

**Shri G.S. Institute of Technology & Science**  
**Scheme of Examination 24-25**  
**II YEAR B.Tech. (Biomedical Engineering)**  
*Applicable to Students Admitted in session 2023-24*

**Semester - III**

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	BM-XXXXX	Mathematics - III	3	1	0	4	-	70	30	0	0	100	4
2	ESC	BM-XXXXX	Network Analysis	3	-	-	3	-	70	30	0	0	100	3
3	PCC	BM-XXXXX	Analog Electronics	3	-	-	3	-	70	30	0	0	100	3
4	PCC	BM-XXXXX	Bioelectricity & Transducers	3	-	-	3	-	70	30	0	0	100	3
5	PCC	BM-XXXXX	Human Anatomy & Physiology	3	-	-	3	-	70	30	0	0	100	3
6	LC (PCC)	BM-XXXXX	Bioelectricity Transducers Lab	-	-	2	-	1			40	60	100	1
7	LC (PCC)	BM-XXXXX	Human Anatomy & Physiology Lab	-	-	2	-	1			40	60	100	1
8	LC (ESC)	BM-XXXXX	Analog Electronics Lab	-	-	2	-	1			40	60	100	1
9	LC (ESC)	BM-XXXXX	Electrical Networks Lab	-	-	2	-	1			40	60	100	1
10	LC	BM-XXXXX	Electrical workshop	-	-	2	-	1			40	60	100	1
11	HSMC	BM-XXXXX	Values, Humanities and	-	2	-	2	-	-	100	-	-	100	2
12	MC	BM-XXXXX	Constitution Of India (Audit	1	-	-	-	-	-	50	-	-	50	-
<b>TOTAL</b>				<b>16</b>	<b>3</b>	<b>10</b>	<b>18</b>	<b>5</b>	<b>350</b>	<b>300</b>	<b>200</b>	<b>300</b>	<b>1150</b>	<b>23</b>

**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	BM-XXXXX	Mathematics IV	3	1	-	4	-	70	30	0	0	100	4
2	ESC	BM-XXXXX	Digital Electronics	3	-	-	3	-	70	30	0	0	100	3
3	PCC	BM-XXXXX	Programming Tools and Techniques	3	-	-	3	-	70	30	0	0	100	3
4	ESC	BM-XXXXX	Fundamentals of Measurement	3	-	-	3	-	70	30	0	0	100	3
5	HSMC	BM-XXXXX	Economics for Engineers	3	-	-	3	-	70	30	0	0	100	3
6	LC(EI)	BM-XXXXX	Electronic Workshop	-	-	4	-	2	-	-	40	60	100	2
7	LC(EC)	BM-XXXXX	Digital Electronics Lab	-	-	2	-	1	-	-	40	60	100	1
8	LC (BM)	BM-XXXXX	Programming Tools and	-	-	2	-	1	-	-	40	60	100	1
9	LC (EI)	BM-XXXXX	Fundamentals of Measurement	-	-	2	-	1	-	-	40	60	100	1
10	MC	BM-XXXXX	Environmental Science (Audit	1	-	-	-	-	-	50	-	-	50	-
<b>TOTAL</b>				<b>16</b>	<b>1</b>	<b>10</b>	<b>16</b>	<b>5</b>	<b>350</b>	<b>200</b>	<b>160</b>	<b>240</b>	<b>950</b>	<b>21</b>

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

**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-XXXXX	Networking Fundamentals	-	-	4	-	2	-	-	40	60	100	2
2	PCC	BM-XXXXX	Medical equipment functioning a	2	-	-	2	-	70	30	-	-	100	2
3	S/I/I	BM-XXXXX	Seminar/Hospital	-	-	12	-	6	-	-	40	60	100	6
<b>Total</b>				<b>2</b>	<b>0</b>	<b>16</b>	<b>2</b>	<b>8</b>	<b>70</b>	<b>30</b>	<b>80</b>	<b>120</b>	<b>300</b>	<b>10</b>

**Shri G.S. Institute of Technology & Science**  
**Scheme of Examination 24-25**  
**III YEAR B.Tech. (BioMedical Engineering)**  
*Applicable to Students Admitted in Session 2022-23*

