

CURRICULUM**Semester I**

SL. No	Course code	Category	Course Title	L	T	P	Contact Periods	Credits
Theory Courses								
1	HS23111	HS	Technical Communication I	2	0	0	2	2
2	MA23111	BS	Linear Algebra and Calculus	3	1	0	4	4
3	GE23111	ES	Engineering Graphics	2	0	4	6	4
4	GE23117	BS	Heritage of Tamils/தமிழர் மரபு	1	0	0	1	1
5	MC23112	HS	Environmental Science and Engineering	3	0	0	3	0
Lab Integrated Theory Course								
6	CY23131	BS	Chemistry For Electronics Engineering	3	0	2	5	4
Laboratory Course								
7	GE23121	ES	Engineering Practice Laboratory - Civil and Mechanical	0	0	2	2	1
				14	1	8	23	
			TOTAL CREDITS					16

Semester II

SL. No	Course code	Category	Course Title	L	T	P	Contact Periods	Credits
Theory Courses								
1	MA23212	BS	Differential Equations and Complex Variables	3	1	0	4	4
2	ME23211	ES	Engineering Mechanics for Biomedical Engineers	3	1	0	4	4
3	GE23217	BS	Tamils Technology/ தமிழரும் தொழில் நுட்பமும்	1	0	0	1	1
Lab Integrated Theory Courses								
4	CS23232	ES	Fundamentals of Data Structures using C	3	0	4	7	5
5	PH23231	BS	Physics for Bioscience	3	0	2	5	4

6	BM23231	ES	Electric Circuits and Machines	3	0	2	5	4
Laboratory Courses								
7	HS23221/ HS23222	HS	Technical Communication II/ English for professional competence	0	0	2	2	1
8	EE23122	ES	Engineering Practice Laboratory- Electrical and Electronics	0	0	2	2	1
				16	2	12	30	
			TOTAL CREDITS					24

Semester III

SL. No	Course code	Category	Course Title	L	T	P	Contact Periods	Credits
Theory Courses								
1	MA23312	BS	Fourier series and Number theory	3	1	0	4	4
2	BM23311	PC	Human Anatomy and Physiology	3	0	0	3	3
3	BM23312	PC	Biomedical Instrumentation	3	0	0	3	3
4	BM23313	PC	Biochemical Science	3	0	0	3	3
Lab Integrated Theory Courses								
5	BM23331	PC	Electronic Devices & Circuits	3	0	2	5	4
6	BM23332	PC	Sensors and Measurements	2	0	2	4	3
Laboratory Courses								
7	BM23321	PC	Biochemistry and Physiology Laboratory	0	0	4	4	2
8	BM23322	PC	Biomedical Instrumentation Laboratory	0	0	4	4	2
				17	1	12	30	
TOTAL CREDITS								24

Semester IV

SL. No	Course code	Category	Course Title	L	T	P	Contact Periods	Credits
Theory Courses								
1	BM23411	PC	Analog and Digital Integrated Circuits	3	0	0	3	3
2	BM23412	PC	Principles of Communication Systems	3	0	0	3	3

3	MC23111	HS	Indian Constitution and Freedom Movement	3	0	0	0	0
Lab Integrated Theory Courses								
4	MA23436	BS	Probability and Random Process	3	0	2	4	4
5	BM23431	PC	Pathology and Microbiology	2	0	2	4	3
6	CS23336	ES	Introduction to Python Programming	1	0	4	5	3
Laboratory Courses								
7	BM23421	PC	Analog and Digital Integrated Circuits Laboratory	0	0	4	4	2
8	BM23422	ES	PCB Design Laboratory	0	0	2	2	1
9	GE23421	EEC	Soft Skills-I	0	0	2	2	1
				15	0	16	27	
			TOTAL CREDITS					20

Semester V

SL. No	Course code	Category	Course Title	L	T	P	Contact Periods	Credits
Theory Courses								
1	BM23511	PC	Biocontrol systems	3	0	0	3	3
2	BM23512	PC	Diagnostic and Therapeutic Equipment	3	0	0	3	3
3		OE	OE 1	3	0	0	3	3
Lab Integrated Theory Courses								
4	BM23531	PC	Signals and Systems Analysis	1	1	2	4	3
5	BM23532	PC	Microcontroller and Embedded System Design	3	0	2	5	4
6	CS23422	ES	Python Programming for Machine learning	0	0	4	5	2
Laboratory Courses								
7	BM23521	PC	Diagnostic and Therapeutic Equipment Laboratory	0	0	4	4	2
8	GE23521	EEC	Soft Skills –II	0	0	2	2	1
				13	1	14	29	
			TOTAL CREDITS					21

Semester VI

SL. No	Course code	Category	Course Title	L	T	P	Contact Periods	Credits
Theory Courses								
1	BM23611	PC	Radiological Equipment	3	0	0	3	3
2	BM23612	PC	Biomechanics	3	1	0	4	4
3		PE	PE 1	3	0	0	3	3
4		OE	OE 2	3	0	0	3	3
Lab Integrated Theory Courses								
5	BM23631	PC	Biosignal Processing	1	1	2	4	3
6	BM23632	PC	Physiological Modeling Laboratory	1	0	2	3	2
7	BM23633	EEC	Design thinking for Innovation in Biomedical Engineering	1	0	2	3	2
Laboratory Courses								
8	BM23621	EEC	Medical Industrial Training	0	0	2	2	1
9	GE23621	EEC	Problem solving techniques	0	0	2	2	1
				15	2	10	27	
TOTAL CREDITS								22

