	DNR COLLEGE OF ENGINEERING & TECHNOLOGY, Bhimavaram		
Program Name:	B.Tech. in Electronics & Communication Engineering	**AY**	2017-18
Class/SEM	II-I	Regulation	R16

Course Name: Electronic Devices and Circuits
Course Code:R16C4211

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C211.1	Apply the basic concepts Hall effect and continuity equation of semiconductor physics.	Apply
C211.2	Analyze the characteristics of the semiconductor devices for real time applications.	Analyze
C211.3	Describe the construction, working principle of rectifiers with and without filters with relevant expressions and necessary comparisons.	Remember
C211.4	Explain the basic geometry, operation and various configuration of Bipolar Junction Transistor.	Understand
C211.5	Analyze the various biasing techniques for BJT, and JFET amplifier circuits considering stability condition for establishing a proper operating point.	Analyze
C211.6	Analyses the BJT, and JFET amplifiers.	Analyze

Course Name: Switching Theory and Logic Design
Course Code:R16C4212

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C212.1	Classify different number systems and apply to generate various codes.	Understand
C212.2	Use the concept of Boolean algebra in minimization of switching functions	Apply
C212.3	Design different types of combinational logic circuits.	Create
C212.4	Apply knowledge of flip-flops in designing of Registers and counters	Apply
C212.5	The operation and design methodology for synchronous sequential circuits and algorithmic state machines.	Create
C212.6	The operation and design methodology for synchronous sequential circuits and algorithmic state machines.	Create

Course Name: Signals and Systems

Course Code:R16C4213

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C213.1	Analyze the orthogonality of signals	Analyze
C213.2	Analyze the Spectral characteristics of Periodic and aperiodic continuous signals	Analyze
C213.3	Apply sampling theorem in analog to digital signal conversion.	Apply
C213.4	Analyze the signal transmission through linear time invariant systems.	Analyze
C213.5	Apply the concepts of convolution and correlation in signal and system analysis	Apply
C213.6	Analyze continuous and discrete Times signals and systems using Laplace and Z Transforms respectively	Analyze

Course Name: Random Variables and Stochastic Processes

Course Code:R16C4215

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C215.1	Apply the axiomatic formalization of modern probability theory	Apply
C215.2	Characterize Probability Models and functions of Random variables based on single and multiple random variables	Analyze
C215.3	Apply moments and characteristic functions and understand the concept of Inequalities and probabilistic limits.	Apply
C215.4	Analyze covariance and spectral density of stationary random process	Analyze
C215.5	Demonstrate the specific applications to Poisson and Gaussian process and representation of low pass and band pass noise models	Apply
C215.6	Analyze the response of random inputs to linear time invariant systems	Analyze

Course Name: Network Analysis
Course Code:R16C4214
After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C214.1	Gain the knowledge on basic network elements.	Understand
C214.2	will analyze the RLC circuits behavior in detailed.	Analyze
C214.3	analyze the performance of periodic waveforms.	Analyze
C214.4	gain the knowledge in characteristics of two port network parameters (Z, Y, ABCD, h & g).	Understand
C214.5	analyze the filter design concepts in real world applications.	Analyze
C214.6	Evaluate the transient response of electrical networks for different types of excitations.	Evaluate

Course Name: Managerial Economics & Financial Analysis
Course Code:R16C4216
After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C216.1	Estimating the Demand and demand elasticities for a product	Understand
C216.2	Explain the Input -Output-Cost relationships and estimation of the least cost combination of inputs	Analyze
C216.3	Understand the nature of different markets and determine price output determination under various market conditions	Understand
C216.4	Describe different Business Units, market structures, pricing strategies	Remember
C216.5	Formulate Financial Statements and the Usage of various accounting tools for Analysis	Analyze
C216.6	Evaluate various investment project proposals with the help of capital Budgeting techniques for decision making	Evaluate

