

**GRADUATION  
REQUIREMENTS  
FOR  
B. TECH.  
in  
ELECTRONICS &  
COMMUNICATION  
ENGINEERING  
(Regular & Diploma  
Holders)**

**GRADUATION REQUIREMENTS FOR B. TECH. in  
ELECTRONICS & COMMUNICATION ENGINEERING (Regular)  
Batch 2018 (2018-19)**

Sl. No.	Course No.	Course Title	Credit			
			Cr	L	T	P

<b>First Year Courses (Basic Sciences, Social Science, Humanities, Engineering Sciences)</b>						
1.	BPP-198	Semiconductor Physics	5	3	1	2
2.	BPM-142	Calculus and Differential Equations	5	4	1	0
3.	TEE-104	Basic Electrical Engineering	5	3	1	2
4.	TCE-114	Engineering Graphics & Design	3	1	0	2x2
5.	TWP-101	Work Programme	1	0	0	3
6.	BPC-102	Chemistry –I	4	3	0	3
7.	BPM-152	Linear Algebra, Transform Calculus and Numerical Methods	4	3	1	0
8.	TIT-121	Programming for Problem Solving	4	3	0	2
9.	TIP-103	Workshop Practices	3	1	0	2x2
10.	BHS-186	English	3	2	0	2
11.	BPS-228	Probability & Statistics	4	3	1	0
12.	TID/TSW/ TCE/TME- 109	Environmental Engineering and Disaster Management	3	3	0	0
13.	TCE-206	Engineering Mechanics	4	3	1	0
14.	BHS-188	Industrial Sociology	3	3	0	0
15.	BHS-100	Constitution of India	0	1	0	0
16.	TEC-191	Practical Training-I (2 weeks)	0			
17.	TIC-100	Induction Programme (2 Weeks)				
		<b>TOTAL</b>	<b>51</b>	<b>36</b>	<b>6</b>	<b>22</b>
<b>Professional Courses</b>						
18.	TEC-205	Electronic Devices	4	3	1	0
19.	TEC-206	Electronic Devices Lab	1	0	0	2
20.	TEC-207	Digital System Design	4	3	1	0
21.	TEC-208	Digital System Design Lab	1	0	0	2
22.	TEC-209	Signals and Systems	4	3	1	0
23.	TEE-205	Network Theory	3	3	0	0
24.	NSS-101	National Service Scheme (NSS)	1	0	0	4
25.	TEC-211	Electromagnetic Waves	4	3	1	0
26.	TEC-214	Analog Communication Systems	4	3	1	0
27.	TEC-215	Analog Circuits	3	3	0	0
28.	TEC-216	Analog Circuits Lab	1	0	0	2
29.	TEC-217	Microcontrollers	2	2	0	0
30.	TEC-218	Microcontrollers Lab	1	0	0	2
31.	TEC-219	Antenna and Propagation	4	3	1	0
32.	TEC-291	Practical Training-II (2 weeks)	0			
33.	NSS-102	National Service Scheme (NSS)	0	0	0	4
34.	TEC-305	Digital Communication Systems	4	3	1	0
35.	TEC-306	Communication Systems Lab	1	0	0	2

