



Vidya Jyothi Institute of Technology

(An Autonomous Institution)

(Accredited by NAAC, Approved by AICTE New Delhi & Permanently Affiliated to JNTUH)

Aziz Nagar Gate, C.B. Post, Hyderabad-500 075
Department of Electronics and Communication Engineering
(Accredited by NBA)

R18 – COURSE OUTCOMES

ELECTRONICS AND COMMUNICATION ENGINEERING

II B.TECH-
I SEM

201.MATHEMATICS-III(COMPLEX ANALYSIS AND FOURIER TRANSFORM)

COURSE OUTCOMES: After going through this course the student will be able to:	
C201.1	Work with the functions of complex variables and evaluation of complex differentiation.
C201.2	Acquire the knowledge of complex power series and integration.
C201.3	Apply the knowledge of contour integration to evaluate real integrals in engineering problems and acquire the knowledge of evaluating of conformal mapping and bilinear transformations.
C201.4	Studying of Fourier series and defining it for various types of functions.
C201.5	Apply Fourier sine and cosine integral theorems for a given function $f(x)$ evaluate Fourier transforms, sine and cosine transforms.

202. OOPS Throuh JAVA

COURSE OUTCOMES: After going through this course the student will be able to:	
C202.1	Able to solve real world problems using OOP techniques.
C202.2	Able to understand the use of abstract classes.
C202.3	Able to solve problems using inheritance, polymorphism.
C202.4	Able to develop multithreaded applications with synchronization.
C202.5	Able to handle run time errors while applying exception handling

203. ELECTRONIC DEVICES AND CIRCUITS

COURSE OUTCOMES:

After going through this course the student will be able to:

C203.1	Demonstrate the concepts of semiconductor theory.
C203.2	Interpret the characteristics of different semiconductor devices with its applications.
C203.3	Apply different biasing techniques of transistors for amplification.
C203.4	Analyze transistor amplifiers using small signal model.
C203.5	Ability to describe the behavior of special purpose diodes.



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204. PROBABILITY THEORY AND STOCHASTIC PROCESS

COURSE OUTCOMES:

After going through this course the student will be able to:

C204.1	Demonstrate knowledge in Probability theory, Single and multiple random variables and Random processes and their characteristics
C204.2	Analyze operations on single and multiple random variables and processes.
C204.3	Compute Simple probabilities using an appropriate sample space, Expectations from probability density functions, Least-square & maximum likelihood estimators for engineering problems mean and Covariance functions for simple random processes.
C204.4	Design solutions for complex engineering problems involving random processes.
C204.5	Understand how random variables and stochastic processes can be described and analyzed

205. SIGNALS AND SYSTEMS

COURSE OUTCOMES:

After going through this course the student will be able to:

C205.1	Understand the Mathematics, operations and classification of signals and systems
C205.2	Apply the transform on standard and arbitrary signals
C205.3	Infer the signal transmission through linear systems
C205.4	Interpret the concepts of sampling and role of Z-Transform in analysis of systems.
C205.5	Understand the process of sampling and the effects of under sampling.

206. NETWORK ANALYSIS AND TRANSMISSION LINES

COURSE OUTCOMES:

After going through this course the student will be able to:

C206.1	Recite basic concepts of network parameters, theorems and transmission line theory.
C206.2	Differentiate the changes of transient networks using Laplace transform
C206.3	Compare and contrast the parameters, functions and synthesis of the network
C206.4	Apply the concepts of theorems on networks and transmission line theory to solve impedance matching issues.
C206.5	Solve the transmission lines and matching circuits problems using Smith chart



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207. ELECTRONIC DEVICES AND CIRCUITS LAB

COURSE OUTCOMES:

After going through this course the student will be able to:

C207.1	Identify and use the basic components and instruments in electronics laboratory
C207.2	Outline the characteristics of different semiconductor devices.
C207.3	Interpret the ripple factor, regulations of rectifiers.
C207.4	Sketch the frequency response of small signal amplifiers.
C207.5	Understand the concepts of SCR & UJT and observe its characteristics.

