



**DNR COLLEGE OF ENGINEERING & TECHNOLOGY BHIMAVARAM.**  
**DEPARTMENT OF ELECTRONICS & COMMUNICATIONS ENGINEERING**  
**COURSE OUTCOMES**

<b>Program Name:</b>	B.TECH-ECE	<b>Class / Sem</b>	<b>I/II</b>
<b>Regulation</b>	R20		
<b>CO Statement -MATHEMATICS-II</b>			
Describe the basic properties on elementary row and column operations			
Find the characteristics equation, Eigen values and Eigen vectors.			
Solve orthogonalisation of the given matrix.			
Evaluate the root of algebraic and transcendental equation			
Determine interpolating polynomial for the given data.			
Calculate the numerical solution of ordinary differentiation.			

<b>CO Statement- APPLIED PHYSICS</b>			
Explain the principles and applications of wave optics.			
Interpret the development and applications of Laser light and its uses in optical fiber communication.			
Apply the role of quantum mechanics, free electron theory, band theory of solids and its applications on physical system.			
Classify the properties of dielectric and magnetic materials for various applications.			
Demonstrate the use of semiconductors and superconductors in various engineering problems.			
Use the applications to solve practical problems related to materials such as dielectrics, magnetic materials, semiconductors and superconductors.			

<b>CO Statement-BASIC ELECTRICAL AND ELECTRONICS ENGINEERING</b>			
Explain the Principle of operation of a DC machine			
Develop the expression for the induced emf of a DC machine			
Identify the performance tests carried out on single phase transformer			
Discuss the constructional details of synchronous machines			
Explain different starting methods of induction motor			
Design and the operation of various special machines..			

<b>CO Statement-NETWORK ANALYSIS</b>			
The student should classify basic network elements			
The student should be in a position to apply graph theory to solve electrical circuits			
The student will be in a position to analyze the RLC circuit behavior for D.C and A.C excitations			
The student should be in a position to analyze the performance of periodic waveforms			
The students should judge the circuit conditions and to solve basic network theorems			
The student discriminate the characteristics of two port network parameters			

<b>CO Statement-OBJECT ORIENTED PROGRAMMING THROUGH JAVA</b>			
Use the syntax and semantics of java programming language			
Develop reusable programs using inheritance, polymorphism, interfaces and packages			
Understanding GUI basics, creating components			
Show competence in the use of the java programming language in the development of small to medium-sized application programs that demonstrate professionally acceptable coding and performance standard			
Able to use in built IO classes from packages			
Illustrate the basic principles of the object oriented programming			

<b>CO Statement – APPLIED PHYSICS LAB</b>
Operate optical instruments like microscope and spectrometer and to determine thickness of a hair/paper with the concept of interference
Determine of radius of curvature of a given plano convex lens by Newton's rings and estimate the wavelength of different colors using diffraction grating
Determine of dispersive power of the prism. To determine the wavelength of Laser light using diffraction grating.
Calculate the resistance of the given semiconductor with varying temperature and calculate the band gap of a given semiconductor. To draw the V-I characteristics of Zener diode
Study the variation of B versus H by magnetizing the magnetic material (B-H curve) and to plot the intensity of the magnetic field of circular coil carrying current with distance
Determine the dielectric constant using charging and discharging method and to determine the resonant frequency and Quality factor of LCR Circuit in series and parallel.

<b>CO Statement – BASIC ELECTRICAL AND ELECTRONICS ENGINEERING LAB</b>
Illustrate Magnetization characteristics of D.C shunt generator and know <sup>3</sup> the speed control of D.C shunt motor
Apply the various Load tests on DC machine
Analyze the losses in a DC shunt motor
Explain the performance of 1-phase transformer
Describe 3-phase induction motor and alternator
Determine the performance characteristics

<b>CO Statement – ENGINEERING WORKSHOP LAB</b>
Understand the basic workshop tools and their operations
Apply would working skills in real world applications
Build different parts with metal sheets in real world applications
Apply fitting operations in various applications
Apply different types of basic electric circuit connections
Apply Black smithy Operations in various applications

<b>CO Statement – ENVIRONMENTAL SCIENCE</b>
Understand and evaluate the global scale of environmental problems.
Recognize different types of resources like land, water, mineral and energy and also about the effects of environment by the usage of these resources.
Describe the ecosystem diversity, its values and also about the importance of the endemic species and different techniques involved in its conservation
Identify different types of pollutions and their control technologies, Waste water treatment, Bio medical waste management etc.,
Explain various environmental acts and disaster management
Discuss environmental assessment and the stages involved in EIA and the environmental audit