

Structure for

**Bachelor of Technology (B.Tech.)**

in

**Electronics and Telecommunication Engineering**

With effect from A.Y. 2023-2024

**B.TECH IN ELECTRONICS AND TELECOMMUNICATION ENGINEERING**

**Semester-I**

<b>Course Code</b>	<b>Course Category</b>	<b>Course Name</b>
231FEUES11	Engineering Science	Engineering Mathematics-I
231FEUES12	Engineering Science	Engineering Chemistry
231FEUES13	Engineering Science	Engineering Graphics
231FEUES14	Engineering Science	Basic Electrical Engineering
231FEUEL11	Engineering Science	Engineering Chemistry Lab
231FEUEL12	Engineering Science	Engineering Graphics Lab
231FEUEL13	Engineering Science	Basic Electrical Engineering Lab
231FEUVS11	Vocational and Skill Enhancement Course	Basic Workshop Practices – I
231FEUIK11	Indian Knowledge System	Indian Cultural Studies
231FEUCO11	Co-Curricular Courses	Health and Wellness

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**Semester-II**

<b>Course Code</b>	<b>Course Category</b>	<b>Course Name</b>
231FEUES21	Engineering Science	Engineering Mathematics-II
231FEUES22	Engineering Science	Engineering Physics
231FEUES23	Engineering Science	Engineering Mechanics
231FEUCC21	Program Core Course	C Programming
231FEUAE21	Ability Enhancement Course	English for Engineers
231FEUEL21	Engineering Science	Engineering Physics Lab
231FEUEL22	Engineering Science	Engineering Mechanics Lab
231FEUCL21	Program Core Course	C Programming Lab
231FEUVS21	Vocational and Skill Enhancement Course	Basic Workshop Practices - II
231FEUCO21	Co-Curricular Courses	Sports and Yoga

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**Semester-III**

<b>Course Code</b>	<b>Course Category</b>	<b>Course Name</b>
231ETUCC31	Programme Core Course	Electronic Devices and Circuits
231ETUCC32	Programme Core Course	Electrical Networks
231ETUMM31	Multidisciplinary Minor I	Applied Mathematics III
231ENUOE1X	Open Elective I	Open Elective I
231ENUAE31	Ability Enhancement Course	Professional Communication and Ethics
231ENUHS31	Humanities Social Science and Management	Entrepreneurship Development and Management
231ENUVE31	Value Education Course	Environmental Science
231ETUVS31	Vocational Skill Enhancement Course	Skill Based Lab I
231ETUCL31	Programme Core Course Lab	Electronic Devices and Circuits Lab
231ETUCL32	Programme Core Course Lab	Electrical Networks Lab

## Open Elective Courses

<b>OE I</b>	<b>OE II</b>	<b>OE III</b>	<b>OE IV</b>
<b>Sem III</b>	<b>Sem IV</b>	<b>Sem IV</b>	<b>Sem V</b>
<b>231ENUOE11</b> Human Resource Management	<b>231ENUOE21</b> Project Management	<b>231ENUOE31</b> Management Information Systems	<b>231ENUOE41</b> Organizational Behaviour
<b>231ENUOE12</b> Macroeconomics	<b>231ENUOE22</b> E-commerce and Digital Marketing	<b>231ENUOE32</b> Product Lifecycle Management	<b>231ENUOE42</b> AI for Business Applications
<b>231ENUOE13</b> Disaster Management and Mitigation Measures	<b>231ENUOE23</b> Gender, Economy, and Work	<b>231ENUOE33</b> Emerging Trends in Technology	<b>231ENUOE43</b> Energy Audit and Management
<b>231ENUOE14</b> Ethics for IT Users	<b>231ENUOE24</b> Usability Analysis	<b>231ENUOE34</b> Cyber and Data Laws	<b>231ENUOE44</b> Reliability Engineering
<b>231ENUOE15</b> Innovation and Creativity	<b>231ENUOE25</b> Stress Management	<b>231ENUOE35</b> Design Thinking	<b>231ENUOE45</b> Comprehensive Skill Development for Employability

## Skill Lab

**SLAB I**

**SEM III**

**231ETUVS31**

Python Programming

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**Semester-IV**

Course Code	Course Category	Course Name
231ETUCC41	Programme Core Course	Principles of Linear Systems and Signals
231ETUCC42	PCC(Programme Core Course)	Analog Communication
231ETUMM41	Multidisciplinary Minor II	Applied Mathematics IV
231ENUOE2X	Open Elective II	Open Elective II
231ENUOE3X	Open Elective III	Open Elective III
231ENUHS41	Humanities Social Science and Management	Financial Management
231ENUVE41	Value Education Course	Digital Technological solutions
231ETUFP41	Common Engineering Project/ Field Project	Mini Project I
231ETUCL41	Programme Core Course Lab	Principles of Linear Systems and Signals Lab
231ETUCL42	Programme Core Course Lab	Analog Communication Lab
231ENUAU41	Audit Course	Constitution of India

