



**REGULATIONS 2019**  
**FLEXIBLE CHOICE BASED CREDIT SYSTEM**  
**DEPARTMENT OF MEDICAL ELECTRONICS**  
**B.E. Medical Electronics**  
**CURRICULUM**

S.No.	Category	Course Code	Course Title	Contact Hours per Week			Credits	Prerequisite
				L	T	P		
1	HS	19EN101	Communicative English	3	0	2	4	-
2	HS	19EN102	Technical English	3	0	2	4	-
3	HS	19MS151	Principles of Management (#)	3	0	0	3	-
4	HS	19MS152	Total Quality Management (#)	3	0	0	3	-
5	BS	19MA202	Calculus and Laplace Transforms	3	1	0	4	-
6	BS	19MA204	Complex Variables and Ordinary Differential Equations	3	1	0	4	19MA202
7	BS	19MA213	Linear Algebra and Numerical Methods	3	1	0	4	19MA202
8	BS	19MA217	Random Processes and Statistics	3	1	0	4	19MA202
9	BS	19PH202	Fundamentals of Engineering Physics	3	0	2	4	-
10	BS	19PH208	Medical Physics	3	0	0	3	-
11	BS	19CY205	Principles of Chemistry in Engineering	3	0	2	4	-
12	ES	19CS301	Problem Solving and Python Programming	3	0	2	4	-
13	ES	19CS303	Fundamentals of Data Structures using Python	2	0	2	3	-
14	ES	19EC301	Electric Circuit Analysis	3	0	2	4	-
15	ES	19EC302	Electronic Devices	3	0	2	4	-
16	ES	19EC303	Digital Principles and System Design	3	0	2	4	-
17	ES	19EC305	Basic Electronic Circuits	3	0	2	4	19EC302
18	ES	19EC306	Analog and Digital Communication	3	0	2	4	-
19	ES	19ME302	Engineering Drawing	2	0	2	3	-
20	PC	19EC402	Signals and Systems	3	0	0	3	19MA202 / 19MA204
21	PC	19EC405	Linear Integrated Circuits	3	0	2	4	19EC302/ 19EC308
22	PC	19EC408	Microprocessor and Microcontroller	3	0	2	4	19EC303
23	PC	19MD401	Basics of Measurements and Instrumentation	3	0	0	3	-
24	PC	19MD402	Bio Control Systems	3	0	0	3	-
25	PC	19MD403	Medical Instrumentation	3	0	2	4	-
26	PC	19MD404	Pattern Recognition and Artificial Intelligence	3	0	0	3	-
27	PC	19MD405	Therapeutic Equipment	3	0	2	4	19MD403
28	PC	19MD406	Medical Image Processing	3	0	2	4	-
29	PC	19MD407	Medical Informatics	3	0	0	3	-
30	PC	19MD408	Medical Electronics System Design Laboratory	0	0	4	2	19MD403
31	PC	19MD409	Hospital Training	0	0	4	2	19MD405
32	PC	19BM413	Virtual Instrumentation for Clinical Applications	3	0	2	4	19MD403
33	PC	19BM406	Biomechanics	3	0	0	3	-
34	PC	19BM408	Biomedical Signal Processing	3	0	2	4	19EC402
35	PC	19BM412	Anatomy and Human Physiology	3	0	0	3	-
36	PC	19BM501	Medical Assist Devices	3	0	0	3	19MD405/ 19BM407
37	PE	19MD501	Tele Health Technology	3	0	0	3	-
38	PE	19MD502	Nano Technology and Applications	3	0	0	3	-
39	PE	19MD503	Neural Networks and its Applications	3	0	0	3	-
40	PE	19MD504	Medical Imaging Techniques	3	0	0	3	-
41	PE	19EC414	Embedded Systems	2	0	2	3	19EC408
42	PE	19MD505	Virtual Reality and Augmented Reality	3	0	0	3	-
43	PE	19MD508	Body Area Networks	3	0	0	3	-
44	PE	19MD509	Bio MEMS	3	0	0	3	-
45	PE	19MD512	Medical Wearable Systems	3	0	0	3	-
46	PE	19BM410	Bio Materials and Artificial Organs	3	0	0	3	19BM406
47	PE	19BM503	Fiber Optics and Lasers in Medicine	3	0	0	3	19PH202
48	PE	19MD506	Hospital Waste Management	3	0	0	3	-
49	PE	19MD507	Physiological Modeling	3	0	0	3	-
50	PE	19MD510	Electrical Safety and Quality Assurance	3	0	0	3	-
51	PE	19MD511	Brain Computer Interface and its Applications	3	0	0	3	-
52	PE	19BM513	Biometric Systems	3	0	0	3	19MD406
53	PE	19CS515	Block Chain Architecture and its Use Cases	3	0	0	3	19CS412/ 19EC506/ 19EC306
54	PE	19CS528	Robotics and its Applications	3	0	0	3	19CS302/ 19EC408