**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	HSMC	IP-39021	Industrial Engineering & Management	3	1	-	4	-	70	30	-	-	100	4
2	PCC	BM-39011	Signals and Systems	3	1	2	4	1	70	30	40	60	200	5
3	PCC	BM-39013	Biomedical Instrumentation I	3	1	2	4	1	70	30	40	60	200	5
4	PEC		Elective-I	3	-	2	3	1	70	30	40	60	200	4
5	S/I/I	BM-39481	Seminar/Hospital Training/Internship	-	-	4	-	2	-	-	100	-	100	2
<b>TOTAL</b>				<b>12</b>	<b>3</b>	<b>10</b>	<b>15</b>	<b>5</b>	<b>280</b>	<b>120</b>	<b>220</b>	<b>180</b>	<b>800</b>	<b>20</b>

**Elective-I: (1) BM-xxxx -AI and ML for Medical Applications**  
**(2) BM-xxxx-Microprocessor & Microcontroller**

**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	EE-39508	Control Systems	3	1	2	4	1	70	30	40	60	200	5
2	PCC	BM-39501	Biomedical Signal	3	1	2	4	1	70	30	40	60	200	5
3	PCC	BM-39512	Biomedical Instrumentation II	3	1	2	4	1	70	30	40	60	200	5
4	PEC		Elective-II	3	-	-	3	-	70	30	-	-	100	3
5	PROJEC	BM-39952	Minor Project-I	-	-	8	-	4	-	-	40	60	100	4
6	XXXXX	MC	Essence of Indian	1	-	-	-	-	-	50	-	-	50	-
<b>TOTAL</b>				<b>13</b>	<b>3</b>	<b>14</b>	<b>15</b>	<b>7</b>	<b>280</b>	<b>170</b>	<b>160</b>	<b>240</b>	<b>850</b>	<b>22</b>

**Elective-II : (1) BM-39603-Biomedical Statistical Signal Processing**  
**(2) EC-39602 Analog & Digital Communication**  
**(3) BM-xxxx Embedded Systems**

**Shri G.S. Institute of Technology & Science**  
**Scheme of Examination 24-25**  
**IV YEAR B.Tech. (BioMedical Engineering)**  
*Applicable to Students Admitted in session 2021*

Semester-VII													
S. No.	Subject Code	Category	Subject Name	Hour /Week			Maximum Marks allotted				Credits		Total
				L	T	P	Theory		Practical		T	P	
							Th.	CW	SW	Pr.			
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
			<b>Total(AB Group)</b>	<b>10</b>	<b>2</b>	<b>18</b>	<b>280</b>	<b>120</b>	<b>200</b>	<b>300</b>	<b>12</b>	<b>9</b>	<b>21</b>
			<b>Total(BA Group)</b>	<b>10</b>	<b>2</b>	<b>18</b>	<b>280</b>	<b>120</b>	<b>200</b>	<b>300</b>	<b>12</b>	<b>9</b>	<b>21</b>
		<b>Elective-III</b>	1. BM-xxxxx : Artificial Intelligence and Machine Learning for Medical Applications 2. BM-xxxxx :Power Electronics 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 Code	Category	Subject Name	Periods /Week			Maximum Marks allotted				Credits		Total	
				L	T	P	Theory		Practical		T	P		
							Th.	CW	SW	Pr.				
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	
			<b>Total(AB GROUP)</b>	<b>6</b>	<b>1</b>	<b>18</b>	<b>140</b>	<b>60</b>	<b>80</b>	<b>120</b>	<b>7</b>	<b>9</b>	<b>16</b>	
			<b>Total(BA GROUP)</b>	<b>6</b>	<b>1</b>	<b>18</b>	<b>140</b>	<b>60</b>	<b>80</b>	<b>120</b>	<b>7</b>	<b>9</b>	<b>16</b>	
		<b>Elective-IV</b>	1. BM-49612 :Rehabilitation Engineering 2. BM-49611 :Hospital Technology Systems 3. BM-xxxxx : Medical Image Processing 4. BM-xxxxx :Design and manufacturing of medical devices					<b>Elective-V</b>		1. BM-49701: Biomaterials 2. BM-49702 Telemedicine 3. BM-XXXX: Nanosensors				

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