Course Name: Electronic Devices and Circuits - Lab

Course Code:R16C4217

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C217.1	Students should be able to analyze and interpret the characteristics of semiconductor devices.	Analyze
C217.2	Student should be able to construct the voltage regulator using Zener diode.	Create
C217.3	Student should be able to interpret the working of rectifiers.	Understand
C217.4	Student should be able to demonstrate measurements of voltage, frequency and phase by using CRO.	Apply
C217.5	Students should be able to Calculate the operating point and stability factor for a transistor.	Analyze
C217.6	Student should be able to set up the amplifier by BJT and FET with different configurations.	Understand

Course Name: Networks & Electrical Technology Lab

Course Code:R16C4218

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C218.1	Apply Network theorems to analyze Electric Circuits	Apply
C218.2	Determine the time and frequency responses of R,L and C networks	Apply
C218.3	Evaluate the two port network parameters for a given circuit	Evaluate
C218.4	Analyze the performance of a single phase transformer	Analyze
C218.5	Analyze the performance characteristics of DC machines and Induction motors	Analyze

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	DNR COLLEGE OF ENGINEERING & TECHNOLOGY, Bhimavaram **Course outcome statement**		
Program Name:	B.Tech. in Electronics & Communication Engineering	**AY**	2017-18
Class/SEM	III-I	Regulation	R13

Course name: Computer Architecture and Organization

Course Code: R13C311

After completion of the course students will be able to:

C311	COURSE OUTCOMES	Taxonomy
C311.1	Design linear and non linear wave shaping circuits	Create
C311.2	Apply the fundamental concepts of wave shaping for various switching and signal generating circuits	Apply
C311.3	Design different Multi vibrators and Time Base Generators	Create
C311.4	Make use of number system for data representation and binary arithmetic in digital computers.	Apply
C311.5	Interpret the design of hardwired and micro-programmed control unit for execution of micro programs.	Apply
C311.6	Summarize the concepts of pipelining and inter process communication for advanced processor design.	Understand

Course name: Linear IC Applications

Course code:R13C312

After completion of the course students will be able to:

C312	COURSE OUTCOMES	Taxonomy
C312.1	Use various Transistor Current Sources and Differential amplifiers for operational amplifier, different ICs for Voltage regulators.	Apply
C312.2	Analyze the gain-bandwidth concept and frequency response of the amplifier configurations.	Analyze
C312.3	Design circuits using operational amplifiers for various linear and non linear applications.	Create
C312.4	Analyze multipliers and active filters using Op-amp.	Analyze
C312.5	Develop various timer circuits using IC 555 and PLL circuits	Create
C312.6	Recommend ADC and DAC Circuits in different applications	Create

Course name: Control Systems

Course code:R13C313

After completion of the course students will be able to:

C313	COURSE OUTCOMES	Taxonomy
C313.1	Derive the transfer function of physical systems and determination of overall transfer function using block diagram algebra and signal flow graphs.	Apply
C313.2	Determine time response specifications of second order systems and error constants.	Apply
C313.3	Analyze the absolute and relative stability of LTI systems using Rout's stability criterion and the Root locus method.	Analyze
C313.4	Analyze the stability of LTI systems using frequency response methods.	Analyze
C313.5	Design the Lag, Lead, Lag-Lead compensators to improve system performance from Bode diagrams.	Create
C313.6	Determine the response of physical systems as state models and Understanding the concepts of controllability and Observability	Apply

Course name: Digital System Design& Digital IC Applications

Course code:R13C314

After completion of the course students will be able to:

C314	COURSE OUTCOMES	Taxonomy
C314.1	Understand the concepts of different logics and implementations using integrated circuits.	Understand
C314.2	Design and analyze any digital design in real time applications.	Create
C314.3	Extend the digital operations to any width by connecting the ICs and can also design, simulate their results using HDL.	Understand
C314.4	Understand the concepts of MSI registers and modes of operations of shift registers	Understand
C314.5	Understand the concepts of operations of Universal shift registers	Understand
C314.6	CO Statement-Digital system Design& Digital IC Applications	Apply