55	PE	<a href="#">19CS529</a>	Quantum Computing	3	0	0	3	19CS301/ 19CS303
56	PE	<a href="#">19CS530</a>	Cyber Security	3	0	0	3	19CS412/ 19EC506/ 19EC306
57	PE	<a href="#">19CS519</a>	Data Science	3	0	0	3	19CS301/ 19CS501
58	OE	<a href="#">19AG601</a>	Principles of Crop Production	2	0	2	3	-
59	OE	<a href="#">19AG514</a>	Food Packaging Technology	2	0	2	3	-
60	OE	<a href="#">19AG509</a>	Human Engineering and Safety	2	0	2	3	-
61	OE	<a href="#">19AG424</a>	Remote Sensing and GIS Applications	2	0	2	3	-
62	OE	<a href="#">19AG421</a>	Dairy and Food Engineering	2	0	2	3	-
63	OE	<a href="#">19BM601</a>	Fundamentals of Nutrition	3	0	0	3	-
64	OE	<a href="#">19BM602</a>	Biomedical Waste Management	3	0	0	3	-
65	OE	<a href="#">19BM603</a>	Healthcare Technologies	3	0	0	3	-
66	OE	<a href="#">19BM604</a>	Prosthetic Engineering	3	0	0	3	-
67	OE	<a href="#">19BM605</a>	Medical Devices	3	0	0	3	-
68	OE	<a href="#">19BM606</a>	Biology for Engineers	3	0	0	3	-
69	OE	<a href="#">19CE510</a>	Integrated Water Resources Management	3	0	0	3	-
70	OE	<a href="#">19CE521</a>	Air Pollution Engineering	3	0	0	3	-
71	OE	<a href="#">19CE525</a>	Traffic Engineering	3	0	0	3	-
72	OE	<a href="#">19CE527</a>	Construction Engineering and Occupational Safety	3	0	0	3	-
73	OE	<a href="#">19CE528</a>	Contract Laws and Regulations	3	0	0	3	-
74	OE	<a href="#">19CS601</a>	Database Management Systems	3	0	0	3	-
75	OE	<a href="#">19CS602</a>	Business Intelligence and its Applications	3	0	0	3	-
76	OE	<a href="#">19CS603</a>	Object Oriented Analysis and Design	3	0	0	3	-
77	OE	<a href="#">19CS516</a>	Software Testing and Quality Assurance	3	0	0	3	-
78	OE	<a href="#">19CS525</a>	Industrial IOT	3	0	0	3	-
79	OE	<a href="#">19EE601</a>	Embedded Based Product Design and Development	3	0	0	3	-
80	OE	<a href="#">19EE602</a>	Electrical Safety	3	0	0	3	-
81	OE	<a href="#">19EE603</a>	Renewable Energy Sources	3	0	0	3	-
82	OE	<a href="#">19EE604</a>	Fundamentals of Electric Power Utilization	3	0	0	3	-
83	OE	<a href="#">19EE605</a>	Industrial Automation and Robotics	3	0	0	3	-
84	OE	<a href="#">19EE606</a>	Solar Photovoltaic Energy	2	0	2	3	-
85	OE	<a href="#">19EC601</a>	Electronic Packaging	3	0	0	3	-
86	OE	<a href="#">19EC602</a>	Introduction to Micro Electro Mechanical Systems	3	0	0	3	-
87	OE	<a href="#">19EC603</a>	Fuzzy Logic Systems and ANN	3	0	0	3	-