208. BASIC SIMULATION LAB

COURSE OUTCOMES:

After going through this course the student will be able to:

C208.1	Evaluate the operation on signals and systems using arithmetic operations and transforms
C208.2	Application of correlation and transforms on noise removal and signal extraction
C208.3	Compute various statistical properties of a random noise and verify whether it is stationary
C208.4	Determine the correlation & Convolution between Signals and sequences.
C208.5	Validate the properties and waveform synthesis of various transforms

209. GENDER SENSITIZATION

COURSE OUTCOMES:

After going through this course the student will be able to:

C209.1	To develop awareness about gender discrimination and take measurable steps to counter it.
C209.2	To identify the basic dimensions of biological, sociological, psychological and legal aspects of gender.
C209.3	To acquire knowledge about gendered division of labour in relation to politics and economics.
C209.4	To prepare the students against gender violence.
C209.5	To prepare the students to work and live together as equals.



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II B.TECH-II SEM

210. SWITCHING THEORY AND LOGIC DESIGN

COURSE OUTCOMES:

At the end of the course the student should be able to

C210.1	Demonstrate the basic theorems of Boolean algebra, logic gates, combinational and sequential circuits and memories.
C210.2	Analyze the combinational and sequential circuits and memories.
C210.3	Design of logic circuits
C210.4	Realization of gates using different logic families.
C210.5	Explain the design and operation of different semiconductor memories

211.ELECTRICAL TECHNOLOGY

COURSE OUTCOMES:

At the end of the course the student should be able to

C211.1	Understand the concept of network topology
C211.2	Apply the concepts of the filters, attenuators to real-world problems.
C211.3	Able to synthesize the electrical networks using different techniques.
C211.4	Analyse the basic concepts of DC machines & AC Machines.
C211.5	Understand the basic concepts of some special machines.

212.PROFESSIONAL COMMUNICATION

COURSE OUTCOMES:

After going through this course the student will be able to:

C212.1	Acquire enhanced personality
C212.2	Exhibit appropriate professional etiquette
C212.3	Practice team building with strong communication skills
C212.4	Develop problem solving skills and decision-making
C212.5	Demonstrate effective presentation skills



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213. ANALOG AND DIGITAL COMMUNICATIONS

COURSE OUTCOMES:

After going through this course the student can

C213.1	Demonstrate fundamental knowledge in Elements of Analog and Digital Communication systems.
C213.2	Analyze different types of analog and digital modulation systems and calculate total power & bandwidth.
C213.3	Design an efficient Transmitter and Receiver based on SNR, bandwidth and equipment complexities.
C213.4	Formulate and solve engineering problems in the core area of analog and digital communications in developing information transmitting systems and telemetry system.
C213.5	Illustrate the impact of noise in analog communication systems and computation of Probability of error in digital modulation techniques.

214. ANALOG AND PULSE CIRCUITS

Course Outcomes:

After going through this course the student will be able to:

C214.1	Understand the concepts of amplifiers, feedback, large signal model and time base generators.
C214.2	Utilize the Concepts of feedback to improve the stability in amplifiers and oscillators.
C214.3	Analyze different multistage amplifiers, multivibrators and time base generators.
C214.4	List different classes of Power Amplifiers and tuned amplifiers useable for audio and Radio applications
C214.5	Design RC and LC Oscillators for different frequencies and analyze them for frequency and amplitude stability.



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215. ELECTROMAGNETIC WAVES

Course Outcomes:

At the end of the course the student should be able to

C215.1	Demonstrate the EM Field Characteristics - divergence and curl of fields
C215.2	Interpret the Maxwell's equations for static Electric and Magnetic fields and dynamic Electromagnetic fields
C215.3	Analyze the behavior of EM waves in different media
C215.4	Apply the knowledge of EM Wave Propagation at microwaves
C215.5	Explain the wave equations and mode analysis of rectangular and circular wave guides

216. ANALOG AND DIGITAL COMMUNICATIONS LAB

Course Outcomes:

At the end of the course the student should be able to

C216.1	Demonstrate knowledge in different Analog and Digital Communication Systems.
C216.2	Compare the characteristics of various Analog and Digital modulation schemes and analyze their performances.
C216.3	Develop various analog and digital modulation and demodulation systems
C216.4	Explain how Pulse code modulation is applied to transform an analog signal into a digital one and transmitted through the digital communication network.
C216.5	Design the shift keying based digital modulation techniques for the transmission of digital information



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217. ANALOG AND PULSE CIRCUITS LABORATORY

Course Outcomes:

At the end of the course the student should be able to

C217.1	Compare the frequency response of tuned, MOS, Darlington amplifier.
C217.2	Sketch the sustained waveforms of oscillators, multi-vibrators and sweep circuits.
C217.3	Interpret the efficiency of power amplifiers.
C217.4	Explain the characteristics of Boot strap sweep circuit, Miller sweep circuit and UJT relaxation oscillator
C217.5	Design LC Oscillators for different frequencies and analyze them for frequency and amplitude stability.

218. ENVIRONMENTAL SCIENCE

COURSE OUTCOMES:

At the end of the Course, the student will be able to:

C218.1	Define and explain the structure and functions of ecosystem, value of biodiversity, threats and conservation of biodiversity.
C218.2	Explain the limitations of the resources and impacts of over utilization of all natural resources.
C218.3	Explain the sources and effects of environmental pollutions and list the available techniques to control the pollution.
C218.4	Explain the global environmental issues like climate change, ozone hole and can explain the scope of EIA, Environmental Management Plan, environmental audit and list the EIA methods.
C218.5	Mention the salient features of environmental acts and rules, define the sustainable goals along with measures required for the sustainability.



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III B.TECH- I SEM

301.CONTROL SYSTEMS

COURSE OUTCOMES:

At the end of the Course, the student will be able to:

C301.1	Understand the modeling of linear-time-invariant systems using transfer function.
C301.2	Analyse system response and evaluate error dynamics in time domain.
C301.3	Understand the concept of stability and its assessment for linear-time invariant systems.
C301.4	Design simple feedback controllers.
C301.5	Infer the general concept of state variable, state space and analyse the stability of linear Time discrete systems.

302.MICRO PROCESSORS& MICRO CONTROLLERS

COURSE OUTCOMES:

At the end of the course the student should be able to

C302.1	Acquire knowledge about Microprocessors, Microcontroller and its need.
C302.2	Ability to identify basic architecture of different Microprocessors & Microcontroller
C302.3	Develop systems for interfacing of different peripheral devices microprocessor & Microcontrollers
C302.4	Compose a program to interface microprocessor and microcontroller for different applications.
C302.5	Develop microcontroller application for different domain



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303.LINEAR & DIGITAL IC APPLICATIONS

COURSE OUTCOMES:

At the end of the course the student should be able to

C303.1	Demonstrate the functioning of OP-AMP, Special function and Digital ICs
C303.2	Analyze the operation, characteristics of OP-AMP, Special Function and Digital ICs
C303.3	Design a logic circuits using digital ICs
C303.4	Devising filters, multivibrators, waveform generators & arithmetic circuits using OP-AMP and Special Function ICs.
C303.5	Analyze and design applications like Counters FlipFlops Shift register using Digital integrated circuit.

304.ANTENNA AND PROPAGATION

COURSE OUTCOMES:

At the end of the course the student should be able to

C304.1	Understand different antennas, field analysis and their applications to antenna elements.
C304.2	Distinguish the mechanism of radiation, different antenna characteristics, mathematical relations their estimates in practical cases.
C304.3	Analyze and design the working of different antenna's and to interpret the radiation pattern of planar arrays from the knowledge of linear arrays.
C304.4	Obtain the capability to differentiate and report the electromagnetic radiation levels in the Atmosphere and any radio transmissions.
C304.5	Design Microwave antenna Systems from specification



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305.COMPUTER ARCHITECTURE

(Professional Elective-1)

COURSE OUTCOMES:

At the end of the course the student should be able to

C305.1	Recall the structure and organization involved in computer design.
C305.2	Identify the different memory and input- output system involved in system design.
C305.3	Analyze computer parallelism and its design on program control and computer arithmetic operations.
C305.4	Comprehend the various details of multiprocessor and multi-core processors in computer design.
C305.5	Illustrate a better way the I/O and memory organization.

