



**BANSAL INSTITUTE OF RESEARCH &
TECHNOLOGY, BHOPAL
Kokta Anand Nagar, Bhopal**

**DEPARTMENT OF ELECTRICAL &
ELECTRONICS**

COURSE OUTCOMES (COs)

Semester: III

Course Name: Energy & Environmental Engineering		Course Code: ES-301
Students will be able to:		
CO1:	Define various types of energy	
CO2:	Explain ecosystem and biodiversity.	
CO3:	Analyze air and noise pollution sources, effects and control measures.	
CO4:	Detect the processes of biological treatment units for wastewater	
CO5:	Review environmental impact assessment, methods and latest trend	

Course Name: Signals & Systems		Course Code: EX-302
Students will be able to:		
CO1:	Analyze the mathematical modeling of various signals and systems	
CO2:	Differentiate the various types of filters.	
CO3:	Analyze continuous-time and discrete-time signals and systems.	
CO4:	Develop input-output relationship for linear shift-invariant system	
CO5:	Explain the state space analysis of the LTI system.	



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Course Name: Electrical Measurement & Measuring Instruments		Course Code: EX-303
Students will be able to:		
CO1:	Define various types of measurements; requirement of calibrations, different errors in measurement etc.	
CO2:	Discuss performance of MC, MI and Dynamometer types of measuring instruments.	
CO3:	Examine the errors in CTs and PTs and subdivide the measurement of power.	
CO4:	Evaluate different powers and energy using different instruments	
CO5:	Understand miscellaneous measurements.	

Course Name: Network Analysis		Course Code: EX-304
Students will be able to:		
CO1:	Apply fundamental laws, circuit theorems to interpret the behavior of electrical networks under transient and steady-state conditions, including resonance, magnetically coupled circuits, and network topology.	
CO2:	Analysis of various network theorems for AC and DC circuits with dependent and independent sources.	
CO3:	Solve electrical circuits in the frequency domain using Laplace transform methods.	
CO4:	Determine periodic and non-periodic signals using the Fourier series.	
CO5:	Examine one-port and two-port networks using network functions, poles and zeros, and various two-port parameters.	



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Course Name: Analog Electronics		Course Code: EX-305
Students will be able to:		
CO1:	Illustrate concepts of semiconductors, such as types, properties, PN junction biasing, current components and capacitances etc.	
CO2:	Describe the construction, working principle and different configurations of the Transistor.	
CO3:	Analyze transistor amplifiers for all ranges of frequencies. Evaluate different biasing techniques of transistor amplifiers.	
CO4:	Compare FET's construction, operation and characteristics and its applications in various configurations.	
CO5:	Evaluate electronic devices along with their basic circuits, characteristics and applications.	

Course Name: Computer Programming-I (JAVA)		Course Code: EX-306
Students will be able to:		
CO1:	Examine basics of Java in programming.	
CO2:	Build data structures, generics and collection algorithms in Java collective framework	
CO3:	Develop programs using advance Java Features-Multithreading, Networking and JDBC.	
CO4:	Develop web-based applications with the help of servers, JSP and Multimedia.	
CO5:	Analyze advanced web/internet programming technologies like J2ME, J2EE, EJB and XML.	



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Course Name: Evaluation of Internship - I		Course Code: BT-107
Students will be able to:		
CO1:	Identify technologies used in software industries.	
CO2:	Develop small project for the given problem.	
CO3:	Develop positive attitude, effective communication and time management skills.	
CO4:	Adapt professional and ethical values.	
CO5:	Write internship report in prescribed format.	

**Approved By: -
Head of Department**