



# AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Approved by A.I.C.T.E., New Delhi, & Permanently Affiliated to J.N.T.U-GV, Vizianagaram)

NAAC B++ Accredited Institute

Cherukupally (Village), Near Tagarapuvalasa Bridge, Bhogapuram (Mandal), Vizianagaram -531162.

www.aietta.ac.in, principal@aietta.ac.in

## Department of Electronics and Communications Engineering

### R23 Regulation B.Tech Course Outcomes

<b>I-I Sem</b>	<b>Course Code: R23BS01</b> <b>Course Name: Linear Algebra &amp; Calculus</b>
<b>CO-1</b>	Develop matrix algebra techniques that is needed by engineers for practical applications.
<b>CO-2</b>	to find the eigen values and eigen vectors and solve the problems by using linear transformation
<b>CO-3</b>	learn important tools of calculus in higher dimensions.
<b>CO-4</b>	familiarize with functions of several variables which is useful in optimization.
<b>CO-5</b>	familiarize with double and triple integrals of functions of several variables in two and three dimensions.
<b>I-I Sem</b>	<b>Course Code: R23BS04</b> <b>Course Name: Chemistry</b>
<b>CO-1</b>	Compare the materials of construction for battery and electrochemical sensors.
<b>CO-2</b>	Explain the preparation, properties, and applications of thermoplastics & thermosetting & elastomers conducting polymers.
<b>CO-3</b>	Explain the principles of spectrometry, slc in separation of solid and liquid mixtures.
<b>CO-4</b>	Apply the principle of Band diagrams in the application of conductors and semiconductors.
<b>CO-5</b>	Summarize the concepts of Instrumental methods.
<b>I-I Sem</b>	<b>Course Code: R23ES07</b> <b>Course Name: Introduction to Programming</b>
<b>CO-1</b>	To impart adequate knowledge on the need of programming languages and problem-solving techniques and develop programming skills.
<b>CO-2</b>	To enable effective usage of Control Structures and Implement different operations on arrays.
<b>CO-3</b>	To demonstrate the use of Strings and Functions.
<b>CO-4</b>	To impart the knowledge of pointers and understand the principles of dynamic memory allocation.
<b>CO-5</b>	To understand structures and unions and illustrate the file concepts and its operations.
<b>I-I Sem</b>	<b>Course Code: R23ES03</b> <b>Course Name: Engineering Graphics</b>
<b>CO-1</b>	To enable the students with various concepts like dimensioning, conventions and standards related to Engineering Drawing
<b>CO-2</b>	To impart knowledge on the projection of points, lines and plane surfaces
<b>CO-3</b>	To improve the visualization skills for better understanding of projection of solids
<b>CO-4</b>	To develop the imaginative skills of the students required to understand Section of solids and Developments of surfaces.
<b>CO-5</b>	To make the students understand the viewing perception of a solid object in Isometric and Perspective projections.

Avanthi Institute of Engineering and Technology

Head of the Department

Electronics and Communication Engineering

AVANTHI INSTITUTE OF ENGG & TECH

Cherukupally (V), Chittivalasa (SAO).

531162





# AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Approved by A.I.C.T.E., New Delhi, & Permanently Affiliated to J.N.T.U-GV, Vizianagaram)

NAAC B++ Accredited Institute

Cherukupally (Village), Near Tagarapuvalasa Bridge, Bhogapuram (Mandal), Vizianagaram -531162.

www.aietta.ac.in, principal@aietta.ac.in

<b>I-I Sem</b>	<b>Course Code: R23ES04</b> <b>Course Name: Basic Electrical &amp; Electronics Engineering</b>
<b>CO-1</b>	<b>CO1:</b> Remember the fundamental laws, operating principles of motors, generators, MC and MI instruments.
<b>CO-2</b>	<b>CO2:</b> Understand the problem solving concepts associated to AC and DC circuits, construction and operation of AC and DC machines, measuring instruments; different power generation mechanisms, Electricity billing concept and important safety measures related to electrical operations.
<b>CO-3</b>	<b>CO3:</b> Apply mathematical tools and fundamental concepts to derive various equations related to machines, circuits and measuring instruments; electricity bill calculations and layout representation of electrical power systems.
<b>CO-4</b>	<b>CO4:</b> Analyze different electrical circuits, performance of machines and measuring instruments.
<b>CO-5</b>	<b>CO5:</b> Evaluate different circuit configurations, Machine performance and Power systems operation
<b>I-I Sem</b>	<b>Course Code: R23BS04</b> <b>Course Name: Chemistry Lab</b>
<b>CO-1</b>	Determine the cell constant and conductance of solutions.
<b>CO-2</b>	Prepare advanced polymer Bakelite materials.
<b>CO-3</b>	Measure the strength of an acid present in secondary batteries.
<b>I-I Sem</b>	<b>Course Code: R23ES07</b> <b>Course Name: Computer Programming Lab</b>
<b>CO-1</b>	Read, understand, and trace the execution of programs written in C language
<b>CO-2</b>	Select the right control structure for solving the problem.
<b>CO-3</b>	Develop C programs which utilize memory efficiently using programming constructs like pointers, arrays and functions.
<b>I-I Sem</b>	<b>Course Code: R23ES05</b> <b>Course Name: Electrical &amp; Electronics Engineering Workshop</b>
<b>CO-1</b>	Understand the Electrical circuit design concept; measurement of resistance, power, power factor; concept of wiring and operation of Electrical Machines and Transformer.
<b>CO-2</b>	Apply the theoretical concepts and operating principles to derive mathematical models for circuits, Electrical machines and measuring instruments; calculations for the measurement of resistance, power and power factor.
<b>CO-3</b>	Apply the theoretical concepts to obtain calculations for the measurement of resistance, power and power factor
<b>I-II</b>	<b>Course Code: R23BS02</b> <b>Course Name: Differential Equations and Vector Calculus</b>
<b>CO-1</b>	Solve the differential equations related to various engineering fields.
<b>CO-2</b>	Model engineering problems as higher order differential equations and solve analytically.
<b>CO-3</b>	Identify solution methods for partial differential equations that model physical processes





# AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Approved by A.I.C.T.E., New Delhi, & Permanently Affiliated to J.N.T.U-GV, Vizianagaram)

NAAC B++ Accredited Institute

Cherukupally (Village), Near Tagarapuvalasa Bridge, Bhogapuram (Mandal), Vizianagaram -531162.

www.aietta.ac.in, principal@aietta.ac.in

CO-4	Interpret the physical meaning of different operators such as gradient, curl and divergence.
CO-5	Estimate the work done against a field, circulation and flux using vector calculus.
I-II	<b>Course Code: R23BS03</b> <b>Course Name: Engineering Physics</b>
CO-1	Analyze the intensity variation of light due to polarization, interference and diffraction
CO-2	Familiarize with the basics of crystals and their structures.
CO-3	Explain fundamentals of quantum mechanics and apply it to one dimensional motion of particles.
CO-4	Summarize various types of polarization of dielectrics and classify the magnetic materials.
CO-5	Explain the basic concepts of Quantum Mechanics and the band theory of solids. Identify the type of semiconductor using Hall effect.
I-II	<b>Course Code: R23HS01</b> <b>Course Name: Communicative English</b>
CO-1	Remedially learn applying grammatical structures to formulate sentence sand use appropriate words and correct word forms.
CO-2	Using discourse markers to speak clearly on a specific topic in formal as well as informal discussions.(not required)
CO-3	Improved communicative competence in formal and informal contexts and for social and academic purposes.
CO-4	Critically comprehending and appreciatingading /listening texts and to write summaries based on global comprehension of these texts.
CO-5	Writing coherent paragraphs essays, letters/e-mails and resume.
I-II	<b>Course Code: R23ES01</b> <b>Course Name: Basic Civil &amp; Mechanical Engineering</b>
CO-1	Understand various sub-divisions of Civil Engineering and to appreciate their role in ensuring better society.
CO-2	Know the concepts of surveying and to understand the measurement of distances, angles and levels through surveying
CO-3	Realize the importance of Transportation in nation's economy and the engineering measures related to Transportation.
CO-4	Understand the importance of Water Storage and Conveyance Structures so that the social responsibilities of water conservation will be appreciated.
CO-5	Understand the basic characteristics of Civil Engineering Materials and attain knowledge on prefabricated technology.
I-II	<b>Course: R23PC01</b> <b>Course Name: Network Analysis</b>
CO-1	Understand basic electrical circuits with nodal and mesh analysis.
CO-2	Analyse the circuit using network simplification theorems.
CO-3	Find Transient response and Steady state response of a network.
CO-4	Analyse electrical networks in the Laplace domain.
CO-5	Compute the parameters of a two-port network.





# AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Approved by A.I.C.T.E., New Delhi, & Permanently Affiliated to J.N.T.U-GV, Vizianagaram)

NAAC B++ Accredited Institute

Cherukupally (Village), Near Tagarapuvalasa Bridge, Bhogapuram (Mandal), Vizianagaram -531162.

www.aietta.ac.in, principal@aietta.ac.in

<b>I-II</b>	<b>Course Code: R23HS01</b> <b>Course Name: Communicative English Lab</b>
<b>CO-1</b>	Understand the different aspects of the English language proficiency with emphasis on LSRW skills.
<b>CO-2</b>	Apply communication skills through various language learning activities.
<b>CO-3</b>	Analyze the English speech sounds, stress, rhythm, intonation and syllable division for better listening and speaking comprehension, participating in debates and group discussions.
<b>I-II</b>	<b>Course Code: R23BS03</b> <b>Course Name: Engineering Physics Lab</b>
<b>CO-1</b>	Operate optical instruments like travelling microscope and spectrometer.
<b>CO-2</b>	Estimate the wavelengths of different colours using diffraction grating.
<b>CO-3</b>	Plot the intensity of the magnetic field of circular coil carrying current with distance
<b>I-II</b>	<b>Course Code: R23ES06</b> <b>Course Name: IT workshop</b>
<b>CO-1</b>	Perform Hardware troubleshooting.
<b>CO-2</b>	Understand Hardware components and inter dependencies.
<b>CO-3</b>	Safeguard computer systems from viruses/worms.
<b>I-II</b>	<b>Course Code: R23ES02</b> <b>Course Name: Engineering Workshop</b>
<b>CO-1</b>	Identify workshop tools and their operational capabilities.
<b>CO-2</b>	Practice on manufacturing of components using workshop trades including fitting, carpentry, foundry and welding.
<b>CO-3</b>	Apply fitting operations in various application
<b>I-II</b>	<b>Course Code: R23PC01</b> <b>Course Name: Network Analysis And Simulation Laboratory</b>
<b>CO-1</b>	Verify Kirchoff's laws and network theorems.
<b>CO-2</b>	Measure time constants of RL & RC circuits.
<b>CO-3</b>	Analyze behavior of RLC and resonant circuit for different cases.