306.INFORMATION THEORY AND CODING

(Professional Elective-1)

COURSE OUTCOMES:

At the end of the course, students will be able to:

C305.1	Understand the concept of information theory, coding techniques and errors related to it.
C305.2	Compare the different coding techniques.
C305.3	Formulate codes using different coding techniques
C305.4	Apply different coding techniques to develop an error free communication system.
C305.5	Inspect error detection and correction in various coding technique.



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307.INTRODUCTION TO MEMS

(Professional Elective-1)

COURSE OUTCOMES:

After this course students will be able to

C306.1	Understand the basic concepts involved in the design of MEMS devices.
C306.2	Interpret the different properties of MEMS materials
C306.3	Enumerate role of MEMS devices on sensing and Actuation through different mediums.
C306.4	Contrast the types of MEMS devices on different materials through different mediums.
C306.5	Apply the MEMS for different applications.

308.INTRODUCTION TO MICROCONTROLLERS

(Open Elective - 1)

COURSE OUTCOMES:

At the end of the course the student should be able to;

C307.1	Interpret the internal organization of 8051 with its unique features.
C307.2	Infer and give examples about the various addressing modes, instruction formats and instructions of 8051.
C307.3	Construct the hardware and software interaction with each other using programming.
C307.4	Summarize the features of the advanced architecture using ARM controller.
C307.5	Train their practical knowledge through laboratory experiments.



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309.BASIC ELECTRONICS

(Open Elective - 1)

COURSE OUTCOMES:

After going through this course the student will be able to:

C308.1	Understand and analyze the different types of diodes, operation and its characteristics Design and analyze the DC bias circuitry of BJT and FET Design.
C308.2	To analyze and design diode application circuits, amplifier circuits and oscillators employing BJT, FET devices.
C308.3	Understand the different applications based on operational amplifier
C308.4	Analyze different types of oscillators and multivibrators.
C308.5	Design and analyze any digital logic gate circuits

310.MICRO PROCESSORS AND MICRO CONTROLLERS LABORATORY

COURSE OUTCOMES:

After going through this course the student will be able to:

C309.1	Apply the fundamentals of assembly level programming of microprocessors and microcontrollers.
C309.2	Build a program on a microprocessor using instruction set of 8086 and 8051.
C309.3	Evaluate Assembly language program for 8086 and 8051 microcontroller to interface peripheral devices for simple applications
C309.4	Develop assembly language programs for various applications using 8051 microcontroller
C309.5	Understand the development of prototype using combination of hardware and software.



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311.LINEAR & DIGITAL IC APPLICATIONS LABORATORY

COURSE OUTCOMES:

At the end of the course the student should be able to

C310.1	Study the applications of IC's such as 741,555 and 723
C310.2	Design and construct the combinational and sequential circuits using digital IC's
C310.3	Understand and design the adder and subtractor digital circuits.
C310.4	Design and verify the Multiplexer
C310.5	Understand the basics of Op-Amp and to Design, Analyze Adder subtractor and comparator

312.PERSONALITY DEVELOPMENT AND BEHAVIOURAL SKILLS

Course Outcomes:

At the end of the course the student should be able to

C312.1	Practice optimistic attitude for an efficient, socially viable and multi-faceted personality.
C312.2	Demonstrate functions of non-verbal communication in formal context.
C312.3	Build effective individual & team dynamics for professional accomplishments.
C312.4	Analyze appropriate strategic Interpersonal Skills for productive workplace relationships.
C312.5	Correspond in multiple contexts, for varied audiences, across genres and modalities.

