

Symbiosis Institute of Health Sciences, Pune
Bachelor of Science in Paramedical Technology (Radiotherapy Technology)
Programme Structure 2023-27

1.	OBJECTIVE	To train students in Radiotherapy techniques with specific objective driven learning such as Radiation safety, patient preparation and machine handling to obtain the most accurate result in radiotherapy procedures. These students would be in a position to competently assist the Physician and participate in the research, to cater to the branch of Radiotherapy globally.			
2.	DURATION (IN MONTHS)	48 (Full Time)			
3.	INTAKE	6			
4.	RESERVATION	I. Within the sanctioned intake	a) SC (In Percentage)	b) ST (In Percentage)	c) Differently abled (In Percentage)
			15	7.5	3
		II. Over and above the sanctioned intake	a) Kashmiri Migrants (In Seats)	b) International Students (In Percentage)	
			2	15	
5.	ELIGIBILITY	Passed Standard XII (10+2) or equivalent examination from any recognized Board with any two of the following subjects: Physics, Chemistry, Biology, Botany, Zoology, Biochemistry, Microbiology, Mathematics OR equivalent as decided by competent authority.			
6.	SELECTION PROCEDURE	Selection based on marks in Qualifying Examination followed by Institute Entrance Examination / Entrance Examination at National level [like National Eligibility Entrance Test (NEET) /Maharashtra Common Entrance Test (MHT-CET) /Joint Eligibility Examination (JEE)] or Equivalent examination score + Personal Interaction - Written Ability Test (PIWAT)			
7.	MEDIUM OF INSTRUCTION	English			
8.	PROGRAMME PATTERN	Semester			
9.	COURSE & SPECIALIZATION	As per Annexure A			
10.	FEE		Academic Fee p.a	Institute Deposit	Total
		Indian Students	200000	20000	220000
		International Students (USD equivalent to INR)	300000	20000	320000

11.	ASSESSMENT	All internal courses will have 100% component as internal evaluation at the institute level. All external courses will have 40% internal component and 60% external component [University] examination.
12.	STANDARD OF PASSING	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 of 10 CGPA for the programme.
13.	AWARD OF DEGREE/ DIPLOMA/ CERTIFICATE	<p>Option 1 Bachelor of Science in Paramedical Technology (Radiotherapy Technology) will be awarded at the end of semester VI examination by taking into consideration the performance of all semester examinations after obtaining a minimum 4.00 CGPA out of 10 CGPA.</p> <p>Option 2- Bachelor of Science in Paramedical Technology (Radiotherapy Technology) Honours will be awarded at the end of semester VIII examination by taking into consideration the performance of all semester examinations after obtaining a minimum 4.00 CGPA out of 10 CGPA.</p> <p>Option 3- Bachelor of Science in Paramedical Technology (Radiotherapy Technology) Honours with research will be awarded at the end of semester VIII examination by taking into consideration the performance of all semester examinations after obtaining a minimum 4.00 CGPA out of 10 CGPA.</p>

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Annexure A

Semester 1

Catalog Course Code	Course Code	Category	Course Title	Specialization	Credits	Internal Marks	External Marks	Internal Practical Marks	External Practical Marks	Total Marks
T4565	401220101	Major	Anatomy I	Core	2	20	30	0	0	50
New	401220102	Major	Physiology I	Core	2	20	30	0	0	50
T4946	401220103	Minor	Basic Sciences	Core	2	20	0	0	30	50
T4499/ New c	401220104	Minor	Medical Physics	Core	2	20	30	0	0	50
T4947	401220105	Ability Enhancement	Communication Skills for Allied Health Professionals - Foundation	Core	1	25	0	0	0	25
New	401220106	Ability Enhancement	English Language	Core	2	20	30	0	0	50
T4441/ New c	401220107	Skill Enhancement	Personality Development for Allied Health Professionals	Core	2	20	0	0	30	50
New	401220108	Skill Enhancement	Critical Thinking	Core	2	20	0	0	30	50
T4433	401220109	Value Added	Computer Skills	Core	1	25	0	0	0	25
T2883/ New c	401220110	Value Added	Core Environmental Studies	Core	1	25	0	0	0	25
T4432	401220111	Multidisciplinary / Elective	Psychology	Core	1	25	0	0	0	25
T4431	401220112	Multidisciplinary / Elective	Sociology	Core	1	25	0	0	0	25
T4440	401220113	Multidisciplinary / Elective	Applied Mathematics	Core	1	25	0	0	0	25
Total					20	290	120	0	90	500