Course name: Antenna and Wave Propagation

Course code:R13C315

After completion of the course students will be able to:

C315	COURSE OUTCOMES	Taxonomy
C315.1	Apply the basic concepts of various antenna parameters like antenna pattern, radiation intensity, directivity, etc in antenna design.	Apply
C315.2	Analyze radiation pattern of linear wire antennas	Analyze
C315.3	Examine the geometry of various types of antennas.	
C315.4	Design different antenna arrays for improving the gain in desired direction.	Create
C315.5	Measure antenna parameters to assess antenna's performance.	Evaluate
C315.6	Analyze the characteristics of wave propagation in different layers of atmosphere.	Analyze

Course name: Pulse and Digital Circuits Lab

Course code:R13C316

After completion of the course students will be able to:

C316	COURSE OUTCOMES	Taxonomy
C316.1	Will be able to Generate and process sinusoidal and non-sinusoidal signals.	Create
C316.2	Will be able to understand fundamentals of basic logic gates and sampling gates.	Understand
C316.3	Will be able to design the transistor as a switch circuits	Create
C316.4	Will be able to analyze various multivibrator circuits.	Analyze
C316.5	Will be able to analyze UJT relaxation oscillator and boot-strap sweep circuits	Analyze

Course name: Linear I C Applications Lab

Course code:R13C317

After completion of the course students will be able to:

C317	COURSE OUTCOMES	Taxonomy
C317.1	Recognize specifications, pin diagrams and circuit diagrams of various ICs	Apply
C317.2	Design different circuits using IC 741 op-amp for various applications.	Create
C317.3	Use the IC 555 for constructing various circuits.	Apply
C317.4	Examine the operation of Three Terminal Voltage Regulators – 7805, 7809,7912.	Analyze
C317.5	Design circuits with IC 565 – PLL and IC 566 – VCO Applications.	Create
C317.6	Construct Waveform Generator using 8038 for a fixed frequency and trace the output waveform.	Create

Course Name: Digital System Design & DICA Lab

Course Code: R13C318

After completion of the course students will be able to:

C318	COURSE OUTCOMES	Taxonomy
C318.1	Design various logic gates and Universal gates using VHDL.	Create
C318.2	Understand various modeling styles to impact on final gate level circuit.	Understand
C318.3	Design various combinational circuits for given specifications	Create
C318.4	Design various sequential circuits for given specifications	Create
C318.5	Design the counters to meet required specifications	Create
C318.6	Test the functionality of digital design by implementing it on FPGA boards.	Create

Course Name: IPR & Patents

Course Code: R13C319

After completion of the course students will be able to:

C319	COURSE OUTCOMES	Taxonomy
C319.1	Understanding, defining and differentiating different types of intellectual properties	Understand
C319.2	to critically analyze the inventiveness of his/her work over the prior art available	Analyze
C319.3	Outline the process of patenting and development	Understand
C319.4	Explain the procedure for granting patent	Evaluate
C319.5	Demonstrate knowledge and understanding regarding the different roles that state and federal law play in the intellectual property law process	Understand
C319.6	Understand the adequate knowledge on patent and rights	Understand

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	DNR COLLEGE OF ENGINEERING & TECHNOLOGY, Bhimavaram **Course outcomes statement**		
Program Name:	B.Tech. in Electronics & Communication Engineering	**AY**	2017-18
Class/SEM	IV/I	Regulation	R13

Course Name: VLSI Design

Course Code:R16C4411

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C411.1	Explain the fabrication process	Evaluate
C411.2	Drawn the layout of logic circuit which helps to understand and estimate parasitic of any logic circuit	Remember
C411.3	Design circuits using alternative design styles and calculate area, capacitance and delay	Create
C411.4	Design simple memories using MOS transistors and can understand design of large memories.	Create
C411.5	Design simple logic circuit using PLA,PAL, FPGA , CPLD	Create
C411.6	Understand basic programmable logic devices and testing of CMOS circuits.	Understand

