

I YEAR B.Tech. (4YDC)

Common To All Branches :Applicable to Students Admitted in 2022

Semester - A

S. No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks				
				L	T	P	Th	Pr	Theory		Practical		Total
									Th.	CW	SW	Pr.	
1	BSC	MA 10001	Mathematics - I	3	1	0	4	-	70	30	-	-	100
2	BSC	PH10016	Physics	2	1	-	3	-	70	30	-	-	100
3	ESC	EE10015	Fundamentals of Electrical Engineering	2	1	-	3	-	70	30	-	-	100
4	ESC	CE10013	Fundamentals of Civil Engineering & Applied Mechanics	2	1	-	3	-	70	30	-	-	100
5	ESC	ME10049	Engineering Graphics	2	-	-	2	-	70	30	-	-	100
6	BSC (LC)	PH10151	Applied Physics Lab	-	-	2	-	1	-	-	20	30	50
7	ESC (LC)	EE10152	Electrical Engineering Lab	-	-	2	-	1	-	-	20	30	50
8	ESC (LC)	ME10153	Engineering Drawing/AutoCAD Lab	-	-	4	-	2	-	-	40	60	100
9	HSMC	HU10191	Extra/Cocurricular Activity	-	-	2	-	1	-	-	50	0	50
10	MC		Induction program & Universal Human Values	2-3 weeks in the beginning of I Year & 1 hour per week during semester									
TOTAL				11	4	10	15	5	350	150	130	120	750

Semester - B

S. No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks				
				L	T	P	Th	Pr	Theory		Practical		Total
									Th.	CW	SW	Pr.	
1	BSC	MA 10501	Mathematics – II	3	1	-	4	-	70	30	-	-	100
2	BSC	CH10516	Chemistry	3	-	-	3	-	70	30	-	-	100
3	HSMC	HU10551	Technical English	2	-	-	2	-	70	30	-	-	100
4	ESC	CO10507	Programming for Problem Solving	2	1	-	3	-	70	30	-	-	100
5	ESC	EC10508	Basic Electronics Engineering	2	-	-	2	-	70	30	-	-	100
6	BSC (LC)	CH10652	Chemistry Lab	-	-	2	-	1	-	-	20	30	50
7	HSMC (LC)	HU10653	Language Lab	-	-	2	-	1	-	-	20	30	50
8	ESC (LC)	CO10654	Computer Programming Lab	-	-	2	-	1	-	-	20	30	50
9	ESC (LC)	IP10655	Manufacturing Practices	-	-	4	-	2	-	-	40	60	100
10	HSMC	HU10691	Extra/Cocurricular Activity	-	-	2	-	1	-	-	50	-	50
11	MC		Induction program & Universal Human Values	2-3 weeks in the beginning of I Year & 1 hour per week during semester									
TOTAL				12	2	12	14	6	350	150	150	150	800

Engineering Certificate shall be awarded after acquiring additional 10 credits out of which 6 credits as 2 Months industrial training within five years

Engineering Certificate Additional Credit Requirement

S. No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks				
				L	T	P	Th	Pr	Theory		Practical		Total
									Th.	CW	SW	Pr.	
1	BSC	BM-XXXXXX	Physiology for Engineers	-	-	4	-	2	-	-	40	60	100
2	PCC	BM-XXXXXX	Basics of Medical Instrumentation	2	-	-	2	-	70	30	-	-	100
3	S/I/I	BM-XXXXXX	Seminar/Hospital Training/Internship	-	-	12	-	6	-	-	40	60	100
Total				2	0	16	2	8	70	30	80	120	300

II YEAR B.Tech. (BioMedical Engineering)

Scheme for 2025-26 Session

Semester - III

S. No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks					Credits
				L	T	P	Th	Pr	Theory		Practical		Total	
									Th.	CW	SW	Pr.		
1	BSC	MA-29204	Mathematics - III	3	1	-	4	-	70	30	0	0	100	4
2	ESC	EE-29021	Network Analysis	3	-	-	3	-	70	30	0	0	100	3
3	PCC	BM-29031	Analog Electronics	3	1	-	4	-	70	30	0	0	100	4
4	PCC	BM-29027	Bioelectricity & Transducers	3	-	-	3	-	70	30	0	0	100	3
5	PCC	BM-29013	Human Anatomy & Physiology	3	-	-	3	-	70	30	0	0	100	3
6	LC (PCC)	BM-29402	Bioelectricity Transducers	-	-	2	-	1			40	60	100	1
7	LC (PCC)	BM-29404	Analog Electronics Lab	-	-	2	-	1			40	60	100	1
8	LC (ESC)	EE-29403	Electrical Networks Lab	-	-	2	-	1			40	60	100	1
9	LC (ESC)	EE 29498	Electrical workshop (Skill devlp Lab-I)	-	-	2	-	1			40	60	100	1
10	HSMC	HU-29481	Values, Humanities and Professional	-	2	-	2	-	-	100	-	-	100	2
11	MC	HUM2001	Constitution Of India (Audit Only)	2	-	-	-	-	-	50	-	-	50	-
12														
TOTAL				17	4	8	19	4	350	300	160	240	1050	23