III B.TECH- II SEM

313.MANAGERIAL ECONOMICS & AND FINANCIAL ANALYSIS

COURSE OUTCOMES:

At the end of the course the student should be able to

C313.1	Understand the importance of certain basic issues governing the business operations namely demand and supply, production function, cost analysis.
C313.2	Apply managerial tools and techniques in obtaining optimal solutions for business problems.
C313.3	Differentiate the various forms of business organizations.
C313.4	Evaluate and interpret the financial statements of companies using ratios.
C313.5	Apply the methods of capital budgeting in effective investment decision making.



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314.DIGITAL SIGNAL PROCESSING

COURSE OUTCOMES:

At the end of the course the student should be able to

C314.1	Define the concepts of Fourier transforms, digital filters with their effect of errors.
C314.2	Illustrate speed and memory requirements of Fourier transforms on signals.
C314.3	Relate the effects of finite word length on systems.
C314.4	Formulate frequency filtering, impulse response filters with its structure.
C314.5	Ability to understand various applications of DSP such as multi rate signal processing, telecommunication.

315.MICROWAVE ENGINEERING

COURSE OUTCOMES:

At the end of the course the student should be able to

C315.1	Understands the application of 3-D coordinate geometry, calculus and vector geometry to analyze the EM wave transmission at microwave frequencies.
C315.2	Analyze the problem within the Microwave Transmission line by considering the parameters at transmitter and receiver.
C315.3	Design the microwave components and different transmission lines with the given characteristics at microwave frequencies.
C315.4	Apply the knowledge of microwave components and devices in RADAR communication and satellite communication.
C315.5	Able to discriminate different Radars, find applications and use of its supporting systems.



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316.DATA COMMUNICATION AND NETWORKS

COURSE OUTCOMES:

At the end of the course the student should be able to

C316.1	Demonstrate concepts of various types of computer networks, TCP/IP and OSI models.
C316.2	Analyze different LLC multiplexing mechanisms, node-to-node flow and error control
C316.3	Analyze different MAC mechanisms (Aloha, Slotted Aloha, TDMA, FDMA) and understand their pros and cons.
C316.4	Identify and design the different types of network devices and shortest path in a given network & Enable to interconnect various heterogeneous networks.
C316.5	Implement a peer to peer file sharing application utilizing application layer protocols and transportation layer protocol.

317.DIGITAL SIGNAL PROCESSORS AND ARCHITECTURES

(Professional Elective-2)

COURSE OUTCOMES:

At the end of the course the student should be able to

C317.1	Understand signal processing principles, interfacing strategies and the different architectural features of DSP processors.
C317.2	Differentiate the architectural features of various DSP processors.
C317.3	Illustrate the methodology of writing programs for TMS320C54xx.
C317.4	Explain the system development using DSP Processors for various applications.
C317.5	Able to introduce architectural features of analog devices family of DSP devices i.e. ADSP 2100, ADSP 2181 and blackfin processor



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318.MODELING AND SIMULATION USING MATLAB

(Professional Elective-2)

COURSE OUTCOMES:

At the end of the course the student should be able to

C318.1	Develop codes on various domains of Electronics and Communication Engineering
C318.2	Handle the advanced commands in appropriate fields of engineering
C318.3	Visualize the impact of parameters during simulation
C318.4	Cater the industrial needs pertaining to the semiconductor technologies.
C318.5	Students will be able to implement simulation models using the tool Simulink.

319.OPTICAL COMMUNICATIONS

(Professional Elective-2)

COURSE OUTCOMES:

At the end of the course the student should be able to

C319.1	Gain Knowledge in optical communication, components, Mode theory, sources & detectors and Losses in optical fibers.
C319.2	Analyze single & multimode fibers and analog & digital links.
C319.3	Design and develop Optical sources, Detectors and links
C319.4	Develop Multi-Channel Optical Systems
C319.5	Discuss the elements of WDM networks and its potential applications.