88	OE	<a href="#">19EC604</a>	Consumer Electronics	3	0	0	3	-
89	OE	<a href="#">19EC605</a>	Electronic System Design	3	0	0	3	-
90	OE	<a href="#">19EC606</a>	Drones for Agriculture	3	0	0	3	-
91	OE	<a href="#">19EI601</a>	Electrical and Electronic Measurements	3	0	0	3	-
92	OE	<a href="#">19EI602</a>	Instrumentation and Control Systems	3	0	0	3	-
93	OE	<a href="#">19EI504</a>	Environmental Instrumentation	3	0	0	3	-
94	OE	<a href="#">19EI508</a>	SCADA Systems and Applications	3	0	0	3	-
95	OE	<a href="#">19EI511</a>	Telemetry and Tele Control	3	0	0	3	-
96	OE	<a href="#">19BY201</a>	Introduction to Biology	2	0	0	2	-
97	OE	<a href="#">19ME505</a>	Computer Aided Design	2	0	2	3	-
98	OE	<a href="#">19ME511</a>	Automobile Engineering	2	0	2	3	-
99	OE	<a href="#">19ME524</a>	Sustainable and Green Manufacturing	2	0	2	3	-
100	OE	<a href="#">19ME529</a>	Process Planning and Cost Estimation	2	0	2	3	-
101	OE	<a href="#">19ME531</a>	Intellectual Property Rights	2	0	2	3	-
102	OE	<a href="#">19ME601</a>	Mechatronics and Robotics	2	0	2	3	-
103	OE	<a href="#">19ME602</a>	Hydraulic Drives and Controls	2	0	2	3	-
104	OE	<a href="#">19ME533</a>	3D Printing Processes	3	0	2	4	-
105	OE	<a href="#">19CH503</a>	Energy Technology	3	0	0	3	-
106	OE	<a href="#">19CH505</a>	Green Technology	3	0	0	3	-
107	OE	<a href="#">19CH511</a>	Food Technology	3	0	0	3	-
108	OE	<a href="#">19CH512</a>	Drugs and Pharmaceutical Technology	3	0	0	3	-
109	OE	<a href="#">19CH516</a>	Corrosion Technology	3	0	0	3	-
110	OE	<a href="#">19IT517</a>	Data Security	3	0	0	3	-
111	OE	<a href="#">19IT518</a>	Game Theory	3	0	0	3	-
112	OE	<a href="#">19IT519</a>	Data Analysis using R Programming	3	0	0	3	-
113	OE	<a href="#">19IT520</a>	Linux Fundamentals	3	0	0	3	-
114	OE	<a href="#">19IT521</a>	Internet Technologies	3	0	0	3	-
115	OE	<a href="#">19IT522</a>	Fundamentals of Databases	3	0	0	3	-
116	OE	<a href="#">19EN601</a>	Creative Writing	2	0	0	2	-
117	OE	<a href="#">19EN602</a>	English through Media	2	0	0	2	-
118	OE	<a href="#">19EN603</a>	Introduction to Design	0	0	4	2	-
119	OE	<a href="#">19EN604</a>	Design Thinking	2	0	0	2	-
120	OE	<a href="#">19EN605</a>	Modern Trends in Physical Education and Sports Sciences	0	0	4	2	-
121	OE	<a href="#">19EN606</a>	Psychology for Professionals	2	0	0	2	-

