



SAVEETHA ENGINEERING COLLEGE

AUTONOMOUS


Affiliated to Anna University | Approved by AICTE

REGULATIONS 2019
FLEXIBLE CHOICE BASED CREDIT SYSTEM
DEPARTMENT OF ELECTRONICS AND INSTRUMENTATION ENGINEERING
B.E. Electronics and Instrumentation Engineering
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	BS	19MA202	Calculus and Laplace Transforms	3	1	0	4	-
5	BS	19MA207	Numerical Methods and Partial Differential Equations	3	1	0	4	19MA202
6	BS	19MA214	Series and Transforms	3	1	0	4	19MA202
7	BS	19PH201	Basics of Engineering Physics	3	0	0	3	-
8	BS	19PH210	Solid State Physics	3	0	2	4	19PH201
9	BS	19CY207	Applied Chemistry	3	0	2	4	-
10	BS	19BY201	Introduction to Biology	2	0	0	2	-
11	ES	19CS301	Problem Solving and Python Programming	3	0	2	4	-
12	ES	19ME302	Engineering Drawing	2	0	2	3	-
13	ES	19ME306	Basic Civil and Mechanical Engineering	3	0	0	3	-
14	ES	19EI301	Analog Circuits and Systems	3	0	2	4	-
15	ES	19EC301	Electric Circuit Analysis	3	0	2	4	-
16	ES	19EE308	Electrical Machines	3	0	2	4	19EC301
17	ES	19EC307	Communication Engineering	3	0	0	3	-
18	PC	19EI401	Electrical Measurements	3	0	2	4	-
19	PC	19EI402	Digital Logic Circuits	3	0	2	4	-
20	PC	19EI403	Principles of Signals and Systems	3	0	0	3	-
21	PC	19EI404	Transducer Engineering	3	0	0	3	-
22	PC	19EI405	Industrial Instrumentation I	3	0	2	4	-
23	PC	19EI417	Linear Control Systems	3	0	0	3	-
24	PC	19EI406	Embedded Systems and its Architecture	3	0	2	4	-
25	PC	19EI407	Analytical Instruments	3	0	0	3	-
26	PC	19EI408	Virtual Instrumentation	2	0	2	3	-
27	PC	19EI409	Electronic Instrumentation	3	0	0	3	-
28	PC	19EI410	Process Control	3	0	2	4	19EI417
29	PC	19EI411	Industrial Instrumentation II	3	0	2	4	19EI405
30	PC	19EI412	Power Plant Instrumentation	3	0	0	3	-
31	PC	19EI413	Industrial Automation	3	0	2	4	19EI410
32	PC	19EI414	Computer Control of Processes	3	0	0	3	19EI410
33	PC	19EI415	Industrial Data Networks	3	0	0	3	-
34	PC	19EI416	Biomedical Instrumentation and Measurement	3	0	0	3	-
35	PE	19EI501	Aircraft Systems and Instruments	3	0	0	3	-
36	PE	19EI502	Fiber Optics and Laser Instruments	3	0	0	3	-
37	PE	19EI503	Ultrasonic Instrumentation	3	0	0	3	-
38	PE	19EI504	Environmental Instrumentation	3	0	0	3	-
39	PE	19CH521	Chemical Process Instrumentation	3	0	0	3	-
40	PE	19EI505	Robotics and Automation	3	0	0	3	-
41	PE	19EI506	System Identification	3	0	0	3	19EI414

