
Semester 4	1	19	20	1000
<b>Total</b>	<b>7</b>	<b>73</b>	<b>80</b>	<b>4000</b>
<b>Clinical Laboratory</b>				
Semester 1	1	19	20	1000
Semester 2	2	20	22	1100
Semester 3	3	15	18	900
Semester 4	1	19	20	1000
<b>Total</b>	<b>7</b>	<b>73</b>	<b>80</b>	<b>4000</b>
<b>Dialysis &amp; Renal Technology</b>				
Semester 1	1	19	20	1000
Semester 2	2	20	22	1100
Semester 3	3	15	18	900
Semester 4	1	19	20	1000
<b>Total</b>	<b>7</b>	<b>73</b>	<b>80</b>	<b>4000</b>
<b>Operation Theatre &amp; Anaesthesia Technology</b>				
Semester 1	1	19	20	1000
Semester 2	2	20	22	1100
Semester 3	3	15	18	900
Semester 4	1	19	20	1000
<b>Total</b>	<b>7</b>	<b>73</b>	<b>80</b>	<b>4000</b>