36.	TCT-207	Computer Organization and Architecture	3	2	0	2
37.	TEC-308	Digital Signal Processing	4	3	1	0
38.	TEC-309	Control Systems	4	3	1	0
39.	TEC-314	Simulation Software	3	1	0	2x2
40.	TEC-315	Electronic Measurement Lab	1	0	0	2
41.	TEC-316	Electronic Design workshop	2	0	0	2x2
42.	TEC-317	Digital Signal Processing Lab	1	0	0	2
43.	TEC-319	Microwave Theory and Techniques	3	3	0	0
44.	TEC-322	Microwave Lab	1	0	0	2
45.		OE-1**	3	3	0	0
46.	NSS-201	National Service Scheme (NSS)	1	0	0	4
47.	TEC-391	Practical Training-III (4 weeks)	0			
48.	TEC-321	CMOS Design	3	3	0	0
49.		OE-2**	3	3	0	0
50.	NSS-202	National Service Scheme (NSS)	0	0	0	4
51.	TEC-*	Program Elective -1	3	3	0	0
52.	TEC-*	Program Elective -2	3	3	0	0
53.	TEC-*	Program Elective -3	3	3	0	0
54.		OE-3**	3	3	0	0
55.	TEC-495A	Project-I	4	0	0	8
56.	TIP-454	Principles of Management	2	2	0	0
57.	TEC-492	Seminar	1	0	0	2
58.	TEC-*	Program Elective -4	3	3	0	0
59.	TEC-429	Computer Network	3	3	0	0
60.	TEC-430	IC Fabrication Technology	3	3	0	0
61.	TEC-*	Program Elective -5	3	3	0	0
62.	TEC-*	Program Elective -6	3	3	0	0
63.		OE-4**	3	3	0	0
64.	TEC-495B	Project-II	8	0	0	16
		<b>Total Core Credits</b>	<b>119</b>	<b>82</b>	<b>0</b>	<b>68</b>
		<b>Total Credits including First Year Courses</b>	<b>170</b>	<b>118</b>	<b>16</b>	<b>90</b>

TEC-\*: (Program Elective Course) Course to be selected from the list of Program Electives

OE\*\*: (Open Elective Course) Open Elective from other technical and/or emerging subjects

**Note: Semester-wise interchange in the course curriculum may be done as per availability of experts and Lab facilities.**

**Total Credit Hours : 170 Total Contact Hours: 224**

### Program Elective Courses (TEC-\*)

Sl. No.	Course No.	Course Title	Credit			
			Cr	L	T	P
1	TEC-320	Information Theory and Coding	3	3	0	0
2	TEC-323	Neural Processing and Systems	3	3	0	0
3	TEC-324	Mixed Signal Design	3	3	0	0
4	TEC-325	Embedded systems	3	3	0	0
5	TEC-431	Fiber Optic Communications	3	3	0	0
6	TEC-432	Mobile Communication and Networks	3	3	0	0
7	TEC-433	Satellite Communication	3	3	0	0
8	TEC-434	High Speed Electronics	3	3	0	0
9	TEC-435	Digital Image & Video Processing	3	3	0	0
10	TEC-436	Wireless Sensor Networks	3	3	0	0
11	TEC-437	Error correcting codes	3	3	0	0
12	TEC-438	Artificial Intelligence	3	3	0	0
13	TEC-439	Speech and Audio Processing	3	3	0	0
14	TEC-444	Synthesis of Digital Systems	3	3	0	0

**GRADUATION REQUIREMENTS FOR B. TECH. in  
ELECTRONICS & COMMUNICATION ENGINEERING (Diploma Holders)  
Batch 2019 (2019-20)**

