

Bachelor of Science (B.Sc.) – Cardiac Care Technology [3 Years Regular/4 Years (Honours/Honours with Research)]	
Faculty of Medicine	
Parul University	
Teaching and Examination Scheme for Batch 2023-24	
(NOTE: A credit is a unit by which the coursework is measured. It determines the number of hours of instruction required per week over the duration of a semester (Minimum 15 weeks/90 days)	
1. 1 Theory Credit = 15 hours of academic activity engagement in a semester	
2. 1 Credit of (Practical/Internship/workshop-based activity/ Self-Learning-Online/Offline) = 30 Hours of engagement in a semester	
3. 1 Credit of Experiential learning (Field Visit/ Industry Visit)/ Assignments = 40-45 hours of engagement in a semester.	
4. Research Project/Dissertation: Entire Seventh & Eighth Semesters (12 Credits)	
T = Theory , P = Practical , CE = Continuous Evaluation	
Bachelor of Science in Cardiac Care Technology with Minor in	
1. Anesthesia and Critical Care	
2. Operation Theatre Technology	
3. AIML in Health Care	
4. Nanotechnology in Health Care	

Semester 1

				Teaching Scheme (Hours / Week)			Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
NCrF Credit Level	Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int.+Ext.	Int.+Ext.	
4.5		Major (Discipline Specific Course)												
	19010001DS01	Anatomy & Physiology – I(T)	4	4	-	-	20	-	20	60	-	40	-	100
	19010001DS02	Anatomy & Physiology – I (P)	2	-	4	-	-	20	-	-	30	-	20	50
	19010301DS05	Anatomy, Physiology & Biochemistry of the Heart (T)	3	3	-	-	20	-	20	60	-	40	-	100
	19010301DS06	Anatomy, Physiology & Biochemistry of the Heart (P)	1	-	2	-	-	20	-	-	30	-	20	50
		Minor -1 / Interdisciplinary Course (Select any one)												
	19011301AC01	Anesthesia and critical care: Introduction of Anaesthesia and Critical Care Technology (T)	3	3	-	-	20	-	20	60	-	40	-	100
	19011301AC02	Anesthesia and critical care: Introduction of Anaesthesia and Critical Care Technology (P)	1	-	2	-	-	20	-	-	30	-	20	50
	19010901OT01	Operation theatre technology: Introduction to Operation Theatre Technology (T)	3	3	-	-	20	-	20	60	-	40	-	100
	19010901OT02	Operation theatre technology: Introduction To Operation Theatre Technology (P)	1	-	2	-	-	20	-	-	30	-	20	50
	03010501AM01	AIML in Health Care: Programming in Python (T)	3	3	-	-	20	-	20	60	-	40	-	100
	03010501AM02	AIML in Health Care: Programming in Python (P)	1	-	2	-	-	20	-	-	30	-	20	50
	03011301NT01	Nanotechnology in Health Care: Introduction to Nanotechnology and its Applications in Healthcare	4	3	-	1	20	-	20	60	-	40	-	100
		University Electives -1 (Multidisciplinary course) (Select any one)												
	19010201UE01	Health Informatics	4	3	2	-	20	20	20	60	30	40	20	150

