

**ELECTRICAL AND ELECTRONICS ENGINEERING  
COURSE OUTCOMES - R18**

<b>B.Tech I-Sem</b>				
<b>S.No</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>COURSE OUTCOMES</b>	
1	1821101	Mathematics -I	CO 1	Apply the essential tool of matrices in
			CO 2	Describe the convergence of series.
			CO 3	Classify the functions of several
			CO 4	Define Beta and gamma functions and
			CO 5	Determine the Fourier series of the
2	1823102	Engineering Chemistry	CO 1	Remember the major chemical reactions that are used in the synthesis
			CO 2	Understand the periodic properties such as ionization potential, electro
			CO 3	Determine the range of the electromagnetic spectrum used for
			CO 4	Analyze microscopic chemistry in terms of atomic and molecular orbital
			CO 5	understand the properties of metals,
3	1824103	English	CO 1	Understand the classification of words,
			CO 2	Understand the difference between
			CO 3	Analyze the rules in language for
			CO 4	Illustrate the factors that influence
			CO 5	Classify the parts of speech, tenses and
4	1805104	Programming for Problem Solving	CO 1	Understand the basics of computer
			CO 2	Analyze a given problem and develop
			CO 3	Apply proper branching and loop
			CO 4	Understand the concepts of arrays and
			CO 5	Apply modular approaches for solving
			CO 6	Illustrate memory optimization for solving real world problems using
5	1823105	Chemistry Lab	CO 1	Compare rate constants of reactions from concentration of
			CO 2	Evaluate molecular/system properties such as surface tension, viscosity,
			CO 3	Analyze of drug molecule and salt
			CO 4	Determine the quantity of water sample by estimation of hardness of water,
6	1805106	Programming for Problem Solving Lab	CO 1	Analyze given problem and develop an algorithm
			CO 2	Implement Code and debug programs
			CO 3	Choose proper C language constructs

			CO 4	Organize and implement
7	1824107	English Lab	CO 1	Describe objects, places and persons.
			CO 2	Understand the listening process and
			CO 3	Analyze phonetics with examples
			CO 4	Illustrate different modes of
			CO 5	Classify LSRW skills
<b>B.Tech II-Sem</b>				
S.No	COURSE CODE	COURSE TITLE	COURSE OUTCOMES	
8	1821201	Mathematics - II	CO 1	Solve the first order differential
			CO 2	Solve linear differential equations with
			CO 3	Apply Laplace Transforms in
			CO 4	Evaluation of multiple integrals.
			CO 5	Understand Vector Calculus concepts
9	1822202	Engineering Physics	CO 1	Understand the fundamentals of materials testing using Interference and
			CO 2	Identify the working elements of
			CO 3	Apply the fundamental physical
			CO 4	Compare semiconductors in different realms of physics and their applications
10	1802203	Basic Electrical Engineering	CO 1	Understand the basic fundamentals of DC circuits, network reduction
			CO 2	Understand the basic fundamentals of
			CO 3	Determine currents, voltage using mesh and nodal analysis, maximum
			CO 4	Obtain self and mutual inductances for magnetic circuits, incidence matrix,
11	1803204	Engineering Graphics & Design	CO 1	Understand CAD drafting and editing tools along with page templates ,title
			CO 2	Understand basic theory of projections related to points, lines, planes and
			CO 3	Describe the geometric details of engineering objects & become familiar
			CO 4	Analyze various sectional views and
12	1822205	Engineering Physics Lab	CO 1	Understand the concept of energy gap, B-H curve, and synthesis of nano
			CO 2	Develop the characteristics of various materials in a practical manner and
			CO 3	Evaluate the application of
13	1802206		CO 1	Understand the Kirchhoff's laws theoretically and practically for any

		Basic Electrical Engineering Lab	CO 2	Determine R,L & C parameters for a given RLC series circuit and value of
			CO 3	Determine the active , reactive and
			CO 4	Apply theorems for a given DC circuits
14	1803207	Workshop & Manufacturing Practices	CO 1	Understand the knowledge of the dimensional accuracies and tolerances applicable for different manufacturing processes.
			CO 2	Identify different manufacturing processes which are commonly
			CO 3	Gain practical knowledge by doing house wiring such as connecting one lamp with one switch, connecting two
<b>B.Tech III-Sem</b>				
S.No	COURSE CODE	COURSE TITLE	COURSE OUTCOMES	
15	1823301	Biology for Engineers	CO 1	Understand the cells, its structure and function, different types of cells and
			CO 2	Explain about biomolecules its structure and function and their role in a living organism How biomolecules
			CO 3	Demonstrate the concept of biology and its uses in combination with different technologies for production of
			CO 4	Illustrate about genes and genetic materials (DNA & RNA) present in living organisms and how they
16	1814302	Electronic Devices & Circuits	CO 1	Understand the principles of semiconductor devices.
			CO 2	Apply semiconductor devices in the
			CO 3	Analyze electronic circuits using
			CO 4	Illustrate frequency response of
17	1802303	Electrical Circuit Analysis	CO 1	Understand the basic concepts of three phase circuits, resonance, network
			CO 2	Solve DC & AC circuits by using
			CO 3	Analyse R-L,R-C and R-L-C circuits
			CO 4	Evaluate the voltage, Current and
			CO 5	Analyse two port circuit behaviour for
18	1802304	Electromagnetic	CO 1	Understand the concepts of electrostatic and magneto static fields
			CO 2	Apply maxwell's equations for time
			CO 3	Analyse divergence of electric field, boundary conditions and polarization