Semester 2

Catalog Course Code	Course Code	Category	Course Title	Specialization	Credits	Internal Marks	External Marks	Internal Practical Marks	External Practical Marks	Total Marks
New	401220201	Major	Anatomy II	Core	2	0	0	0	50	50
New	401220202	Major	Physiology II	Core	2	0	0	0	50	50

T4571/ New c	401220203	Minor	Hospital Information System	Core	2	50	0	0	0	50
T4446/ New c	401220204	Minor	Basics of Epidemiology	Core	2	20	30	0	0	50
New	401220205	Ability Enhanceme nt	Marathi Language	Core	2	20	0	0	30	50
T4435/ New c	401220206	Ability Enhanceme nt	Communication Skills for Allied Health Professionals - Advanced	Core	2	20	0	0	30	50
T4567/ New c	401220207	Skill Enhanceme nt	Soft Skills for Allied Health Professionals	Core	3	40	0	0	35	75
TH4095 / New c	401220208	Value Added	Fitness for Life	Core	1	25	0	0	0	25
T4439	401220209	Multidiscipli nary / Elective	Nutrition & Dietetics	Core	1	25	0	0	0	25
T4444	401220210	Multidiscipli nary / Elective	Clinical Nutrition	Core	1	25	0	0	0	25
T6507	401220211	Multidiscipli nary / Elective	Introduction to Social Justice	Core	2	50	0	0	0	50
Total					20	275	30	0	195	500
Semester 3										
Catalog Course Code	Course Code	Category	Course Title	Specialization	Credit s	Interna l Marks	Externa l Marks	Internal Practica l Marks	Externa l Practica l Marks	Total Mark s
TH4093 / New c	401220301	Major	Hospital Practices and Patient Care	Core	4	40	40	0	20	100
New	401220302	Major	Basic Patient Assessment	Core	1	25	0	0	0	25
T4427	401220303	Major	Medical Ethics and Legal Aspects	Core	1	25	0	0	0	25
T2208	401220304	Minor	Research Methodology	Core	4	40	40	0	20	100
New	401220305	Ability Enhanceme nt	Effective Writing	Core	1	25	0	0	0	25
T6475/ New c	401220306	Skill Enhanceme nt	Creative Writing	Core	2	50	0	0	0	50
T4005/ New c	401220307	Value Added	Integrated Disaster Management	Core	1	25	0	0	0	25

T6284/ New c	401220308	Value Added	Contemporary India and The World	Core	1	25	0	0	0	25
TH4058	401220309	Major	Applied Clinical Sciences (Radiotherapy)	Core	2	30	0	0	45	75
TH4014	401220310	Major	Principles of Practical Radiotherapy	Core	2	30	45	0	0	75
T4938	401220311	Major	Introduction to Medical Imaging	Core	1	25	0	0	0	25
Total					20	340	125	0	85	550

Semester 4

Catalog Course Code	Course Code	Category	Course Title	Specialization	Credit s	Interna l Marks	Externa l Marks	Internal Practica l Marks	Externa l Practica l Marks	Total Mark s
T4948	401220401	Major	Basic Biochemistry	Core	4	40	40	0	20	100
T4949	401220402	Major	Basic Microbiology & Parasitology	Core	4	40	40	0	20	100
T4771	401220403	Value Added	Fitness & Life Management	Core	2	30	45	0	0	75
T4775	401220404	Value Added	Self Defence	Core	1	25	0	0	0	25
T8000/ New c	401220405	Value Added	Service Learning	Core	2	25	0	0	0	25
Total					13	160	125	0	40	325

Generic Elective Courses Group

Catalog Course Code	Course Code	Category	Course Title	Specialization	Credit s	Interna l Marks	Externa l Marks	Internal Practica l Marks	Externa l Practica l Marks	Total Mark s
New	401220406	Multidiscipli nary / Elective	Coping Skills (Mental Health)	Core	2	50	0	0	0	50
T6604	401220407	Multidiscipli nary / Elective	Political Science	Core	2	50	0	0	0	50
SWM01	401220408	Multidiscipli nary / Elective	Swayam Course	Core	2	50	0	0	0	50
T6477	401220409	Multidiscipli nary / Elective	Theater	Core	2	50	0	0	0	50
T6475	401220410	Multidiscipli nary / Elective	Creative Writing	Core	1	25	0	0	0	25