122	OE	<a href="#">19EN607</a>	Heritage Studies	0	0	4	2	-
123	OE	<a href="#">19EN608</a>	Mime Theatre Art	0	0	4	2	-
124	OE	<a href="#">19EN609</a>	Gender Sensitization	2	0	0	2	-
125	OE	<a href="#">19EN610</a>	French Basic	0	0	4	2	-
126	OE	<a href="#">19EN611</a>	French Advanced	0	0	4	2	19EN610
127	OE	<a href="#">19EN612</a>	German Basic	0	0	4	2	-
128	OE	<a href="#">19EN613</a>	German Advanced	0	0	4	2	19EN612
129	OE	<a href="#">19EN614</a>	Japanese Basic	0	0	4	2	-
130	OE	<a href="#">19EN615</a>	Japanese Advanced	0	0	4	2	19EN614
131	OE	<a href="#">19EN616</a>	Yoga and Meditation	0	0	2	1	-
132	OE	<a href="#">19EN617</a>	Product Design for Future	0	0	4	2	-
133	OE	<a href="#">19EN618</a>	Indian Astronomy and Mathematics	2	0	0	2	-
134	OE	<a href="#">19EN619</a>	Inventions and Discoveries	2	0	0	2	-
135	OE	<a href="#">19EN620</a>	Mandarin	0	0	4	2	-
136	OE	<a href="#">19EN621</a>	Spanish Basic	0	0	4	2	-
137	OE	<a href="#">19EN622</a>	Spanish Advanced	0	0	4	2	19EN621
138	OE	<a href="#">19EN623</a>	Dream, Draw and Create	0	0	4	2	-
139	OE	<a href="#">19MA601</a>	Resource Management Techniques	3	0	0	3	-
140	OE	<a href="#">19MA602</a>	Statistics for Engineers	3	0	0	3	-
141	OE	19MD603	Introduction to Biomedical Imaging Systems (NPTEL)	0	0	0	2	-
142	OE	19EC611	Introduction to Machine Learning (NPTEL)	0	0	0	2	-
143	OE	19EC621	Introduction to Internet of Things (NPTEL)	0	0	0	2	-
144	OE	19EC623	The Joy of Computing using Python (NPTEL)	0	0	0	2	-
145	OE	19BM610	Drug Delivery: Principles and Engineering (NPTEL)	0	0	0	2	-
146	OE	19BM611	Biophotonics (NPTEL)	0	0	0	2	-
147	OE	19BM612	Introduction to Photonics (NPTEL)	0	0	0	2	-
148	OE	19BM613	Fluid Mechanics (NPTEL)	0	0	0	2	-
149	OE	19BM614	Fundamentals of Artificial Intelligence (NPTEL)	0	0	0	2	-
150	OE	19BM615	Physics of Biological System (NPTEL)	0	0	0	2	-
151	EEC	<a href="#">19MD701</a>	Mini Project	0	0	4	2	-
152	EEC	<a href="#">19MD702</a>	Project Work Phase I	0	0	4	2	-
153	EEC	<a href="#">19MD703</a>	Project Work Phase II	0	0	12	6	-
154	EEC	<a href="#">19EY701</a>	Soft Skills	0	0	2	1	-
155	EEC	<a href="#">19EY702</a>	Creative Skills for Communication	0	0	2	1	-
156	EEC	<a href="#">19EY703</a>	System of Numerical and Logical Terminologies	0	0	2	1	-
157	EEC	<a href="#">19EY704</a>	Advanced Quantitative and Logical Reasoning	0	0	2	1	-
158	EEC	<a href="#">19EY705</a>	Employment Enhancement Skills	0	0	2	1	-
159	EEC	<a href="#">19EY706</a>	Company Specific Assessments for Employability	0	0	2	1	-
160	MC	<a href="#">19MC801</a>	Professional Ethics	3	0	0	0	-
161	MC	<a href="#">19MC802</a>	Environmental Science	3	0	0	0	-
162	MC	<a href="#">19MC803</a>	Constitution of India	3	0	0	0	-
163	MC	19MC804	Internship/Entrepreneurship/Consultancy	0	0	0	2	-
164	MC	19MC805	Inplant Training	0	0	0	1	-
165	MC	19MC806	Paper Publication	0	0	0	1	-
166	MC	19MC807	National Service Scheme	0	0	0	0	-
167	MC	19MC808	National Sports Organization	0	0	0	0	-

**CREDIT SUMMARY**

CATEGORY	REGULAR		LATERAL ENTRY	
	Credits	Credit %	Credits	Credit%
HUMANITIES AND SOCIAL SCIENCES	11	6.70	0	0.0
Basic Science Courses	27	16.46	11	8.9
Engineering Science Courses	30	18.29	16	13.0
Professional Core Courses	56	34.14	56	45.5
Professional Elective Courses	12	7.31	12	9.7
Open Elective Courses	12	7.31	12	9.7
Employability Enhancement Courses	16	9.75	16	13.0
Total	164	100.00	123	100
Mandatory Courses	4		4	

**LEGEND**

#	Any one course to be taken
	Courses exempted for Lateral Entry students