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320.BASIC ELECTRONIC INSTRUMENTATION

(Open Elective - 2)

COURSE OUTCOMES:

After successful completion of this course, the students should be able to

C320.1	Comprehend the basics of instrumentation system and its static and dynamic characteristics.
C320.2	Classify and describe resistive, inductive, capacitive and other transducers which are used for measuring various parameters.
C320.3	Understand the working principles of oscilloscopes, signal generators and analyzers.
C320.4	Explain about different types of signal analyzers
C320.5	Apply the complete knowledge of various electronics instruments/transducers to measure the physical quantities in the field of science, engineering and technology

321.CONSUMER ELECTRONICS

(Open Elective - 2)

COURSE OUTCOMES:

At the end of the course the student should be able to

C321.1	Understand electronics engineering concepts used in consumer electronics systems.
C321.2	Identify the need of preventive maintenance in various electronic appliances.
C321.3	Evaluate and analyze different electronic products and systems based on specifications.
C321.4	Use different product safety, compliance standards and techniques associated with electronic products.
C321.5	Identify the need of preventive maintenance in various electronic appliances.



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322.DIGITAL SIGNAL PROCESSING LABORATORY

COURSE OUTCOMES:

At the end of the course the student should be able to

C322.1	Formulate programs for performing time & frequency operation on signals and systems.
C322.2	Design and implement impulse response filters and Multirate system for a given sequence
C322.3	Analyze and Observe Magnitude and phase characteristics (Frequency response Characteristics) of digital IIR-Butterworth, Chebyshev filters
C322.4	Analyze and Observe Magnitude and phase characteristics (Frequency response Characteristics) of digital FIR filters using window techniques
C322.5	Develop various DSP Algorithms using MATLAB Software package.

323.ADVANCED COMMUNICATION SKILLS LAB

Course Outcomes:

At the end of the course the student should be able to

C323.1	Develop sound communication skills in various situations with the help of enriched vocabulary.
C323.2	Practice reading techniques for a faster and better comprehension.
C323.3	Exhibit strong writing skills to express ideas effectively.
C323.4	Demonstrate effective presentation skills.
C323.5	Use appropriate verbal and non-verbal skills for a successful career.

324.QUANTITATIVE METHODS & LOGICAL REASONING

(From Training and Placement Dept.)

COURSE OUTCOMES:

At the end of the course the student should be able to

C324.1	To perform well in various competitive exams and placement drives.
C324.2	To solve basic and complex mathematical problems in short time.
C324.3	To become strong in Quantitative Aptitude and Reasoning which can be applied for GRE, GATE, GMAT or CAT exam also.
C324.4	To develop problem solving skills and analytical abilities, which play a great role in corporate and industry set up.



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IV B.TECH- I SEM

401.EMBEDDED SYSTEM DESIGN

Course Outcomes:

At the end of the course the student should be able to

C401.1	Expected to understand the selection procedure of Processors in the embedded domain.
C401.2	Design Procedure for Embedded Firmware.
C401.3	Expected to visualize the role of Real time Operating Systems in Embedded Systems
C401.4	Expected to evaluate the Correlation between task synchronization and latency issues
C401.5	To enumerate the need for Task Communications in a Multiprocessor Environment.

402.VLSI DEISGN

COURSE OUTCOMES:

At the end of the course the student should be able to

C402.1	Enumerate different steps involved in Integrated Circuits technology for MOS transistor and explain the primary and secondary effects of MOSFET and BICMOS.
C404.2	Summarize the fabrication process involved in VLSI circuits
C402.3	Outline the design process involved in VLSI design flow for design of MOS transistors.
C402.4	Understand and apply the concepts of memories in design.
C402.5	Design digital circuits using Verilog HDL.



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403.DIGITAL IMAGE PROCESSING

(Professional Elective-3)

COURSE OUTCOMES:

At the end of the course the student should be able to

C403.1	State the Digital Image Fundamentals and operation associated with various stages of image processing.
C403.2	Illustrate the mathematics involved in various stages of image processing.
C403.3	Demonstrate the operations various stages of image processing.
C403.4	Contrast the different types of operation and its impact on images.
C403.5	Understand the anatomy of image compression in Image Transmission.