Semester - IV

Semester IV														
S. No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks					Total Credits
				L	T	P	Th	Pr	Theory		Practical		Total	
									Th.	CW	SW	Pr.		
1	BSC	MA-29501	Mathematics IV	3	1	-	4	-	70	30	0	0	100	4
2	ESC	EC-29519	Digital Electronics	3	-	-	3	-	70	30	0	0	100	3
3	PCC	BM-29512	Programming Tools and Techniques	3	1	-	4	-	70	30	0	0	100	4
4	ESC	EI-29522	Fundamentals of Measurement	3	-	-	3	-	70	30	0	0	100	3
5	HSMC	HU-29507	Economics for Engineers	3	-	-	3	-	70	30	0	0	100	3
6	LC(EI)	EI-29998	Electronic Workshop (Skill devlp Lab-II)	-	-	2	-	1	-	-	40	60	100	1
7	LC(EC)	EC-29802	Digital Electronics	-	-	2	-	1	-	-	40	60	100	1
8	LC (BM)	BM-29801	Programming Tools and Techniques	-	-	2	-	1	-	-	40	60	100	1
9	LC (EI)	EI-29803	Fundamentals of Measurement	-	-	2	-	1	-	-	40	60	100	1
	MC	BM-xxx	Design Thinking	-	-	-	1	-	-	30	-	-	30	1
10	MC	BMM2053	Environmental Science (Audit Only)	2	-	-	-	-	-	50	-	-	50	-
TOTAL				17	2	8	18	4	350	230	160	240	980	22

* 2 weeks training during semester break after IV semester is mandatory

Diploma in Biomedical Engineering shall be awarded after acquiring additional 10 credits out of which 6 credits as 3 Months industrial training within five year

Diploma in Biomedical Engineering Additional Credit Requirement

S. No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks				Total	
				L	T	P	Th	Pr	Theory		Practical			Total
									Th.	CW	SW	Pr.		
1	BSC	BM-XXXXXX	Hospital Wiring	-	-	4	-	2	-	-	40	60	100	2
2	PCC	BM-XXXXXX	Medical equipment functioning and trouble shooting	2	-	-	2	-	70	30	-	-	100	2
3	S/I/I	BM-XXXXXX	Seminar/Hospital Training/Internship	-	-	12	-	6	-	-	40	60	100	6
			Total	2	0	16	2	8	70	30	80	120	300	10

III YEAR B.Tech. (BioMedical Engineering)

Scheme for 2025-26 Session

Semester - V

S. No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks					Total Credits
				L	T	P	Th	Pr	Theory		Practical		Total	
									Th.	CW	SW	Pr.		
1	OEC	IP-39021	Industrial Engineering & Management	3	1	-	4	-	70	30	-	-	100	4
2	PCC	BM-39011	Signals and Systems	3	-	-	3	-	70	30	-		100	3
	PCC	BM- 390xx	Biomechanics	3	-	-	3	-	70	30	-	-	100	3
3	PCC	BM-39013	Biomedical Instrumentation I	3	1	-	4	-	70	30	-	-	100	4
4	PEC		Elective-I	3	-	-	3	-	70	30	-	-	100	3
5	S/I/I	BM-39481	Industrial Training/Internship(Evaluation)	-	-	-	-	2	-	-	100	-	100	2
6	LC (PCC)	BM- 390xx	Signals & Systems Lab	-	-	2	-	1	-	-	40	60	100	1
	LC (PCC)	BM- 390xx	Biomechanics Lab	-	-	2	-	1	-	-	40	60	100	1
7	LC (PCC)	BM- 390xx	Biomedical Instrumentation I	-	-	2	-	1	-	-	40	60	100	1
8	LC (PEC)	BM- 390xx	Elective I Lab	-	-	2	-	1	-	-	40	60	100	1
TOTAL				15	2	8	17	6	350	150	260	240	1000	23

Elective-I: (1) BM-39255 -Artificial Intelligence and Machine Learning for Medical Applications (2) BM-392xx-Microprocessor & Microcontroller

Open Elective -I: (1) BM-xxxxx -Biomedical Instrumentation

***Note: BMED students can choose any subject from open electives offered by other departments except the one offered by BME**

