

**SCHEME OF TEACHING AND EXAMINATION**  
**B.E Electronics & Communication Engineering / Telecommunication Engineering**  
**(Common to Electronics & Communication and Telecommunication Engineering)**

**III SEMESTER**

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15MAT31	Engineering Mathematics -III*	04		03	80	20	100	4
2	15EC32	Analog Electronics	04		03	80	20	100	4
3	15EC33	Digital Electronics	04		03	80	20	100	4
4	15EC34	Network Analysis	04		03	80	20	100	4
5	15EC35	Electronic Instrumentation	04		03	80	20	100	4
6	15EC36	Engineering Electromagnetics	04		03	80	20	100	4
7	15ECL37	Analog Electronics Lab		1I+2P	03	80	20	100	2
8	15ECL38	Digital Electronics Lab		1I+2P	03	80	20	100	2
<b>TOTAL</b>			<b>24</b>	<b>6</b>	<b>24</b>	<b>640</b>	<b>160</b>	<b>800</b>	<b>28</b>

\*Additional course for Lateral entry students only:

1	15MATDIP31	Additional Mathematics - I	03		03	80	--	80	--
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**IV SEMESTER**

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical / Drawing	Duration	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15MAT41	Engineering Mathematics -IV*	04		03	80	20	100	4
2	15EC42	Microprocessor	04		03	80	20	100	4
3	15EC43	Control Systems	04		03	80	20	100	4
4	15EC44	Signals and Systems	04		03	80	20	100	4
5	15EC45	Principles of Communication Systems	04		03	80	20	100	4
6	15EC46	Linear Integrated Circuits	04		03	80	20	100	4
7	15ECL47	Microprocessor Lab		11+2P	03	80	20	100	2
8	15ECL48	Linear ICs and Communication Lab		11+2P	03	80	20	100	2
<b>TOTAL</b>			<b>24</b>	<b>06</b>	<b>24</b>	<b>640</b>	<b>160</b>	<b>800</b>	<b>28</b>

\*Additional course for Lateral entry students only:

1	15MATDIP41	Additional Mathematics - II	03		03	80	--	80	--
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## SCHEME OF TEACHING AND EXAMINATION B.E.: Electronics & Communication Engineering

### V SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical /Drawing	Duration	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15ES51	Management and Entrepreneurship Development	04		03	80	20	100	4
2	15EC52	Digital Signal Processing	04		03	80	20	100	4
3	15EC53	Verilog HDL	04		03	80	20	100	4
4	15EC54	Information Theory & Coding	04		03	80	20	100	4
5	15EC55X	Professional Elective-1	03		03	80	20	100	3
6	15EC56X	Open Elective-1	03		03	80	20	100	3
7	15ECL57	DSP Lab		1I+2P	03	80	20	100	2
8	15ECL58	HDL Lab		1I+2P	03	80	20	100	2
<b>TOTAL</b>			<b>22</b>	<b>06</b>	<b>24</b>	<b>640</b>	<b>160</b>	<b>800</b>	<b>26</b>

Professional Elective-1		Open Elective - 1* (List offered by EC/TC Board only)	
15EC551	Nanoelectronics	15EC561	Automotive Electronics
15EC552	Switching & Finite Automata Theory	15EC562	Object Oriented Programming Using C++
15EC553	Operating System	15EC563	8051 Microcontroller
15EC554	Electrical Engineering Materials		
15EC555	MSP430 Microcontroller		

1. **Professional Elective:** Elective relevant to chosen specialization/ branch.

2. \* **Open Elective List:** For other Open Electives offered by other Boards, refer the Scheme of other Boards or Consolidated list in VTU Website.