Sl. No.	Course No.	Course Title	Credit			
			Cr	L	T	P

1.	TWP-101	Work Programme	1	0	0	2
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<b>Professional Courses</b>						
2.	TEC-205	Electronic Devices	4	3	1	0
3.	TEC-206	Electronic Devices Lab	1	0	0	2
4.	TEC-207	Digital System Design	4	3	1	0
5.	TEC-208	Digital System Design Lab	1	0	0	2
6.	TEC-209	Signals and Systems	4	3	1	0
7.	TEE-205	Network Theory	3	3	0	0
8.	NSS-101	National Service Scheme (NSS)	1	0	0	4
9.	TEC-211	Electromagnetic Waves	4	3	1	0
10.	TEC-214	Analog Communication Systems	4	3	1	0
11.	TEC-215	Analog Circuits	3	3	0	0
12.	TEC-216	Analog Circuits Lab	1	0	0	2
13.	TEC-217	Microcontrollers	2	2	0	0
14.	TEC-218	Microcontrollers Lab	1	0	0	2
15.	TEC-219	Antenna and Propagation	4	3	1	0
16.	TEC-219	Antennas and Propagation	4	1	0	4
17.	TCE-206	Engineering Mechanics	4	1	0	4
18.	TEC-291	Practical Training-II (2 weeks)	0			
19.	NSS-102	National Service Scheme (NSS)	0	0	0	4
20.	TEC-305	Digital Communication Systems	4	3	1	0
21.	TEC-306	Communication Systems Lab	1	0	0	2
22.	TCT-207	Computer Organization and Architecture	3	2	0	2
23.	TEC-308	Digital Signal Processing	4	3	1	0
24.	TEC-309	Control Systems	4	3	1	0
25.	TEC-314	Simulation Software	3	1	0	2x2
26.	TEC-315	Electronic Measurement Lab	1	0	0	2
27.	TEC-316	Electronic Design workshop	2	0	0	2x2
28.	TEC-317	Digital Signal Processing Lab	1	0	0	2
29.	TEC-319	Microwave Theory and Techniques	3	3	0	0
30.	TEC-322	Microwave Lab	1	0	0	2
31.		OE-1**	3	3	0	0
32.	NSS-201	National Service Scheme (NSS)	1	0	0	4
33.	TEC-391	Practical Training-III (4 weeks)	0			
34.	TEC-321	CMOS Design	3	3	0	0
35.		OE-2**	3	3	0	0
36.	NSS-202	National Service Scheme (NSS)	0	0	0	4
37.	TEC-*	Program Elective -1	3	3	0	0
38.	TEC-*	Program Elective -2	3	3	0	0

39.	TEC-*	Program Elective -3	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>
40.		OE-3**	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>
41.	TEC-495A	Project-I	<b>4</b>	<b>0</b>	<b>0</b>	<b>8</b>
42.	TIP-454	Principles of Management	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>
43.	TEC-492	Seminar	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>
44.	TEC-*	Program Elective -4	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>
45.	TEC-429	Computer Network	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>
46.	TEC-430	IC Fabrication Technology	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>
47.	TEC-*	Program Elective -5	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>
48.	TEC-*	Program Elective -6	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>
49.		OE-4**	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>
50	TEC-495B	Project-II	<b>8</b>	<b>0</b>	<b>0</b>	<b>16</b>
		<b>Total Core Credits</b>	<b>128</b>	<b>84</b>	<b>9</b>	<b>78</b>

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**Note: Semester-wise interchange in the course curriculum may be done as per availability of experts and Lab facilities.**

**Total Credit Hours : 128      Total Contact Hours: 171**

### Program Elective Courses (TEC-\*)

Sl. No.	Course No.	Course Title	Credit			
			Cr	L	T	P
1	TEC-320	Information Theory and Coding	3	3	0	0
2	TEC-323	Neural Processing and Systems	3	3	0	0
3	TEC-324	Mixed Signal Design	3	3	0	0
4	TEC-325	Embedded systems	3	3	0	0
5	TEC-431	Fiber Optic Communications	3	3	0	0
6	TEC-432	Mobile Communication and Networks	3	3	0	0
7	TEC-433	Satellite Communication	3	3	0	0
8	TEC-434	High Speed Electronics	3	3	0	0
9	TEC-435	Digital Image & Video Processing	3	3	0	0
10	TEC-436	Wireless Sensor Networks	3	3	0	0
11	TEC-437	Error correcting codes	3	3	0	0
12	TEC-438	Artificial Intelligence	3	3	0	0
13	TEC-439	Speech and Audio Processing	3	3	0	0
14	TEC-444	Synthesis of Digital Systems	3	3	0	0

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Batch 2019 (2019-20)  
Semester-wise structure of curriculum**

**Semester III (Second year)**

Sr. No.	Course Code	Course Title	L	T	P	Contact Hrs./wk.	Credits
1	TEC-205	Electronic Devices	3	1	0	4	4
2	TEC-206	Electronics Devices Lab	0	0	2	2	1
3	TEC-207	Digital System Design	3	1	0	4	4
4	TEC-208	Digital System Design Lab	0	0	2	2	1
5	TEC-209	Signals and Systems	3	1	0	4	4
6	TEE-205	Network Theory	3	0	0	3	3
7	TEC-211	Electromagnetic Waves	3	1	0	4	4
8	NSS-101	NSS	0	0	4	4	1
9	BHS-100	Constitution of India					0
<b>TOTAL</b>						<b>27</b>	<b>22</b>

