MADHAV INSTITUTE OF TECHNOLOGY AND SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute, Affiliated to R.G.P.V. Bhopal)

Department of Electronics Engineering

Attainment Targets for all COs for courses being offered in the academic session July- December 2019

Semester	Subject Name/ Code		CO Statement	CO Attainment Target (%)	CO Attainment Achieved (%)
III	*140302/*200302 Electronics – I	CO1	Analyze the characteristics of various engineering materials.	65	66
		CO2	Design any diode, and transistor circuits.	65	72
		CO3	Analyze any transistorized circuits for any given specification.	65	58
		CO4	Design Analog circuits.	65	52
		CO5	Examine the working of transistor based circuits.	65	65
		CO6	Examine basic construction of feedback circuits and their application.	65	15
	*140303/*200303 Digital Circuits And Systems	CO1	Simplify Boolean expression using K-Map, & Its Implementation using logic gates.	60	76
		CO2	Design any logic circuit using Universal Gate.	60	76
		CO3	Design various sequential and combinational circuits.	60	71
		CO4	Assemble the various Shift register using flip flops.	60	76
		CO5	Analyze the different types of semiconductor memories.	60	56
		CO6	Design transistor based digital circuits.	60	40
	*140304/*200304 Network Theory	CO1	Apply the fundamental concepts in solving and analyzing different Electrical networks	60	71
		CO2	Design the coupled circuits.	60	73
		CO3	Select appropriate and relevant technique for solving the Electrical networ in different conditions.	60	71
		CO4	Evaluate the steady state response and transient response of circuit.	60	58
		CO5	Apply mathematics in analyzing and synthesizing the networks in time and frequency domain.	60	65
		CO6	Examine the performance of any circuit using two port network.	60	64
	*140305/*200305 Signals And Systems	CO1	Analyze the basic signal and their mathematical description.	65	75
		CO2	Analyze the spectral characteristics of continuous-time and discrete time signals.	65	70
		CO3	Evaluate the properties of continuous-time and discrete time signals.	65	58
		CO4	Analyze the properties of LTI continuous-time and discrete time systems	65	72

			using transform.		
		CO5	Evaluate the convolution and response of continuous-time and discrete time systems with respect to any input.	65	62
		CO6	Design a block diagram of LTI system corresponding to given differential/ difference equation.	65	67
V	200503 Microprocessor and Interfacing (DC 10)	CO1	Explain the architecture and organization of microprocessor 8086, advance microprocessors and microcontroller 8051	60	92
		CO2	Develop skill in assembly language programming for 8086 and 8051.	60	80
		CO3	Interface memory and I/O devices using different logic devices and interfacing chips/PPI,s	60	53
		CO4	Analyze basic idea about interrupt processing, the data transfer schemes and its applications.	60	58
		CO5	Distinguish between different types of general purpose programmable peripheral devices viz 8254, PIT,8259 ,PIC,8257 DMA and 8251USART .	60	69
		CO6	Design some specific embedded systems using microcontrollers.	60	14
	140502/ 200502 Electromagnetic Fields (DC 9)	CO1	Describe static and dynamic electric and magnetic fields for technologically important structures.	65	92
		CO2	Apply vector calculus to static electric-magnetic fields in different engineering situations.	65	74
		CO3	Use boundary conditions for electric and magnetic fields at the interface of two different media.	65	77
		CO4	Analyze Maxwell equations in different forms (differential and integral) and apply them to diverse engineering problems.	65	83
		CO5	Evaluate Poynting vector and apply Poynting vector theorem in problems.	65	69
		CO6	Examine the phenomena of wave propagation in different media and describe the phenomena of reflection of such waves in plane boundaries between homogeneous media.	65	68
	140504/ 200504 Linear Control Theory (DC 11)	CO1	Calculate the transfer function of feedback control system using Block diagram and Signal flow graph method..	60	66
		CO2	Evaluate the time domain response of first & Second order system for different standard inputs.	60	34
		CO3	Distinguish various controllers.	60	63
		CO4	Calculate steady state error for type 0,1,& 2 system.	60	75
		CO5	Determine the (absolute) stability of a closed-loop control system using various methods.	60	61
		CO6	Solve control system equations in state variable form.	60	54
	140505/ 200505 Digital	CO1	Describe the various aspects of sampling theorem viz. Aliasing, signal distortion.	60	62