## SCHEME OF TEACHING AND EXAMINATION B.E.: Electronics & Communication Engineering

### VI SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15EC61	Digital Communication	04		03	80	20	100	4
2	15EC62	ARM Microcontroller & Embedded Systems	04		03	80	20	100	4
3	15EC63	VLSI Design	04		03	80	20	100	4
4	15EC64	Computer Communication Networks	04		03	80	20	100	4
5	15EC65X	Professional Elective-2	03		03	80	20	100	3
6	15EC66X	Open Elective-2	03		03	80	20	100	3
7	15ECL67	Embedded Controller Lab		1I+2P	03	80	20	100	2
8	15ECL68	Computer Networks Lab		1I+2P	03	80	20	100	2
<b>TOTAL</b>			<b>22</b>	<b>6</b>	<b>24</b>	<b>640</b>	<b>160</b>	<b>800</b>	<b>26</b>

Professional Elective-2		Open Elective - 2* (List offered by EC/TC Board only)	
15EC651	Cellular Mobile Communication	15EC661	Data Structures Using C++
15EC652	Adaptive Signal Processing	15EC662	Power Electronics
15EC653	Artificial Neural Networks	15EC663	Digital System Design using Verilog
15EC654	Digital Switching Systems		
15EC655	Microelectronics		

**1. Professional Elective:** Elective relevant to chosen specialization/branch.

**2. \* Open Elective List:** For other Open Electives offered by other Boards, refer the Scheme of other Boards or Consolidated list in VTU Website.

## SCHEME OF TEACHING AND EXAMINATION

### B.E.: Electronics & Communication Engineering

#### VII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				15EC
			Theory	Practical/Drawing	Duration	I.A. Marks	Theory/Practical Marks	Total Marks	
1	15EC71	Microwave and Antennas	04		03	20	80	100	4
2	15EC72	Digital Image Processing	04		03	20	80	100	4
3	15EC73	Power Electronics	04		03	20	80	100	4
4	15XX74X	Professional Elective-3	03		03	20	80	100	3
5	15EC75X	Professional Elective-4	03		03	20	80	100	3
6	15ECL76	Advanced Communication Lab		1I+2P	03	20	80	100	2
7	15ECL77	VLSI Lab		1I+2P	03	20	80	100	2
8	15ECP78	Project Work Phase-I + Project work Seminar		03		100	-	100	2
<b>TOTAL</b>			<b>18</b>	<b>09</b>	<b>21</b>	<b>240</b>	<b>560</b>	<b>800</b>	<b>24</b>

Professional Elective-3		Professional Elective-4	
15EC741	Multimedia Communication	15EC751	DSP Algorithms and Architecture
15EC742	Biomedical Signal Processing	15EC752	IoT and Wireless Sensor Networks
15EC743	Real Time Systems	15EC753	Pattern Recognition
15EC744	Cryptography	15EC754	Advanced Computer Architecture
15EC745	CAD for VLSI	15EC755	Satellite Communication

**1. Project Phase -I + Project Work Seminar:** Literature Survey, Problem Identification, Objectives and Methodology. Submission of Synopsis and Seminar.

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### VIII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15EC81	Wireless Cellular and LTE 4G Broadband	4	-	3	20	80	100	4
2	15EC82	Fiber Optics & Networks	4	-	3	20	80	100	4
3	15EC83X	Professional Elective-5	3	-	3	20	80	100	3
4	15EC84	Internship/Professional Practice	Industry Oriented		3	50	50	100	2
5	15ECP85	Project Work	-	6	3	100	100	200	6
6	15ECS86	Seminar	-	4	-	100	-	100	1
<b>TOTAL</b>			<b>11</b>	<b>10</b>	<b>15</b>	<b>310</b>	<b>390</b>	<b>700</b>	<b>20</b>

<b>Professional Elective -5</b>	
15EC831	Micro Electro Mechanical Systems
15EC832	Speech Processing
15EC833	Radar Engineering
15EC834	Machine learning
15EC835	Network and Cyber Security

**1. Internship / Professional Practice:** To be carried between the (6<sup>th</sup> and 7<sup>th</sup> Semester) or (7<sup>th</sup> and 8<sup>th</sup>) Semester Vacation period.