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**Semester-V**

<b>Course Code</b>	<b>Course Category</b>	<b>Course Name</b>
231ETUCC51	PCC (Programme Core Course)	Digital Electronics and Microcontrollers
231ETUCC52	PCC (Programme Core Course)	Electromagnetic Engineering and Wave Propagation
231ETUCC53	PCC (Programme Core Course)	Discrete Time Signal Processing
231ETUEC1X	PEC I (Program Elective Course) I	PEC-1
231ETUMM51	MDM III (Multidisciplinary Minor)	Internet of Things
231ETUMM52	MDM IV (Multidisciplinary Minor)	Data Science
231ENUOE4X	OE IV (Open Elective) Other than a particular Programme	Open Elective IV
231ETUCL51	PCC (Programme Core Course) Lab	Digital Electronics and Microcontrollers Lab
231ETUCL52	PCC (Programme Core Course) Lab	Electromagnetic Engineering and Wave Propagation Lab
231ETUCL53	PCC (Programme Core Course) Lab	Discrete Time Signal Processing Lab
231ETUEL1X	PEC I Lab	PEC - 1 Lab

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**Semester-VI**

Course Code	Course Category	Course Name
231ETUCC61	PCC (Programme Core Course)	Wireless Mobile Communication
231ETUCC62	PCC (Programme Core Course)	Digital Communication
231ETUEC2X	PEC II (Program Elective Course)	PEC-II
231ETUEC3X	PEC III (Program Elective Course)	PEC-III
231ETUMM61	MDM V (Multidisciplinary Minor)	Augmented reality/ Virtual Reality
231ETUVS61	VSEC (Vocational and Skill Enhancement Course)	Skill based Lab-II
231ETUCL61	PCC (Programme Core Course) Lab	Wireless Mobile Communication Lab
231ETUCL62	PCC (Programme Core Course) Lab	Digital Communication Lab
231ETUEL2X	PEC II (Program Elective Course) Lab	PEC-II Lab
231ETUEL3X	PEC III (Program Elective Course) Lab	PEC-III Lab

## Program Elective Course

PC I	PC II	PC III
Sem V	Sem VI	Sem VI
<p><b>231ETUEC11</b></p> <p>Computer Communication Network</p>	<p><b>231ETUEC21</b></p> <p>Internet Communication Engineering</p>	<p><b>231ETUEC31</b></p> <p>Adhoc Wireless Networks</p>
<p><b>231ETUEC12</b></p> <p>Advanced Microcontrollers</p>	<p><b>231ETUEC22</b></p> <p>Microelectronics Circuits</p>	<p><b>231ETUEC32</b></p> <p>Embedded Systems</p>
<p><b>231ETUEC13</b></p> <p>Database Management System</p>	<p><b>231ETUEC23</b></p> <p>Neural Network &amp; Fuzzy Logic</p>	<p><b>231ETUEC33</b></p> <p>Big Data Analytics</p>
<p><b>231ETUEC14</b></p> <p>Optical Communication</p>	<p><b>231ETUEC24</b></p> <p>Radio frequency and Microwave</p>	<p><b>231ETUEC34</b></p> <p>Antennas</p>

## Skill Labs

<b>SLAB II</b>
<b>SEM VI</b>
<b>231ETUVS61</b>
R Programming

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**Semester-VII**

<b>Course Code</b>	<b>Course Category</b>	<b>Course Name</b>
231ETUCC71	PCC(Programme Core Course)	Microwave Engineering
231ETUCC72	PCC(Programme Core Course)	Image Processing and Machine Vision
231ETUEC4X	PEC IV (Program Elective Course)	PEC IV
231ETUEC5X	PEC V (Program Elective Course)	PEC V
231ENURM71	Research Methodology	Research Methodology
231ENURM72	Research Methodology	Intellectual Property Rights
231ETUCL71	PCC (Programme Core Course) Lab	Microwave Engineering Lab
231ETUCL72	PCC (Programme Core Course) Lab	Image Processing and Machine Vision Lab
231ETUEL4X	PEC IV (Program Elective Course) Lab	PEC IV Lab
231ETUEL5X	PEC V (Program Elective Course) Lab	PEC V Lab

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**Semester-VIII**

<b>Course Code</b>	<b>Course Category</b>	<b>Course Name</b>
231ETUMM81	MDM VI (Multidisciplinary Minor)	NPTEL course
231ETUMP81	Project	Major Project
231ETUIN81	Internship /OJT	Internship

## Program Elective Course

<b>SEM V PEC I</b>	<b>SEM VI PEC II</b>	<b>SEM VI PEC III</b>	<b>SEM VII PEC IV</b>	<b>SEM VII PEC V</b>
<b>231ETUEC11</b> Computer Communication Network	<b>231ETUEC21</b> Internet Communication Engineering	<b>231ETUEC31</b> Adhoc Wireless Networks	<b>231ETUEC41</b> Network Management in Telecommunication	<b>231ETUEC51</b> Broadband Networks
<b>231ETUEC12</b> Advanced Microcontrollers	<b>231ETUEC22</b> Microelectronics Circuits	<b>231ETUEC32</b> Embedded Systems	<b>231ETUEC42</b> Digital VLSI	<b>231ETUEC52</b> Robotics
<b>231ETUEC13</b> Database Management System	<b>231ETUEC23</b> Neural Network & Fuzzy Logic	<b>231ETUEC33</b> Big Data Analytics	<b>231ETUEC43</b> Machine Learning	<b>231ETUEC53</b> Data Compression and Encryption
<b>231ETUEC14</b> Optical Communication	<b>231ETUEC24</b> Radio frequency and Microwave	<b>231ETUEC34</b> Antennas	<b>231ETUEC44</b> Modern Digital Communication	<b>231ETUEC54</b> 5G Communication Technologies