T6491	401220411	Multidisciplinary / Elective	Cyber Law	Core	1	25	0	0	0	25
T6487	401220412	Multidisciplinary / Elective	Film Appreciation	Core	1	25	0	0	0	25
T6476	401220413	Multidisciplinary / Elective	World Music	Core	1	25	0	0	0	25
Total					4	100	0	0	0	100
Major Core Specialization										
TH4013	401220414	Major	Radiation protection and safety	Radiotherapy	2	25	0	0	0	25
T4380	401220415	Major	Principles of Brachytherapy & Teletherapy	Radiotherapy	1	20	30	0	0	50
Total					3	45	30	0	0	75
Semester 5										
Catalog Course Code	Course Code	Category	Course Title	Specialization	Credits	Internal Marks	External Marks	Internal Practical Marks	External Practical Marks	Total Marks
T4107	401220501	Major	Basic Pharmacology	Core	2	20	0	0	30	50
T4950	401220502	Major	Pathology	core	4	40	40	0	20	100
T4907/ New c	401220503	Summer Internship	Summer Internship Programme (Healthcare/ Research Organization)	core	4	40	0	0	60	100
T4376	401220504	Major	Principles of Radiation Oncology	Radiotherapy	2	20	30	0	0	50
T4376	401220505	Major	Radiobiology	Radiotherapy	2	20	30	0	0	50
TH4094	401220506	Major	Practical Brachytherapy and Teletherapy	Radiotherapy	3	25	0	0	25	50
T4383	401220507	Major	Clinical Oncology-I	Radiotherapy	1	50	0	0	25	50
TH4017	401220508	Major	Radiotherapy Dosimetry-I	Radiotherapy	2	25	0	0	25	50
Total					20	240	100	0	185	500
Semester 6										
Catalog Course Code	Course Code	Category	Course Title	Specialization	Credits	Internal Marks	External Marks	Internal Practical Marks	External Practical Marks	Total
T4451	401220601	Major	Basic Life Support	Core	2	25	0	0	25	50

T4806/ New c	401220602	Dissertation	Project (2c)	Core	2	25	0	0	25	50
T2560	401220603	Multidiscipli nary	Principles and Practices of Management	Core	2	20	30	0	0	50
TH4017	401220604	Major	Radiotherapy Dosimetry-II(3)	Radiotherapy	3	20	30	0	25	75
T4939	401220605	Major	Applied Management in Radiotherapy Unit	Radiotherapy	2	25	0	0	25	50
T4387	401220606	Major	Clinical Oncology- II	Radiotherapy	3	20	30	0	25	75
TH4015	401220607	Major	Patient Set-up in Radiotherapy Treatment	Radiotherapy	2	25	0	0	25	50
TH4018	401220608	Major	Radiotherapy Machines, Instrumentation and Quality Assurance	Radiotherapy	4	40	40	0	20	100
Total					20	200	130	0	170	500
Semester 7										
Catalog Course Code	Course Code	Category	Course Title	Specialization	Credit s	Interna l Marks	Externa l Marks	Internal Practica l Marks	Externa l Practica l Marks	Total
T4570/ New c	401220701	Minor	Quality in Healthcare	Core	3	20	30	0	25	75
T4501/ New c	401220702	Minor	Emerging Trends in Allied Health Care	Core	2	50	0	0	0	50
T4004	401220703	Minor	Biostatistics	Core	2	20	30	0	0	50
TH4163	401220704	Minor	Telemedicine Technology	Core	2	20	30	0	0	50
New	401220705	Minor	Artificial Intelligence in Healthcare	Core	2	20	30	0	0	50
T4575/ New c	401210706	Minor	Research Proposal Writing	Core	2	25	0	0	25	50
T4996	401220707	Major	Advanced Cardiac Life Support (ACLS)	Radiotherapy	4	40	40	0	20	100
New	401220707	Major	Advances in Radiotherapy Unit	Radiotherapy	3	20	30	0	25	75
Total					20	215	190	0	95	500
Semester 8										
Catalog Course Code	Course Code	Category	Course Title	Specialization	Credit s	Interna l Marks	Externa l Marks	Internal Practica l Marks	Externa l Practica l Marks	Total Mark s

New	401220801	Major	Research Grant Writing	Core	2	30	20	0	0	50
New	401220802	Major	Data Analysis & Management	Core	4	40	40	0	20	100
New	401220803	Minor	Scientific Writing	Core	2	50	0	0	0	50
New	401220804	Minor	Patent & Intellectual Property Rights	Core	2	30	20	0	0	50
New	401220805	Dissertation	Dissertation	Core	10	100	0	0	150	250
Total					20	250	80	0	170	500

*** Subject to Change**