42	PE	19E1507	Advanced Process Control	3	0	0	3	19E1410
43	PE	19E1508	SCADA Systems and Applications	3	0	0	3	-
44	PE	19E1509	Process Control for Food Engineering	3	0	0	3	-
45	PE	19E1510	Introduction to VLSI Design	3	0	0	3	19E1402
46	PE	19E1511	Telemetry and Tele Control	3	0	0	3	-
47	PE	19EC503	Digital Image Processing	3	0	0	3	19EC416/ 19EC409/ 19E1403
48	PE	19E1512	Sensors and Data Acquisition	3	0	0	3	-
49	PE	19E1513	Applied Soft Computing	3	0	0	3	19E1414
50	PE	19CS527	Computer Communication and Networks	3	0	0	3	-
51	PE	19CS305	Computer Architecture	3	0	0	3	-
52	PE	19CS501	Machine Learning	3	0	0	3	19MA211/ 19MA212/ 19MA217/ 19MA218/ 19MA207
53	PE	19E1514	Introduction to Radar	3	0	0	3	-
54	PE	19CH507	Disaster Management	3	0	0	3	-
55	PE	19CE523	Instrumentation for Pollution Monitoring and Management	3	0	0	3	-
56	PE	19E1515	Instrumentation and Control in Petrochemical Industries	3	0	0	3	19E1412
57	PE	19E1516	Instrumentation and Control in Iron and Steel Industries	3	0	0	3	19E1412
58	PE	19E1517	Instrumentation and Control in Paper Industries	3	0	0	3	19E1412
59	PE	19CS524	Deep Learning	3	0	0	3	19CS501
60	PE	19CS526	R Programming	2	0	2	3	19CS303/ 19CS301
61	PE	19CS519	Data Science	3	0	0	3	19CS301/ 19CS501
62	PE	19CS520	Big Data Analytics	3	0	0	3	19CS411/ 19CS519
63	PE	19CS529	Quantum Computing	3	0	0	3	19CS301/ 19CS303
64	PE	19CS531	Virtual Reality	3	0	0	3	19CS401/ 19CS301/ 19CS303
65	OE	19AG601	Principles of Crop Production	0	2	2	3	-
66	OE	19AG514	Food Packaging Technology	0	2	2	3	-
67	OE	19AG509	Human Engineering and Safety	0	2	2	3	-
68	OE	19AG424	Remote Sensing and GIS Applications	0	2	2	3	-
69	OE	19AG421	Dairy and Food Engineering	0	2	2	3	-
70	OE	19BM601	Fundamentals of Nutrition	0	3	0	3	-
71	OE	19BM602	Biomedical Waste Management	0	3	0	3	-
72	OE	19BM603	Healthcare Technologies	0	3	0	3	-
73	OE	19BM604	Prosthetic Engineering	0	3	0	3	-
74	OE	19BM605	Medical Devices	0	3	0	3	-
75	OE	19BM606	Biology for Engineers	0	3	0	3	-
76	OE	19CE510	Integrated Water Resources Management	0	3	0	3	-
77	OE	19CE521	Air Pollution Engineering	0	3	0	3	-
78	OE	19CE525	Traffic Engineering	0	3	0	3	-
79	OE	19CE527	Construction Engineering and Occupational Safety	0	3	0	3	-
80	OE	19CE528	Contract Laws and Regulations	0	3	0	3	-
81	OE	19CS601	Database Management Systems	0	3	0	3	-
82	OE	19CS602	Business Intelligence and its Applications	0	3	0	3	-
83	OE	19CS603	Object Oriented Analysis and Design	0	3	0	3	-
84	OE	19CS516	Software Testing and Quality Assurance	0	3	0	3	-
85	OE	19CS525	Industrial IOT	0	3	0	3	-
86	OE	19EE601	Embedded Based Product Design and Development	0	3	0	3	-

87	OE	19EE602	Electrical Safety	0	3	0	3	-
88	OE	19EE603	Renewable Energy Sources	0	3	0	3	-
89	OE	19EE604	Fundamentals of Electric Power Utilization	0	3	0	3	-
90	OE	19EE605	Industrial Automation and Robotics	0	3	0	3	-
91	OE	19EE606	Solar Photovoltaic Energy	0	2	2	3	-
92	OE	19EC601	Electronic Packaging	0	3	0	3	-
93	OE	19EC602	Introduction to Micro Electro Mechanical Systems	0	3	0	3	-
94	OE	19EC603	Fuzzy Logic Systems and ANN	0	3	0	3	-
95	OE	19EC604	Consumer Electronics	0	3	0	3	-
96	OE	19EC605	Electronic System Design	0	3	0	3	-
97	OE	19EC606	Drones for Agriculture	0	3	0	3	-
98	OE	19ME505	Computer Aided Design	0	2	2	3	-
99	OE	19ME511	Automobile Engineering	0	2	2	3	-
100	OE	19ME524	Sustainable and Green Manufacturing	0	2	2	3	-
101	OE	19ME529	Process Planning and Cost Estimation	0	2	2	3	-
102	OE	19ME531	Intellectual Property Rights	0	2	2	3	-
103	OE	19ME601	Mechatronics and Robotics	0	2	2	3	-
104	OE	19ME602	Hydraulic Drives and Controls	0	2	2	3	-
105	OE	19ME533	3D Printing Processes	0	3	2	4	-
106	OE	19MD501	Tele Health Technology	0	3	0	3	-
107	OE	19MD509	Bio MEMS	0	3	0	3	-
108	OE	19MD512	Medical Wearable Systems	0	3	0	3	-
109	OE	19MD601	Biomedical Sensors and Measurements	0	3	0	3	-
110	OE	19MD602	Biomedical Optics	0	3	0	3	-
111	OE	19CH503	Energy Technology	0	3	0	3	-
112	OE	19CH505	Green Technology	0	3	0	3	-
113	OE	19CH511	Food Technology	0	3	0	3	-
114	OE	19CH512	Drugs and Pharmaceutical Technology	0	3	0	3	-
115	OE	19CH516	Corrosion Technology	0	3	0	3	-
116	OE	19IT517	Data Security	0	3	0	3	-
117	OE	19IT518	Game Theory	0	3	0	3	-
118	OE	19IT519	Data Analysis using R Programming	0	3	0	3	-
119	OE	19IT520	Linux Fundamentals	0	3	0	3	-
120	OE	19IT521	Internet Technologies	0	3	0	3	-
121	OE	19IT522	Fundamentals of Databases	0	3	0	3	-
122	OE	19EN601	Creative Writing	0	2	0	2	-
123	OE	19EN602	English through Media	0	2	0	2	-
124	OE	19EN603	Introduction to Design	0	0	4	2	-
125	OE	19EN604	Design Thinking	0	2	0	2	-
126	OE	19EN605	Modern Trends in Physical Education and Sports Sciences	0	0	4	2	-
127	OE	19EN606	Psychology for Professionals	0	2	0	2	-
128	OE	19EN607	Heritage Studies	0	0	4	2	-
129	OE	19EN608	Mime Theatre Art	0	0	4	2	-
130	OE	19EN609	Gender Sensitization	0	2	0	2	-
131	OE	19EN610	French Basic	0	0	4	2	-
132	OE	19EN611	French Advanced	0	0	4	2	19EN610
133	OE	19EN612	German Basic	0	0	4	2	-
134	OE	19EN613	German Advanced	0	0	4	2	19EN612
135	OE	19EN614	Japanese Basic	0	0	4	2	-
136	OE	19EN615	Japanese Advanced	0	0	4	2	19EN614
137	OE	19EN616	Yoga and Meditation	0	0	2	1	-
138	OE	19EN617	Product Design for Future	0	0	4	2	-
139	OE	19EN618	Indian Astronomy and Mathematics	0	2	0	2	-