**Semester IV (Second year)**

Sr. No.	Course Code	Course Title	L	T	P	Contact Hrs./wk.	Credits
1	TEC-214	Analog Communication Systems	3	1	0	4	4
2	TEC-215	Analog Circuits	3	0	0	3	3
3	TEC-216	Analog Circuits Lab	0	0	2	2	1
4	TEC-217	Microcontrollers	2	0	0	2	2
5	TEC-218	Microcontrollers Lab	0	0	2	1	1
6	TEC-219	Antennas and Propagation	3	1	0	4	4
7	TCE-206	Engineering Mechanics	3	1	0	4	4
8	BPS-228	Probability & Statistics	3	1	0	4	4
9	NSS-102	NSS	0	0	4	4	0
10	TWP-101	Work Programme	0	0	2	2	1
11	TEC-291	Practical Training –II (2 weeks)					0
<b>TOTAL</b>						<b>30</b>	<b>24*</b>

\*Includes work programme of Credit 1.



### Semester V (Third year)

Sr. No.	Course Code	Course Title	L	T	P	Contact Hrs./wk.	Credits
1	TEC-305	Digital Communication Systems	3	1	0	4	4
2	TEC-306	Communication Systems Lab	0	0	2	2	1
3	TCT-207	Computer Organization and Architecture	2	0	2	4	3
4	TEC-308	Digital Signal Processing	3	1	0	4	4
5	TEC-319	Microwave Theory and Techniques	3	0	0	3	3
6	TEC-322	Microwave Lab	0	0	2	2	1
7	TEC-*	Program Elective – 1	3	0	0	3	3
8		OE-1**	3	0	0	3	3
9	NSS-201	NSS	0	0	4	4	1
<b>TOTAL</b>						<b>29</b>	<b>23</b>

\* 23 credits includes 1 credit of NSS

### Semester VI (Third year)

Sr. No.	Course Code	Course Title	L	T	P	Contact Hrs./wk.	Credits
1	TEC-309	Control Systems	3	1	0	4	4
2	TEC-314	Simulation Software	1	0	2x2	5	3
3	TEC-315	Electronic Measurement Lab	0	0	2	2	1
4	TEC-316	Electronic Design workshop	0	0	2x2	4	2
5	TEC-317	Digital Signal Processing Lab	0	0	2	2	1
6	TEC-321	CMOS Design	3	0	0	3	3
7	TEC-*	Program Elective – 2	3	0	0	3	3
8		OE-2**	3	0	0	3	3
9	NSS-202	NSS	0	0	4	4	0
10	TEC-391	Practical Training –III (4 weeks)					0
<b>TOTAL</b>						<b>30</b>	<b>20</b>

### Semester VII (Fourth year)

Sr. No.	Course Code	Course Title	L	T	P	Contact Hrs./wk.	Credits
1	TEC-429	Computer Network	3	0	0	3	3
2	TEC-430	IC Fabrication Technology	3	0	0	3	3
3	TEC-*	Program Elective -3	3	0	0	3	3
4	TEC-*	Program Elective -4	3	0	0	3	3
5	TIP-454	Principles of Management	2	0	0	2	2
6		OE-3**	3	0	0	3	3
7	TEC-495A	Project-I	0	0	8	8	4
<b>TOTAL</b>						<b>25</b>	<b>21</b>

### Semester VIII (Fourth year)

Sr. No	Course code	Course Title	L	T	P	Contact Hrs./Wk.	Credits
1	TEC-*	Program Elective -5	3	0	0	3	3
2	TEC-*	Program Elective -6	3	0	0	3	3
3		OE-4**	3	0	0	3	3
4	TEC-492	Seminar	0	0	3	3	1
5	TEC-495B	Project-II	0	0	16	16	8
<b>Total</b>						<b>28</b>	<b>18</b>

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**Total Credit Hours : 128**

**Total Contact Hour : 171**