Course Name: Computer Networks

Course Code:R16C4412

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C412.1	Describe the different topologies, OSI and TCP/IP models	Remember
C412.2	Apply the Transmission Media and Modulation in Physical Layer	Apply
C412.3	Identify the various Data Link layer design issues and protocols.	Remember
C412.4	Analyze MAC sub layer protocols and Ethernet	Analyze
C412.5	Select the appropriate algorithms and techniques for the efficient routing, addressing, congestion.	Remember
C412.6	Evaluate the importance of Transport and Application layer in the internetworking.	Evaluate

Course Name: Digital Image Processing

Course Code:R16C4413

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C41.1	Able to familiarize with basic concepts of digital image processing and different image transforms.	Understand
C413.2	Able to learn various image processing techniques like image enhancement, restoration, segmentation and compression	Understand
C413.3	Able to design an image restoration model and to justify its filtering techniques.	Create
C413.4	Able to analyze the images using wavelets and to discuss various compression models.	Analyze
C413.5	Able to estimate the objects using morphological operations and to use different algorithms for image segmentation.	Understand
C413.6	Able to classify the color models and interpret the gray scale image concepts to color images.	Analyze

Course Name: Computer Architecture and Organization

Course Code:R16C4414

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C414.1	Understand the fundamentals of different instruction set Architectures and their relationship to the CPU design .	Understand
C414.2	Understand the principles and the implementation of computer arithmetic and ALU.	Understand
C414.3	Understand the memory system,I/O organization.	Understand
C414.4	Understand the operation of modern CPUs including interfacing and pipelining memory systems and buses.	Understand
C414.5	Understand the principles of operation of multi-processor systems.	Understand
C414.6	Demonstrate the relationship between the software and the hardware and focuses on the fundamental concepts that are the basics for current computer design.	Apply

Course Name: Radar Systems

Course Code:R16C4415

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C415.1	Analyze the performance of Radar System and its parameters.	Analyze
C415.2	Analyze the functionality of CW and FMCW radar.	Analyze
C415.3	Classify the mechanism of detecting stationary and moving targets	Analyze
C415.4	Compare the working mechanism of various tracking radars.	Understand
C415.5	Analyze the radar signal in noisy environment.	Analyze
C415.6	Assess various components and parameters of Radar receivers	Evaluate

Course Name: Optical Communications

Course Code:R16C4416

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C416.1	Illustrate the optical fiber communication along with types of optical fibers.	Analyze
C416.2	Identify various losses and dispersion models.	Remember
C416.3	apply splicing techniques on fibers	Apply
C416.4	Analyze different types of Optical sources, photo detectors for optical test equipment.	Analyze
C416.5	Evaluate the power coupled in to optical fibers.	Evaluate
C416.6	Design optical system with budget analysis.	Create

Course Name: VLSI Lab

Course Code:R16C4417

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C417.1	Design and implementation of Inverter and Universal gates	Create
C417.2	Design and implementation of full adder and full subtractor.	Create
C417.3	Design and implementation of RS latch and D latch.	Create
C417.4	Design and implementation of Synchronous Counter.	Create
C417.5	Design and implementation of Differential Amplifier.	Create
C417.6	Design and implementation of oscillator and Ring counter.	Create

Course Name: Micro Wave Engineering & Optical Lab

Course Code: R16C4418

After completion of the course students will be able to:

Course Code	Course Outcomes	Taxonomy
C418.1	Analyze the characteristics of microwave sources and devices.	Analyze
C418.2	Measure different parameters of various microwave devices.	Apply
C418.3	Measure the Scattering Parameters of various Tee Junctions	Apply
C418.4	Measure the Antenna Patterns	Analyze
C418.5	Demonstrate characteristics of various optical sources.	Apply
C418.6	Measure data Rate, Numerical Aperture and Losses in Optical Link.	Analyze

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	DNR COLLEGE OF ENGINEERING & TECHNOLOGY, Bhimavaram **Course outcome statement**		
Program Name:	B.Tech. in Electronics & Communication Engineering	**AY**	2017-18
Class/SEM	II/II	Regulation	R16