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Semester 2

				Teaching Scheme (Hours / Week)			Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
NCrF Credit Level	Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int.+Ext.	Int.+Ext.	
4.5		Major (Discipline Specific Course)												
	19010002DS01	Anatomy & Physiology-II (T)	4	4	-	-	20	-	20	60	-	40	-	100
	19010002DS02	Anatomy & Physiology -II (P)	2	-	4	-	-	20	-	-	30	-	20	50
	19010302DS01	Patient and Staff Safety & Infection Control(T)	3	3	-	-	20	-	20	60	-	40	-	100
	19010302DS02	Patient and Staff Safety & Infection Control(P)	1	-	2	-	-	20	-	-	30	-	20	50
		Minor -2 / Interdisciplinary Course (Select any one)												
	19011302AC01	Anesthesia and critical care: Basic Techniques of Anaesthesia (T)	3	3	-	-	20	-	20	60	-	40	-	100
	19011302AC02	Anesthesia and critical care: Basic Techniques of Anaesthesia (P)	1	-	2	-	-	20	-	-	30	-	20	50
	19010902OT01	Operation theatre technology: Basics of Surgical Procedures (T)	3	3	-	-	20	-	20	60	-	40	-	100
	19010902OT02	Operation theatre technology: Basics of Surgical Procedures (P)	1	-	2	-	-	20	-	-	30	-	20	50
	03010502AM01	AIML in Health Care: Artificial Intelligence (T)	3	3	-	-	20	-	20	60	-	40	-	100
	03010502AM02	AIML in Health Care: Artificial Intelligence (P)	1	-	2	-	-	20	-	-	30	-	20	50
	03011302NT01	Nanotechnology in Health Care: Nanomaterials in Biomedical Applications	4	3	-	1	20	-	20	60	-	40	-	100
		University Electives -2 (Multidisciplinary course) (Select any one)												
	10010102UE01	Introduction to Gender, Health, and Rights	4	4	-	-	20	-	20	60	-	40	-	100
	19010202UE01	Public Health Nutrition		3	2	-	20	20	20	60	30	40	20	150
	15010402UE01	Human Psychology		4	-	-	20	-	20	60	-	40	-	100
		Skill Enhancement Course -2												
	00019101SE01	Mathematical Aptitude	2	2	-	-	20	-	20	60	-	40	-	100
		Value Added Course-2												
	00019302VA01	IPDC-including-History-and-Culture-of-India-and-IKS-I	2	2	-	-	-	-	100	-	-	40	-	100

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Semester 3

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Semester 4

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Semester 5

				Teaching Scheme (Hours / Week)			Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
NCrF-Credit-Level	Code	Subject	Credit	Lect	Lab	Tut	T-	P	CE	T	P	Int.+Ext.	Int.+Ext.	
5.5		Major (Discipline Specific Course)												
	19010305DS01	Echocardiography (T)	3	3	-	-	20	-	20	60	-	40	-	100
	19010305DS02	Echocardiography (P)	1	-	2	-	-	20	-	-	30	-	20	50
	19010005DS01	Applied Medicine & Pharmacology-II(T)	4	4	-	-	20	-	20	60	-	40	-	100
	19010005DS02	Applied Medicine & Pharmacology-II(P)	2	-	4	-	-	20	-	-	30	-	20	50
	19010305DS03	Cardiac Catheterization (T)	3	3	-	-	20	-	20	60	-	40	-	100
	19010305DS04	Cardiac Catheterization (P)	1	-	2	-	-	20	-	-	30	-	20	50
		Minor -4 / Interdisciplinary Course (Select any one)												
	19011305AC01	Anesthesia and critical care: Advanced Anaesthesia Technology	3	3	-	-	20	-	20	60	-	40	-	100
	19011305AC02	Anesthesia and critical care: Advanced Anaesthesia Technology	1	-	2	-	-	20	-	-	30	-	20	50
	19010905OT01	Operation theatre technology: Principles of Operation Theatre Management	3	3	-	-	20	-	20	60	-	40	-	100
	19010905OT02	Operation theatre technology: Principles of Operation Theatre Management	1	-	2	-	-	20	-	-	30	-	20	50
	03010505AM01	AIML in Health Care: Machine Learning	3	3	-	-	20	-	20	60	-	40	-	100
	03010505AM02	AIML in Health Care: Machine Learning	1	-	2	-	-	20	-	-	30	-	20	50
	03011305NT01	Nanotechnology in Health Care: Nanofabrication Techniques	4	3	-	1	20	-	20	60	-	40	-	100
		Minor -5 / Interdisciplinary Course (Select any one)												
	19011305AC03	Anesthesia and critical care: Advanced Critical Care Technology	3	3	-	-	20	-	20	60	-	40	-	100