Semester VII

SL. No	Course code	Category	Course Title	L	T	P	Contact Periods	Credits
Theory Courses								
1	BM23711	EEC	Comprehension In Biomedical Engineering	1	0	0	1	1
2		PE	PE- 2	3	0	0	3	3
3		PE	PE- 3	3	0	0	3	3
4		PE	PE- 4	3	0	0	3	3
Lab Integrated Theory Courses								
5	BM23731	PC	Medical Image Processing	2	1	2	5	4
Laboratory Courses								
6	BM23721	EEC	Artificial Intelligence and Machine learning for Biomedical Engineering	0	0	4	4	2

7	BM23722	EEC	Project Phase-I	0	0	6	6	3
8	BM23723	EEC	Hospital Training	0	0	2	2	1
				12	1	14	27	
			TOTAL CREDITS					20

Semester VIII

SL. No	Course code	Category	Course Title	L	T	P	Contact Periods	Credits
Theory Courses								
1		PE	PE-5	3	0	0	3	3
2		PE	PE-6	3	0	0	3	3
Laboratory Course								
3	BM23821	EEC	Project Phase-II	0	0	16	16	8
				6	0	16	22	
			TOTAL CREDITS					14

TOTAL CREDITS: 161

PROFESSIONAL ELECTIVES

MEDICAL INSTRUMENTATION								
SLNo	Course code	Course Title	Category	Contact Periods	L	T	P	C
1	BM23A11	MEDICAL OPTICS	PE	3	3	0	0	3
2	BM23A12	BIOMEMS	PE	3	3	0	0	3
3	BM23A13	SURGICAL OPTICAL DEVICES	PE	3	3	0	0	3
4	BM23A14	INTERNET OF THINGS IN MEDICINE	PE	3	3	0	0	3
5	BM23A15	BIOSENSORS	PE	3	3	0	0	3
6	BM23A16	VLSI DESIGN	PE	3	3	0	0	3
BIO-ENGINEERING								
1	BM23B11	NEURAL ENGINEERING	PE	3	3	0	0	3
2	BM23B12	TISSUE ENGINEERING	PE	3	3	0	0	3
3	BM23B13	TRANSPORTATION IN LIVING SYSTEMS	PE	3	3	0	0	3
4	BM23B14	BIOMATERIALS AND APPLICATIONS	PE	3	3	0	0	3
5	BM23B15	MEDICAL CODING	PE	3	3	0	0	3
8	BM23B16	NANOTECHNOLOGY AND APPLICATIONS	PE	3	3	0	0	3
7	GE23B15	MEDICAL PHYSICS	PE	3	3	0	0	3
MEDICAL IMAGING MODALITIES								
1	BM23C11	PATTERN RECOGNITION & NEURAL NETWORKS	PE	3	3	0	0	3
2	BM23C12	BIOMETRIC SYSTEMS	PE	3	3	0	0	3
3	BM23C13	SOFT COMPUTING TECHNIQUES	PE	3	3	0	0	3
4	BM23C14	DEEP LEARNING AND DEPLOYMENT OF AI MODELS	PE	3	3	0	0	3
5	BM23C15	APPLICATIONS OF EXTENDED REALITIES IN HEALTHCARE	PE	3	3	0	0	3
6	BM23C16	MEDICAL INFORMATICS	PE	3	3	0	0	3

ASSISTIVE TECHNOLOGY								
1	BM23D11	MEDICAL TEXTILES FUNDAMENTALS	PE	3	3	0	0	3
2	BM23D12	MEDICAL ROBOTICS	PE	3	3	0	0	3
3	BM23D13	ASSIST DEVICES	PE	3	3	0	0	3
4	BM23D14	REHABILITATION ENGINEERING	PE	3	3	0	0	3
5	BM23D15	WEARABLE SYSTEMS	PE	2	2	0	0	2
6	BM23D16	TELEHEALTH TECHNOLOGY	PE	1	1	0	0	1
MODELLING& SIMULATION								
1	BM23E11	3D PRINTING IN MEDICAL APPLICATIONS	PE	3	3	0	0	3
2	BM23E12	PHYSIOLOGICAL MODELLING	PE	3	3	0	0	3
3	BM23E13	BIOFLUID DYNAMICS	PE	3	3	0	0	3
4	BM23E14	MICRO FLUIDICS	PE	3	3	0	0	3
5	BM23E15	BIOSTATISTICS	PE	3	3	0	0	3
6	BM23E16	VIRTUAL BIOINSTRUMENTATION	PE	3	3	0	0	3
PRODUCT DEVELOPMENT AND MANAGEMENT								
1	BM23F11	MEDICAL ETHICS & STANDARDS	PE	3	3	0	0	3
2	BM23F12	HOSPITAL ENGINEERING & MANAGEMENT	PE	3	3	0	0	3
3	BM23F13	HEALTH CARE PRODUCT DEVELOPMENT	PE	2	2	0	0	2
4	BM23F14	ENTREPRENEURSHIP in BIOMEDICAL ENGINEERING	PE	1	1	0	0	1
5	BM23F15	MEDICAL SAFETY, QUALITY ASSURANCE AND REGULATORY AFFAIRS	PE	3	3	0	0	3
6	BM23F16	INDUSTRIAL SAFETY & MANAGEMENT	PE	3	3	0	0	3
7	BM23F17	ECONOMICS FOR ENGINEERS	PE	3	3	0	0	3