Course Name: Electronic Circuit Analysis
Course Code: R16C4221

After completion of the code student can able to do:

Course code	Course Outcomes	Taxonomy
C221.1	Design the amplifier circuits using various biasing methods.	Create
C221.2	Analyze the single stage and multistage BJT amplifiers using small signal equivalent model.	Analyze
C221.3	Analyze JFET amplifiers using small signal equivalent model.	Analyze
C221.4	Analyze MOSFET amplifiers using small signal equivalent model.	Analyze
C221.5	Determine the frequency response of single stage and multistage amplifiers.	Understand
C221.6	Design, simulate and verify Multivibrators and Sweep Circuits	Create

Course Name: Control Systems
Course Code: R16C4222

After completion of the code student can able to do:

Course code	Course Outcomes	Taxonomy
C222.1	This course introduces the concepts of feedback and its advantages to various control systems	Understand
C222.2	The performance metrics to design the control system in time-domain and frequency domain are introduced.	Create
C222.3	Control systems for various applications can be designed using time-domain and frequency domain analysis.	Create
C222.4	In addition to the conventional approach, the state space approach for the analysis of control systems is also introduced.	Analyze
C222.5	Design Lag, Lead, Lag-Lead compensators to improve system performance from Bode diagrams.	Create
C222.6	Develop the state models to solve time invariant state equations and outline the concepts of controllability and observability of control systems.	Create

Course Name: Electromagnetic Waves and Transmission Lines
Course Code: R16C4223

After completion of the code student can able to do:

Course code	Course Outcomes	Taxonomy
C223.1	Determine E and H using various laws and applications of electric & magnetic fields.	Understand
C223.2	Apply the Maxwell equations to analyze the time varying behavior of EM wave	Apply
C223.3	Gain the knowledge in uniform plane wave concept and characteristics of uniform plane wave in various medium	Understand
C223.4	Calculate Brewster angle, critical angle and total internal reflection	Apply
C223.5	Derive the expressions for input impedance of transmission lines	Apply
C223.6	Calculate reflection coefficient, VSWR etc. using smith chart	Apply

Course Name: Analog Communications
Course Code: R16C4224

After completion of the code student can able to do:

Course code	Course Outcomes	Taxonomy
C224.1	Explain Amplitude modulation and demodulation schemes and their spectral characteristics	Understand
C224.2	Analyze DSBSC and SSB modulation and demodulation schemes and their spectral characteristics	Analyze
C224.3	Derive expressions and explain concepts of Angle modulation and demodulation schemes.	Apply
C224.4	Sketch various functional blocks of radio transmitters and receivers	Apply
C224.5	Evaluate noise characteristics of various analog modulation methods	Evaluate
C224.6	Interpret different pulse modulation and demodulation techniques	Understand

Course Name: Pulse and Digital Circuits
Course Code: R16C4225

After completion of the code student can able to do:

Course code	Course Outcomes	Taxonomy
C225.1	Design of linear wave shaping circuits.	Create
C225.2	Design of Non-linear wave shaping circuits.	Create
C225.3	Apply the fundamental concepts of wave shaping for various switching and signal generating circuits	Apply
C225.4	Design different multivibrators.	Create
C225.5	Design different time base generators	Create
C225.6	Utilize the non-sinusoidal signals in many experimental research areas	Apply

Course Name: Management Science
Course Code: R16C4226

After completion of the code student can able to do:

Course code	Course Outcomes	Taxonomy
C226.1	Outline the knowledge on management functions, global leadership.	Understand
C226.2	Apply the concepts & principles of management in real life industry	Apply
C226.3	Demonstrate the ability to directing, leadership and communicate effectively	Understand
C226.4	Identify and evaluate social, cultural, global, ethical and environmental responsibilities and issues	Apply
C226.5	Explain the concepts of functional management project management and strategic management.	Understand
C226.6	Develop the abilities in project evaluation techniques like PERT, CPM	Create