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Semester 6

				Teaching Scheme (Hours / Week)			Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
NCrF-Credit-Level	Code	Subject	Credit	Lect	Lab	Tut	T-	P	CE	T	P	Int.+Ext.	Int.+Ext.	
		Major (Discipline Specific Course)												
5.5	19010306DS01	Perfusion Science & Technology (T)	3	3	-	-	20	-	20	60	-	40	-	100
	19010306DS02	Perfusion Science & Technology (P)	1	-	2	-	-	20	-	-	30	-	20	50
	19010306DS03	Cardiac Surgery (T)	3	3	-	-	20	-	20	60	-	40	-	100
	19010306DS04	Cardiac Surgery (P)	1	-	2	-	-	20	-	-	30	-	20	50
	19010306DS05	Clinical Posting - Cardiac Monitoring (P)	4	-	8	-	-	40	-	-	60	-	40	100
		Minor -6 / Interdisciplinary Course (Select any one)												
	19011306AC01	Anesthesia and critical care: Basic and Advanced Anaesthesia and Critical Care	4	-	8	-	-	40	-	-	60	-	40	100
	19010906OT01	Operation theatre technology: Operation Theatre Technology-II	4	-	8	-	-	40	-	-	60	-	40	100
	03010506AM01	AIML in Health Care: Natural Language Processing (T)	3	3	-	-	20		20	60	-	40	-	100
	03010506AM02	AIML in Health Care: Natural Language Processing (P)	1	-	2	-	-	20	-	-	30	-	20	50
	03011306NT01	Nanotechnology in Health Care: Nanocomposites	4	3	-	1	20		20	60	-	40	-	100
		Ability Enhancement Course -5												
	00019306AE01	Professional-Ethics-and-Communication	2	2	-	-	20	-	20	60	-	40	-	100
	19010306IN01	Internship/Mini Project-1 (in Major Specific Course)	4	-	8	-	-	40	-	-	60	-	40	100
		Total	22											

Internship Guidelines: 30 days (120 Hrs.)

Semester 7

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		OR												
	19010307RP01	Research Project in Major Specific course (For Honours with Research degree)	6	-	12	-	-	60	-	-	90	-	60	150
		Total	22											

Research Project Guidelines:

Advanced – level disciplinary/interdisciplinary courses related to topic selection and research methodology and initial stage of research will be conducted like: determining the definition of the information needed, determining the methods of collection of qualitative and quantitative data, conducting secondary data analysis etc.

On-the-Job Training Guidelines: 45 days (180 Hrs.)

Semester-8

				Teaching-Scheme- (Hours-/-Week)			Internal-Marks			External-Marks		Passing-Marks- (Theory- +CE)	Passing-Marks- (Practical)	Total-Marks
NCrF-Credit-Level	Code	Subject	Credit	Lect	Lab	Tut	T-	P	CE	T	P	Int.+Ext.	Int.+Ext.	
6.0		Major (Discipline Specific Course)												
	19010308DS01	Clinical Training - Medical Electronics in Cardiology	4	-	8	-	-	40	-	-	60	-	40	100
	19010308DS03	Clinical Training - Cardiac Catheterization	4	-	8	-	-	40	-	-	60	-	40	100
	19010308DS02	Clinical Training - Cardiac Surgery	4	-	8	-	-	40	-	-	60	-	40	100
		Minor -8 / Interdisciplinary Course (Select any one)												
	19011308AC01	Anesthesia and critical care: Clinics: Pre-Intra-Post-Operative Preparation, Complication and Management	4	-	8	-	-	40	-	-	60	-	40	100
	19010908OT01	Operation theatre technology: Clinics Hospital Operation Management		-	8	-	-	40	-	-	60	-	40	100
	03010508AM01	AIML in Health Care: AI and Machine Learning Projects		-	8	-	-	40	-	-	60	-	40	100
	03011308NT01	Nanotechnology in Health Care: Nanotechnology Project		-	8	-	-	40	-	-	60	-	40	100
	19010308IN01	On Job Training (OJT) - in Major Specific (for Honours Degree)	6	-	12	-	-	60	-	-	90	-	60	150
		OR												
		1 subject of Major/Minor discipline relevant of 4 credit (for Honours Degree)	4											
		1 subject of Major/Minor discipline relevant SEC course of 2 credits (for Honours Degree)	2											
		OR												
	19010308RP01	Research Project in Major Specific course	6	-	12	-	-	60	-	-	90	-	60	150

		(For Honours with Research degree)												
		Total	22											
Total Credit of the Programme			184											

Research Project Guidelines:

The final semester will be devoted to seminar presentation, preparation and submission of research project report/dissertation. The project work/dissertation will be on a topic in the disciplinary programme of study or an interdisciplinary topic.

On-the-Job Training Guidelines: 45 days (180 Hrs.)

Note: Course Curriculum from 4th Semester up to 8th semester may undergo revision. Any revision to this effect will be uploaded on the University Website. Students are requested to visit the University Website for any updates related to the revision in the course curriculum or shall contact Dean/HoI/Hod for the same.