	Communication (DC 12)	CO2	Design the concepts of Digital Communication System.	60	59
		CO3	Apply the digital modulation techniques in communication systems.	60	33
		CO4	Analyze the performance of digital communication system in terms of error rate and spectral efficiency.	60	42
		CO5	Design the concepts of matched filter and correlator detector.	60	58
		CO6	Solve problems of efficient source coding and channel coding in communications systems.	60	54
	140503 Data Communication (DC 10)	CO1	Explain the evolution of computer network and basic concepts of data communication system	60	83
		CO2	Describe the services of the DATA link layer provided in controlling transmission errors and flow of data	60	75
		CO3	Analyze the various techniques to alleviate the problem of medium allocation in broadcast network like ALOHA, CSMA etc.	60	46
		CO4	Explain the principle and protocol for route calculation and be able to perform such calculation in Network layers	60	84
		CO5	Explain the services and features of transport layer of data networks	60	63
		CO6	Describe the skills of synchronization in data communication	60	65
VII	ELL-701: Advanced Control System	CO1	Describe quantitatively the basics of digital control system.	60	79
		CO2	Examine the stability analysis of closed loop system in Z plane.	60	79
		CO3	Demonstrate an understanding of nonlinear control system	60	78
		CO4	Examine the stability of control system using Root Locus technique.	60	72
		CO5	Represent any system by state space model	60	84
		CO6	Design PID controller to meet system performance.	60	78
	ELL702: Microwave Engineering	CO1	Analyze modes and dominant mode in rectangular waveguide and cylindrical waveguide.	60	91
		CO2	Calculate S-Matrix parameters for different port networks, and Microwave resonator.	60	63
		CO3	Explain Microwave Network representations, H-plane tee, Magic tee, directional coupler.	60	86
		CO4	Design isolator, basic microwave amplifiers, particularly klystrons, magnetron, and RF filters, basic RF oscillator and mixer models.	60	89
		CO5	Enumerate and demonstrate application of different diodes in microwave circuits.	60	73
		CO6	Analyze different types of transmission lines and measurement parameters related to microwave circuits.	60	84

ELL703: Cellular Mobile Communication	CO1	Build the concepts of wireless communication and cellular systems.	60	66
	CO2	Analyze mobile radio propagation models and parameters related to it.	60	64
	CO3	Describe about cell splitting, sectoring, cell-site antenna and frequency management for cellular system.	60	67
	CO4	Differentiate TDMA and FDMA.	60	62
	CO5	Analyze GSM system architecture and its frame structure.	60	68
	CO6	Describe spread spectrum multiple access and CDMA.	60	68
ELL704: VLSI Design	CO1	Design different VLSI Circuits.	60	83
	CO2	Describe MOSFET fundamentals its manufacturing and fabrication process.	60	84
	CO3	Design inverter, parallel and series equivalent circuits and VLSI interconnects.	60	81
	CO4	Illustrate circuit diagram, stick diagrams and layouts design rules for MOS.	60	77
	CO5	Describe MOS transistor characteristics and its various Performance parameters.	60	85
	CO6	Design CMOS subsystems and Semiconductors memories- SRAM DRAM SRAM SPICE models.	60	72
BETL/ELL710 /7445 CMOS Technology	CO1	Describe the CMOS logic circuits.	60	81
	CO2	Design different MOS Models.	60	83
	CO3	Classify the CMOS Process technology and layout design rules for CMOS circuits.	60	84
	CO4	Describe MOS transistor characteristics and its various performance, Parameters that effect the operation the of CMOS circuits.	60	72
	CO5	Examine the Semiconductors Memories.	60	86
	CO6	Design problems related to programmable logic array.	60	15

Head, Department of Electronics