Course Name: Electronic Circuit Analysis - Lab
Course Code: R16C4227

After completion of the code student can able to do:

Course code	Course Outcomes	Taxonomy
C227.1	Design, simulate and verify basic amplifier circuits.	Create
C227.2	Design, simulate and verify feedback amplifiers and oscillators	Create
C227.3	Design, simulate and verify power amplifier circuits.	Create
C227.4	Design, simulate and verify Multi vibrators and Sweep Circuits.	Create
C227.5	Design different types of Amplifier and Oscillator circuits	Create
C227.6	Test different types of Amplifiers and Oscillator circuits using hardware	Evaluate

Course Name: Analog Communications - Lab
Course Code: R16C4228

After completion of the code student can able to do:

Course code	Course Outcomes	Taxonomy
C228.1	Examine the modulation and demodulation techniques using hardware and software	Analyze
C228.2	Estimate the variations of amplitude and frequency for a reconstructed signal by using Sampling theorem using hardware and software	Evaluate
C228.3	Distinguish the Pre-emphasis & De-emphasis techniques for transmitting signals in the communication system.	Analyze
C228.4	Examine the mixer characteristics of super heterodyne receiver to verify the characteristics of automatic gain control unit	Analyze
C228.5	Make use of phase locked loop to verify the operation of frequency synthesizer using hardware and software.	Apply
C228.6	Experiment with the spectrum analyzer to calculate the bandwidth of AM and FM waveforms from their frequency spectrum.	Apply

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	DNR COLLEGE OF ENGINEERING & TECHNOLOGY, Bhimavaram **Course Outcomes Statements**		
Program Name:	B.Tech. in Electronics & Communication Engineering	**AY**	2017-18
Class/SEM	III/II	Regulation	R13

Course name: MicroProcessors & Micro Controllers

Course code:R13C321

After completion of the code student can able to do:

C321	COURSE OUTCOMES	Taxonomy
C321.1	Differentiate architectural features and modes of operation of 8086 microprocessor and 8051 microcontrollers.	Understand
C321.2	Summarize the addressing modes, instruction set and assembler directives of 8086 Microprocessor and 8051 Micro controller.	Understand
C321.3	Write assembly language programs for 8086 Microprocessor and 8051 Microcontroller	Evaluate
C321.4	Interface various peripheral devices and memory with 8086 microprocessor and 8051 microcontrollers.	Analyze
C321.5	Analyze the architectural features and instruction set of ARM processor	Analyze
C321.6	Understand the architectures of CORTEX and OMAP processors	Understand

Course name: Digital Signal Processing

Course code:R13C322

After completion of the code student can able to do:

C322	COURSE OUTCOMES	Taxonomy
C322.1	Apply the difference equations concept on discrete time systems.	Apply
C322.2	Determine the Z-transform for discrete time signals and systems.	Evaluate
C322.3	Use the FFT algorithm for solving the DFT of a given signal.	Apply
C322.4	Design a digital filter(IIR & FIR) from the given specifications.	Create
C322.5	Apply the Multirate processing concepts in various applications.	Apply
C322.6	Describe the DSP Processors in signal processing	Analyze

Course name: Digital Communications

Course code:R13C323

After completion of the code student can able to do:

C323	**COURSE OUTCOMES**	**Taxonomy**
C323.1	Describe Different Modulation System Such As PCM,DPCM AND DM.	Analyze
C323.2	Analyze the performance of digital modulation schemes over AWGN channels and choose appropriate modulation schemes according to design criteria.	Analyze
C323.3	Determine the probability of error for various digital modulation schemes	Evaluate
C323.4	Evaluate entropy, information rate, mutual information and its properties.	Evaluate
C323.5	Analyze Various Source Coding Techniques.	Analyze
C323.6	Analyze different error control coding schemes for the reliable transmission of digital information over the channel.	Analyze

Course name: Micro Wave Engineering

Course code:R13C324

After completion of the code student can able to do:

C324	**COURSE OUTCOMES**	**Taxonomy**
C324.1	Able to apply Maxwell's equations and analyze wave propagation in Rectangular Wave Guide.	apply
C324.2	Able to apply Maxwell's equations and analyze wave propagation in cylindrical wave guide.	apply
C324.3	Able to illustrate the Microwave O- Type tubes	Understand
C324.4	Able to illustrate the HELIX TWTS and M-Type Tubes	Understand
C324.5	Able to analyze Scattering parameters and characterize various microwave devices.	Analyze
C324.6	Able to explain theory and analyze various Microwave active devices and measure various Microwave parameters (VSWR, Impedance, etc.).	Analyze

Course name: Bio-Medical Engineering

Course code:R13C325

After completion of the code student can able to do:

C325	COURSE OUTCOMES	Taxonomy
C325.1	Recognize the function of human body and medical electronic equipment.	Evaluate
C325.2	Apply the Transducer principles and safety aspects of medical instruments.	Apply
C325.3	Analyze biomedical signals like Cell potentials, ECG, EEG, EMG and working principles of Transducers.	Analyze
C325.4	Evaluate the patient condition by measuring parameters like Heart rate, Respiration rate, Pulse rate and blood pressure.	Evaluate
C325.5	Interpret the working of monitors, recorders and printers used in medical field.	Understand
C325.6	Interpret diagnostic techniques and bio-telemetry.	Evaluate

Course name: Micro Processors & Micro Controllers Lab

Course code:R13C326

After completion of the code student can able to do:

C326	COURSE OUTCOMES	Taxonomy
C326.1	Debug assembly language programs using 8086 assembler.	Evaluate
C326.2	Analyze the interfacing between external peripherals and 8086 microprocessor using development kit.	Analyze
C326.3	Debug 8051 assembly language programs using Kiel IDE.	Evaluate
C326.4	Analyze the interfacing between external peripherals and 8051 microcontroller using development kit	Analyze
C326.5	Contrast how different I/O devices can be interfaced to processor and will explore several techniques of interfacing	Create
C326.6	Primarily via team-based laboratory activities, students will demonstrate the ability to interact effectively on a social and interpersonal level with fellow students, and will demonstrate the ability to divide up and share task responsibilities to complete assignments.	Analyze

Course name: Digital Signal Processing Lab

Course code:R13C327

After completion of the code student can able to do:

C327	COURSE OUTCOMES	Taxonomy
C327.1	Generation of sinusoidal and noise waveform using different approaches	Evaluate
C327.2	Analyze Impulse and frequency response of various digital filters.	Analyze
C327.3	Implement different algorithms of DSP through simulation.	Create
C327.4	Implement various DSP algorithms in hardware.	Create
C327.5	Design and Analyze Digital Filters using FDA Tool.	Create
C327.6	Analyze and Observe Magnitude and phase characteristics (Frequency response Characteristics) of digital FIR filter using window techniques.	Analyze

Course name: Digital Communications Lab

Course code:R13C328

After completion of the code student can able to do:

C328	COURSE OUTCOMES	Taxonomy
C328.1	Examine and analyze pulse analog and pulse digital modulated signals.	Analyze
C328.2	Observe and analyze Digital modulated signals.	Analyze
C328.3	Construct TDM signal for given analog signal	Create
C328.4	Analyze the performance of source and channel coding techniques	Analyze
C328.5	Apply linear block codes and convolution codes	Apply
C328.6	Apply the Companding technique for compressing and then expanding (or decompressing) an analog or digital signal	Apply

Course name: Seminar

Course code:R13C329

After completion of the code student can able to do:

C329	**COURSE OUTCOMES**	**Taxonomy**
C329.1	Identifyemergingtopic specifictotheprogram.	Apply
C329.2	Organize a detailed literature survey and build a document with respect to technical publications.	Apply
C329.3	Extracttheinformationrelevant tothechosentopic.	Evaluate
C329.4	Express theknowledgeusingmultimedia.	Understand
C329.5	Analyze a current topic of professional interest	Analyze
C329.6	Compile an effective technical report, providing conclusions and proposing an appropriate futures cope.	Create

