

**Shri G.S. Institute of Technology & Science**  
**II year Bachelor of Biomedical Engineering- Scheme of Examination (Applicable from 2019-20)**

**Semester: III**

S. No.	Subject Code	Category	Subject Name	Hours /Week			Maximum Marks Allotted				Credits		Total Credits
				L	T	P	Theory		Practical		T	P	
							Th.	CW	SW	Pr.			
1	MA-29024	BSC	Mathematics III	3	1	-	70	30	-	-	4		4
2	EE- 29011	ESC	Network Analysis	3	-	2	70	30	40	60	3	1	4
3	EI-29017	ESC	Basic Electronics	3	-	2	70	30	40	60	3	1	4
4	BM-29007	PCC	Bioelectricity & Transducers	3	-	2	70	30	40	60	3	1	4
5	BM-29003	PCC	Human Anatomy & Physiology	3	-	2	70	30	40	60	3	1	4
6	EE-29498	LC	Electrical workshop	-	-	2	-	-	40	60	-	1	1
7	HU-29481	HSMC	Values, Humanities and Professional Ethics	-	2	-	-	100	-	-	2	-	2
<b>Total</b>				<b>15</b>	<b>3</b>	<b>10</b>	<b>350</b>	<b>250</b>	<b>200</b>	<b>300</b>	<b>18</b>	<b>5</b>	<b>23</b>
<b>Optional Subject</b>													
8	BM-XXXXX OC-I		Physiology for Engineers	2	-	-	70	30	-	-	2	-	2
<b>Grand Total</b>				<b>17</b>	<b>3</b>	<b>10</b>	<b>420</b>	<b>280</b>	<b>200</b>	<b>300</b>	<b>20</b>	<b>5</b>	<b>25</b>

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

**Semester: IV**

S. No.		Category	Subject Name	Hours /Week			Maximum Marks Allotted				Credits		Total Credits
				L	T	P	Theory		Practical		T	P	
							Th.	CW	SW	Pr.			
1	MA-29501	BSC	Mathematics IV	3	1	-	70	30	-	-	4	-	4
2	EC-29509	ESC	Digital Electronics	3	-	2	70	30	40	60	3	1	4
3	BM-29508	PCC	Analog Electronics	3	-	2	70	30	40	60	3	1	4
4	EI-29572	ESC	Fundamentals of Measurement	3	-	2	70	30	40	60	3	1	4
5	EI-29998	LC	Electronic Workshop	-	-	4	-	-	40	60	-	2	2
6	HU-29507	HSMC	Economics for Engineers	3	-	-	70	30	-	-	3	-	3
<b>Total</b>				<b>15</b>	<b>1</b>	<b>10</b>	<b>350</b>	<b>150</b>	<b>160</b>	<b>240</b>	<b>16</b>	<b>5</b>	<b>21</b>
<b>Optional Subject</b>													
7	BM-XXXXX	OC-II	Regulatory Requirement for Medical Devices in India	2	-	-	70	30	-	-	2	-	2
<b>Grand Total</b>				<b>17</b>	<b>1</b>	<b>10</b>	<b>420</b>	<b>180</b>	<b>160</b>	<b>240</b>	<b>18</b>	<b>5</b>	<b>23</b>

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**Shri G.S. Institute of Technology & Science**  
**III year Bachelor of Biomedical Engineering Scheme of Examination (Applicable from 2020-21)**

**Semester: V**

S. No.	Subject Code	Category	Subject Name	Hours /Week			Maximum Marks Allotted				Credits		Total Credits
				L	T	P	Theory		Practical		T	P	
							Th.	CW	SW	Pr.			
1	IP-39021	HSMC	Industrial Engineering &	3	1	-	70	30	-	-	4	-	4
2	BM-39011	PCC	Signals and Systems	3	1	2	70	30	40	60	4	1	5
3	BM-39013	PCC	Biomedical Instrumentation I	3	1	2	70	30	40	60	4	1	5
4	BM-	PEC	Elective-I	3	-	2	70	30	40	60	3	1	4
5	BM-39481	S/I/I	Seminar/Hospital Training/Internship	-	-	4	-	-	100		-	2	2
<b>Total</b>				<b>12</b>	<b>3</b>	<b>10</b>	<b>280</b>	<b>120</b>	<b>220</b>	<b>180</b>	<b>15</b>	<b>5</b>	<b>20</b>
<b>Optional Subject</b>													
6		OC-III	1) Biomaterials for Engineering Applications 2) Digital Image Processing	2	-	-	70	30	-	-	2	-	2
<b>Grand Total</b>				<b>14</b>	<b>3</b>	<b>10</b>	<b>350</b>	<b>150</b>	<b>220</b>	<b>180</b>	<b>17</b>	<b>5</b>	<b>22</b>