		Fields	CO 4	Analyse curl of magnetic field, force on a current carrying conductor and
			CO 5	Evaluate electric and magnetic fields by various laws for time variant and
			CO 6	Solve the problems on force due to
19	1802305	Electrical Machines-I	CO 1	Understand the principle, operation and constructional details of dc machines
			CO 2	Analyse the characteristics of dc machines, phasor diagrams and parallel
			CO 3	Compare losses and efficiency by conducting different test on dc
			CO 4	Choose different types of connections
20	1802306	Power Systems-I	CO 1	Understand the basic concepts of various generating systems and its load
			CO 2	Understand the construction and types
			CO 3	Analyse the mechanical aspects of
			CO 4	Evaluate inductance and capacitance of transmission lines and grading of
			CO 5	Determine the cost of electrical energy,
21	1802307	Electrical Circuits Analysis Lab	CO 1	Verify DC and AC circuits using MATLAB/SIMULINK
			CO 2	Apply theorems for DC and AC
			CO 3	Analyse transient response behaviour
			CO 4	Determine the two port parameters
22	1814308	Electronic Devices & Circuits Lab	CO 1	Verify the characteristics of various electronic devices such as Diodes, BJT and FET.
			CO 2	Analyze the frequency response of
			CO 3	Examine the load characteristics of
			CO 4	Demonstrate the working of oscillators.
23	1824309	Soft Skills Lab	CO 1	Describe the attributes of soft skills.
			CO 2	Understand the importance of soft
			CO 3	Analyze the reasons for stress and
			CO 4	Illustrate the points in multi tasks and
			CO 5	Classify communication, motivation, teamwork, time management, work
<b>B.Tech IV-Sem</b>				
S.No	COURSE CODE	COURSE TITLE	COURSE OUTCOMES	
24	1821401		CO 1	Understand analytic function,
			CO 2	Discuss the various special

		Mathematics - III	CO 3	Determine the differentiation of
			CO 4	Solve Bessel and Legendre equations
			CO 5	Analyze images from z-plane to w-
25	1814402	Digital System Design	CO 1	Understand various number systems
			CO 2	Apply K-map to simplify Boolean
			CO 3	Design combinational logic circuits
			CO 4	Design synchronous sequential logic
			CO 5	Realize Switching functions using
26	1802403	Electrical Measurements	CO 1	Classify the types of instruments and
			CO 2	Choose suitable instrument to measure Voltage, Current, Power, Energy and
			CO 3	Determine circuit parameters using
			CO 4	Measure Phase angle errors from CT's and PT's, magnitude and frequency
27	1802404	Control Systems	CO 1	Understand modelling of physical systems, time and frequency domain
			CO 2	Analyze the stability of the system in
			CO 3	Evaluate the transfer function using block diagram reduction technique and
			CO 4	Design lag, lead, lag-lead
28	1802405	Electrical Machines – II	CO 1	Understand Constructional details, working, characteristics, starting
			CO 2	Distinguish torque-speed curves and
			CO 3	Analyze the regulation, synchronization, hunting of
			CO 4	Evaluate the performance of three phase induction machines and
29	1802406	Power Systems - II	CO 1	Understand various transmission lines, the formulation of impedance and admittance bus matrices for a power
			CO 2	Evaluate the performances of transmission lines and Ybus for a given
			CO 3	Analyze per unit quantities and fault
			CO 4	Investigate the load flow studies using
30	1802407	Electrical Measurements Lab	CO 1	Compare and calibrate various measuring Instruments
			CO 2	Identify balanced conditions among
			CO 3	Measure the percentage errors among

31	1802408	Electrical Machines – I Lab	CO 1	Analyze performance characteristics of DC machines and transformers
			CO 2	Evaluate regulation and efficiency of
			CO 3	Distinguish various tests between DC
32	1805409	Python Programming Lab	CO 1	Examine python syntax and semantics and be fluent in the use of python flow
			CO 2	Demonstrate proficiency in handling
			CO 3	Create, run and manipulate Python programs using core data structures
33	18994M1	Environmental Science	CO 1	Recall environmental concepts for the
			CO 2	Summarize the interconnection of
			CO 3	Solve environmental problems by gaining a higher level of knowledge
			CO 4	Outline the impact of developmental activities on environment and proper