II YEAR I SEMESTER

SL.No.					
	COURSE CODE:	**R2021021**	**COURSE NAME:**	**MATHEMATICS-IV (Complex Variables and Statistical Methods)**	
1	**CO1:**	Apply Cauchy-Riemann equations to complex functions in order to determine whether a given continuous function is analytic (L3)			
	CO2:	Find the differentiation and integration of complex functions used in engineering problems (L5)			
	CO3:	Make use of the Cauchy residue theorem to evaluate certain integrals (L3)			
	CO4:	Apply discrete and continuous probability distributions (L3)			
	CO5:	Design the components of a classical hypothesis test (L6)			
	CO6:	Infer the statistical inferential methods based on small and large sampling tests (L4)			
2	**COURSE CODE:**	**R2021022**	**COURSE NAME:**	**ELECTRONIC DEVICES AND CIRCUITS**	
	CO1:	Understand the basic concepts of semiconductor physics.			
	CO2:	Understand the formation of p-n junction and how it can be used as a p-n junction as diode in different modes of operation.			
	CO3:	Know the construction, working principle of rectifiers with and without filters with relevant expressions and necessary comparisons.			
	CO4:	Understand the construction, principle of operation of transistors, BJT and FET with their V-I characteristics in different configurations.			
	CO5:	Know the need of transistor biasing, various biasing techniques for BJT and FET and stabilization concepts with necessary expressions.			
	CO6:	Perform the analysis of small signal low frequency transistor amplifier circuits using BJT and FET in different configurations.			
3	**COURSE CODE:**	**R2021023**	**COURSE NAME:**	**ELECTRICAL CIRCUIT ANALYSIS - II**	
	CO1:	Understand the concepts of balanced and unbalanced three-phase circuits.			
	CO2:	Know the transient behavior of electrical networks with DC excitations.			
	CO3:	Learn the transient behavior of electrical networks with AC excitations.			
	CO4:	Estimate various parameters of a two port network.			
	CO5:	Understand the significance of filters in electrical networks.			
4	**COURSE CODE:**	**R2021024**	**COURSE NAME:**	**DC MACHINES AND TRANSFORMERS**	
	CO1:	Assimilate the concepts of electromechanical energy conversion.			
	CO2:	Mitigate the ill-effects of armature reaction and improve commutation in dc machines.			
	CO3:	Understand the torque production mechanism and control the speed of dc motors.			
	CO4:	Analyze the performance of single phase transformers.			
	CO5:	Predetermine regulation, losses and efficiency of single phase transformers.			
	CO6:	Parallel transformers, control voltages with tap changing methods and achieve three-phase to two-phase transformation.			

5	**COURSE CODE:**	**R2021025**	**COURSE NAME:**	**ELECTRO MAGNETIC FIELDS**
	CO1:	Compute electric fields and potentials using Gauss law or solve Laplace's or Poisson's equations for various electric charge distributions		
	CO2:	Calculate the capacitance and energy stored in dielectrics.		
	CO3:	Calculate the magnetic field intensity due to current carrying conductor and understanding the application of Ampere's law, Maxwell's second and third law.		
	CO4:	Estimate self and mutual inductances and the energy stored in the magnetic field.		
	CO5:	Understand the concepts of displacement current and Poynting theorem and Poynting vector		
6	**COURSE CODE:**	**R2021026**	**COURSE NAME:**	**ELECTRICAL CIRCUITS LAB**
	CO1:	Apply various theorems		
	CO2:	Determination of self and mutual inductances		
	CO3:	Two port parameters of a given electric circuits		
	CO4:	Draw locus diagrams		
	CO5:	Draw Waveforms and phasor diagrams for lagging and leading networks		
7	**COURSE CODE:**	**R2021027**	**COURSE NAME:**	**DC MACHINES AND TRANSFORMERS LAB**
	CO1:	Determine and predetermine the performance of DC machines and Transformers.		
	CO2:	Control the speed of DC motor.		
	CO3:	Obtain three phase to two phase transformation.		
8	**COURSE CODE:**	**R2021028**	**COURSE NAME:**	**ELECTRONIC DEVICES AND CIRCUITS LAB**
	CO1:	Analyze the characteristics of diodes, transistors and other devices		
	CO2:	Design and implement the rectifier circuits, SCR and UJT in the hardware circuits.		
	CO3:	Design the biasing and amplifiers of BJT and FET amplifiers		
	CO4:	Measure electrical quantities using CRO in the experimentation.		
9	**COURSE CODE:**	**R2021029**	**COURSE NAME:**	**SKILL ORIENTED COURSE DESIGN OF ELECTRICAL CIRCUITS USING ENGINEERING SOFTWARE TOOLS**
	CO1:	Write the MATLAB programs to simulate the electrical circuit problems		
	CO2:	Simulate various circuits for electrical parameters		
	CO3:	Simulate various wave form for determination of wave form parameters		
	CO4:	Simulate RLC series and parallel resonance circuits for resonant parameters		
	CO5:	Simulate magnetic circuits for determination of self and mutual inductances		
10	**COURSE CODE:**	**R2021020**	**COURSE NAME:**	**PROFESSIONAL ETHICS & HUMAN VALUES**
	CO1:	Identify and analyze an ethical issue in the subject matter under investigation or in a relevant field		
	CO2:	Identify the multiple ethical interests at stake in a real-world situation or practice		
	CO3:	Articulate what makes a particular course of action ethically defensible		
	CO4:	Assess their own ethical values and the social context of problems		
	CO5:	Identify ethical concerns in research and intellectual contexts, including academic integrity, use and citation of sources, the objective presentation of data, and the treatment of human subjects		
	CO6:	Demonstrate knowledge of ethical values in non-classroom activities, such as service learning, internships, and field work		
	CO7:	Integrate, synthesize, and apply knowledge of ethical dilemmas and resolutions in academic settings, including focused and interdisciplinary research.		

PRINCIPAL