**Elective-I: (1) BM-39254 -Programming Tools & Techniques (2) BM-39251-Embedded Systems**

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**Semester:VI**

S. No.	Subject Code	Category	Subject Name	Hours /Week			Maximum Marks allotted				Credits		Total Credits
				L	T	P	Theory		Practical		T	P	
							Th.	CW	SW	Pr.			
1	EE-39508	PCC	Control Systems	3	1	2	70	30	40	60	4	1	5
2	BM-39501	PCC	Biomedical Signal Processing	3	1	2	70	30	40	60	4	1	5
3	BM-39512	PCC	Biomedical Instrumentation II	3	1	2	70	30	40	60	4	1	5
4		PEC	Elective-II	3	-	-	70	30	-	-	3	-	3
5	BM-39952	PROJECT	Minor Project-I	-	-	8	-	-	40	60	-	4	4
<b>Total</b>				<b>12</b>	<b>3</b>	<b>14</b>	<b>280</b>	<b>120</b>	<b>160</b>	<b>240</b>	<b>15</b>	<b>7</b>	<b>22</b>
<b>Optional Subject</b>													
6		OC-IV	1) Health Research Fundamentals 2) Embedded Systems	2	-	-	70	30	-	-	2	-	2
<b>Grand Total</b>				<b>14</b>	<b>3</b>	<b>14</b>	<b>350</b>	<b>150</b>	<b>160</b>	<b>240</b>	<b>17</b>	<b>7</b>	<b>24</b>

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

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**Shri G.S. Institute of Technology & Science**  
**IV Year Bachelor of Biomedical Engineering Proposed Scheme of Examination**  
**( Applicable to students from 2021-22 session)**

**Semester-VII**

S. No.	Subject Code	Category	Subject Name	Hours /Week			Maximum Marks allotted				Credits		Total Credits
				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	-	-	70	30	-	-	2	-	2
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-49481	S/II	Summer Industrial Training/Internship/Seminar	-	-	4	-	-	100	-	-	2	2
			<b>Total(AB Group)</b>	<b>10</b>	<b>2</b>	<b>16</b>	<b>280</b>	<b>120</b>	<b>220</b>	<b>180</b>	<b>12</b>	<b>8</b>	<b>20</b>
			<b>Total(BA Group)</b>	<b>10</b>	<b>2</b>	<b>16</b>	<b>280</b>	<b>120</b>	<b>220</b>	<b>180</b>	<b>12</b>	<b>8</b>	<b>20</b>

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**Semester- VIII**

S. No.	Subject Code	Category	Subject Name	Hours /Week			Maximum Marks allotted				Credits		Total
				L	T	P	Theory		Practical		T	P	
							Th.	CW	SW	Pr.			
1	BM-	PEC	Elective-IV	3	-	2	70	30	60	40	3	1	4
2	BM-	PEC	Elective-V	3	1	-	70	30	-	-	4	-	4
3	BM-49882	S/II	Industrial Training/Internship/Ser	-	-	8	-	-	100	-	-	4	4
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>200</b>	<b>100</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>200</b>	<b>100</b>	<b>7</b>	<b>9</b>	<b>16</b>

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<b>Courses in Elective-III</b>		
1	BM-49212	Rehabilitation Engineering
2	BM-49211	Hospital Technology Systems
3	BM-49213	Medical Image Processing
4	BM-49214	Design and manufacturing of medical devices

<b>Courses in Elective-IV</b>		
1	BM-xxxxx	Artificial Intelligence and Machine Learning for Medical Applications
2	BM-xxxxx	Power Electronics
3	BM-xxxxx	Hospital Management & Information Systems
4	BM-xxxxx	Internet of Things for Medical Applications

<b>Courses in Elective-V</b>		
1	BM-xxxxx	Biomaterials
2	BM-xxxxx	Telemedicine
3	BM-xxxxx	Nano-Sensors