140	OE	19EN619	Inventions and Discoveries	0	2	0	2	-
141	OE	19EN620	Mandarin	0	0	4	2	-
142	OE	19EN621	Spanish Basic	0	0	4	2	-
143	OE	19EN622	Spanish Advanced	0	0	4	2	19EN621
144	OE	19EN623	Dream, Draw and Create	0	0	4	2	-
145	OE	19MA601	Resource Management Techniques	0	3	0	3	-
146	OE	19MA602	Statistics for Engineers	0	3	0	3	-
147	OE	19EI603	Introduction to Industry 4.0 and Industrial Internet of Things(NPTEL)	0	0	0	2	-
148	OE	19EC621	Introduction to Internet of Things (NPTEL)	0	0	0	2	-
149	OE	19EI604	Industrial Automation and Control (NPTEL)	0	0	0	2	-
150	EEC	19EI701	Mini Project	0	0	4	2	-
151	EEC	19EI702	Project Work Phase I	0	0	4	2	-
152	EEC	19EI703	Project Work Phase II	0	0	12	6	-
153	EEC	19EY701	Soft Skills	0	0	2	1	-
154	EEC	19EY702	Creative Skills for Communication	0	0	2	1	-
155	EEC	19EY703	System of Numerical and Logical Terminologies	0	0	2	1	-
156	EEC	19EY704	Advanced Quantitative and Logical Reasoning	0	0	2	1	-
157	EEC	19EY705	Employment Enhancement Skills	0	0	2	1	-
158	EEC	19EY706	Company Specific Assessments for Employability	0	0	2	1	-
159	MC	19MC801	Professional Ethics	3	0	0	0	-
160	MC	19MC802	Environmental Science	3	0	0	0	-
161	MC	19MC803	Constitution of India	3	0	0	0	-
162	MC	19MC804	Internship/Entrepreneurship/Consultancy	0	0	0	2	-
163	MC	19MC805	Inplant Training	0	0	0	1	-
164	MC	19MC806	Paper Publication	0	0	0	1	-
165	MC	19MC807	National Service Scheme	0	0	0	0	-
166	MC	19MC808	National Sports Organization	0	0	0	0	-
167	MC	19MC809	Youth Red Cross	0	0	0	0	-

CREDIT SUMMARY				
CATEGORY	REGULAR		LATERAL ENTRY	
	Credits	Credit%	Credits	Credit%
Humanities and Science Courses	11	6.79	3	2.5
Basic Science Courses	25	15.43	6	5.0
Engineering Science Courses	25	15.43	11	9.1
Professional Core Courses	58	35.8	58	47.9
Professional Elective Courses	15	9.26	15	12.4
Open Elective Courses	12	7.4	12	9.9
Employability Enhancement Courses	16	9.88	16	13.2
Total	162	100	121	100
Mandatory Courses	4		4	

LEGEND

	Courses exempted for Lateral Entry students
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