Semester - VI

S. No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks					Total Credits
				L	T	P	Th	Pr	Theory		Practical		Total	
									Th.	CW	SW	Pr.		
1	PCC	EE39508	Control Systems	3	1	-	4	-	70	30	-	-	100	4
2	PCC	BM-39501	Biomedical Signal Processing	3	-	-	4	-	70	30	-	-	100	3
		BM- 395xx	Biomedical Statistical Signal Processing	3	-	-	3	-	70	30	-	-	100	3
3	PCC	BM-39512	Biomedical Instrumentation II	3	-	-	4	-	70	30	-	-	100	3
4	PEC		Elective-II	3	-	-	3	-	70	30	-	-	100	3
5	PROJECT	BM-39952	Minor Project	-	-	8	-	4	-	-	40	60	100	4
6	LC (PCC)	BM- 395xx	Control Systems Lab	-	-	2	-	1	-	-	40	60	100	1
7	LC (PCC)	BM- 395xx	Biomedical Signal Processing Lab	-	-	2	-	1	-	-	40	60	100	1
8	LC (PCC)	BM- 395xx	Biomedical Instrumentation II Lab	-	-	2	-	1	-	-	40	60	100	1
9	MC	HUM3951	Essence of Indian Traditional Knowledge	2	-	-	-	-	-	50	-	-	50	0
TOTAL				17	1	14	18	7	350	200	160	240	950	23

Elective-II : (1) EC-39602 Analog & Digital Communication (2) BM-3960x Embedded Systems

*** 2 weeks training during semester break after VI semester is mandatory**

Vocational Degree in Biomedical Engineering shall be awarded after acquiring additional 10 credits out of which 6 credits as 3 Months industrial training within five years

Vocational Degree in Biomedical Engineering Additional Credit Requirement														
S. No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks					Total
				L	T	P	Th	Pr	Theory		Practical		Total	
									Th.	CW	SW	Pr.		
1	BSC	BM-XXXXX	Calibration of Medical Instruments	-	-	4	-	2	-	-	40	60	100	2
2	PCC	BM-XXXXX	Medical imaging technique instrumentatic	2	-	-	2	-	70	30	-	-	100	2
3	S/I/I	BM-XXXXX	Seminar/Hospital Training/Internship	-	-	12	-	6	-	-	40	60	100	6
			Total	2	0	16	2	8	70	30	80	120	300	10

Shri G.S. Institute of Technology & Science
Scheme of Examination 25-26
IV YEAR B.Tech. (BioMedical Engineering)

Semester-VII													
S. No.	Subject Cod	Category	Subject Name	Hour /Week			Maximum Marks allotted				Credits		Total
							Theory		Practical				
				L	T	P	Th.	CW	SW	Pr.	T	P	
1	BM- 49004	PCC	Biomechanics	2	1	2	70	30	40	60	3	1	4
2	BM-49003	PCC	Medical Imaging Systems	3	1	-	70	30	-	-	4	-	4
3	BM- 49005	PCC	Biological Control Systems	3	-	2	70	30	40	60	3	1	4
4	BM-	PEC	Elective-III	2	-	2	70	30	40	60	2	1	3
5	BM-49498	PROJECT	Major Project-I(AB Group)	-	-	8	-	-	40	60	-	4	4
6	BM-49998	PROJECT	Major Project-II (BA Group)	-	-	8	-	-	40	60	-	4	4
7	BM-49482	S/I/I	Summer Industrial Training/Internship/Seminar	-	-	4	-	-	40	60	-	2	2
			Total(AB Group)	10	2	18	280	120	200	300	12	9	21
			Total(BA Group)	10	2	18	280	120	200	300	12	9	21
		Elective-II	1. BM-49205 : AI & ML for medical Applications (Not offered for 25-26 session) 2. BM-xxxxx :Power Electronics (Not offered for 25-26 session) 3. BM-49261 : Hospital Management and Information Systems 4. BM-49204 : Internet of Things for Medical Applications										

*PEC --> Can be replaced by NPTEL/Moocs/Swayam Course in consultation with mentor

Semester- VIII													
S. No.	Subject Cod	Category	Subject Name	Periods /Week			Maximum Marks allotted				Credits		Total
							Theory		Practical				
				L	T	P	Th.	CW	SW	Pr.	T	P	
1	BM-	PEC	Elective-IV	3	-	-	70	30	-	-	3	-	3
2	BM-	PEC	Elective-V	3	1	-	70	30	-	-	4	-	4
3	BM-49883	S/I/I	Industrial Training/Internship/Seminar	-	-	10	-	-	40	60	-	5	5
4	BM-49998	PROJECT	Major Project-II (AB Group)	-	-	8	-	-	40	60	-	4	4
5	BM-49498	PROJECT	Major Project-I (BA Group)	-	-	8	-	-	40	60	-	4	4
			Total(AB GROUP)	6	1	18	140	60	80	120	7	9	16
			Total(BA GROUP)	6	1	18	140	60	80	120	7	9	16
		Elective-IV	1. BM-49612 :Rehabilitation Engineering 2. BM-49611 :Hospital Technology Systems 3.BM-49613 : Medical Image Processing 4. BM-xxxxx :Design and manufacturing of medical devices				Elective-V		1.BM-49701:Biomaterials 2. BM-49702Telemedicine 3. BM-XXXX:Nanosensors				

***PEC --> Can be replaced by NPTEL/Moocs/Swayam Course in consultation with mentor**