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	DNR COLLEGE OF ENGINEERING & TECHNOLOGY, Bhimavaram **Course outcomes statements**		
Program Name:	B.Tech. in Electronics & Communication Engineering	**AY**	2017-18
Class/SEM	IV/II	Regulation	R13

Course Name: Cellular Mobile Communications

Course Code: R16C4421

After completion of the course student can able to do:

Course Code	Course outcome	Taxonomy
C421.1	Discuss cellular radio concepts	Understand
C421.2	Identify various propagation effects	Apply
C421.3	Illustrate the mobile system specifications	Apply
C421.4	Classify multiple access techniques in mobile communication	Evaluate
C421.5	Outline cellular mobile communication standards	Evaluate
C421.6	Analyze various methodologies to improve the cellular capacity	Analyze

Course Name: Electronic Measurements and Instrumentation

Course Code: R16C4422

After completion of the course student can able to do:

Course Code	Course outcome	Taxonomy
C422.1	Analyze the Performance characteristics of each instrument.	Analyze
C422.2	Demonstrate basic meters such as voltmeters and ammeters.	Evaluate
C422.3	Understand about different types of signal generators and recorders.	Understand
C422.4	Illustrate the basic concepts of CRO and its usage for the measurement of various parameters.	Evaluate
C422.5	Analyze the circuits for the measurement of Resistance, Capacitance, Inductance, and Frequency.	Analyze
C422.6	Apply the complete knowledge of various electronics instruments/transducers to measure the physical quantities in the field of science, engineering and technology	Apply

Course Name: Satellite Communications

Course Code: R16C4423

After completion of the course student can able to do:

Course Code	Course outcome	Taxonomy
C423.1	Recognize the concepts, applications and subsystems of Satellite communications.	Understand
C423.2	Demonstrate the satellite antenna Equipment reliability and space qualification.	Evaluate
C423.3	Illustrate the expression for G/T ratio and to solve some analytical problems on satellite link design.	Understand
C423.4	Categorize the various types of multiple access techniques and architecture of earth station design.	Understand
C423.5	Analyze the transmitter and receiver block diagrams of an earth station and explain its working.	Analyze
C423.6	Classify the concepts of GPS and its architecture.	Understand

Course Name: Wireless sensors & Networks

Course Code: R16C4424

After completion of the course student can able to do:

Course Code	Course Outcomes	Taxonomy
C424.1	Understand and explain wireless sensor node architectures and applications of Wireless Sensor Networks.	Understand
C424.2	Analyze the architecture of a single node and Wireless Sensor Network.	Analyze
C424.3	Evaluate different MAC protocols of wireless sensor networks in real time applications.	Evaluate
C424.4	Demonstrate knowledge of routing protocols developed for WSN.	Understand
C424.5	Design infrastructure establishment of wireless sensor networks.	Create
C424.6	Apply the knowledge of sensor network platforms and tools for the development of wireless sensor networks.	Apply

Course Name: Project

Course Code: R16C4425

After completion of the course student can able to do:

Course Code	Course Outcomes	Taxonomy
C425.1	Identify right problem and come with abstract for it.	Apply
C425.2	Building a solution after literature survey and come out with a prospective or latest happening related to problem.	Create
C425.3	Identify the various resources for select components required to complete project.	Apply
C425.4	Solve the problem by creating a working model implementation	Apply
C425.5	Justify his work progress to a panel of experts by preparing Power Point Presentation and written report.	Evaluate
C425.6	Experiment and take observations, analyze and conclude the results.	Apply
C425.7	Develop a module using some syntax of a code	Create
C425.8	Fabricate a working model	Create
C425.9	Apply software and solve the problem	Apply
C425.10	Prepare a thesis as per given guide lines by the university for a specific technical project.	Create
C425.11	Find out how can do the work to complete the project with in time.	Understand
C425.12	Express their contribution towards the project as a team member among others students and as individual to submit the report.	Create

Signature HOD