404.CELLULAR AND MOBILE COMMUNICATIONS

(Professional Elective-3)

COURSE OUTCOMES:

At the end of the course the student should be able to

C404.1	Understand the principles of mobile communications, radio models, Antennas for Mobile communication, Equalization and applications.
C404.2	Interpret the propagation models of Mobile and its effect on Antenna, Diversity and applications.
C404.3	Relate the concepts of propagation models with channel interference
C404.4	Explain the propagation models, channel interference, antenna design for the recent mobile systems
C404.5	Recite the Handoff and Dropped calls in Cellular mobile communications.



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405.RADAR ENGINEERING

(Professional Elective-3)

COURSE OUTCOMES:

At the end of the course the student should be able to

C405.1	Understand the concepts of radar fundamentals, noise analysis and evaluation of radar.
C405.2	Differentiate various types of radar transmitters and receivers.
C405.3	Relate the different types of radar transmitter and receiver.
C405.4	Categorize the type of radar system and noise analysis based on applications.
C405.5	Correlate the different methods of Radar Reception and Receivers.

406.BIOMEDICAL INSTRUMENTATION

(Professional Elective-4)

COURSE OUTCOMES:

At the end of the course the student should be able to

C406.1	Summarize the requirement of biomedical instrumentation and adversity involved in human measurement.
C406.2	Understand the concept of Bio Potentials in a Human Body
C406.3	Utilize the concept of electrode and its responses used in real time.
C406.4	Outline the divergent responses involved in cardiovascular and respiratory system.
C406.5	Compare the various processes involved in bio telemetry.



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407.SATELLITE COMMUNICATIONS

(Professional Elective-4)

COURSE OUTCOMES:

At the end of the course the student should be able to

C407.1	Demonstrate the historical background, basic concepts and frequency allocations for satellite communications.
C407.2	Compare and contrast between various multiple accesses systems for satellite communication system.
C407.3	Understand the propagation effects of signal in Satellite transmission
C407.4	Design of satellite links for specified CNR.
C407.5	Visualize satellite subsystems like telemetry, tracking, command and monitor power systems etc.

408.TELECOMMUNICATION SWITCHING SYSTEMS AND NETWORKS

(Professional Elective-4)

COURSE OUTCOMES:

At the end of the course the student should be able to

C408.1	Understand different switching system methodologies, network traffic, networks and its applications.
C408.2	Explain different signaling methods used in Telecommunication Networks.
C408.3	Enumerate traffic in telecommunications network
C408.4	Relate different data communication networks.
C408.5	Demonstrate the applications of modern telecommunication concepts.



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409.AUTOMOTIVE ELECTRONICS

(Open Elective-3)

COURSE OUTCOMES:

At the end of the course the student should be able to

C409.1	Understand the working principles, characteristics and troubleshoot of automotive subsystem and its electronic engine control
C409.2	Recite the basic idea behind Sensors and Actuators in Automotive Control System
C409.3	Enumerate Digital Engine Control systems for Automobiles
C409.4	Realization of Digital Engine Control Systems and control units in automotive systems
C409.5	Interpret the concepts of Automotive Networking and Automotive Diagnostics

410.INTRODUCTION TO COMMUNICATION ENGINEERING

(Open Elective -3)

COURSE OUTCOMES:

At the end of the course the student should be able to

C410.1	Understand the working principles, characteristics and applications of different modulation techniques
C410.2	Recite the basic concepts behind the satellite communications
C410.3	Enumerate the principles of Cellular mobile communications
C410.4	Realization of the principle of operation and its applications of radar systems
C410.5	Interpret the concept of Wireless LAN technologies which support for wireless communication



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411.EMBEDDED& VLSI LABORATORY

COURSE OUTCOMES:

At the end of the course the student should be able to

C411.1	Code the ARM cortex M0+ processor instruction set.
C411.2	Articulate the concept of interfacing I/O devices with FRDM kit.
C411.3	Synthesize a Verilog code for digital circuits
C411.4	Devise the digital circuit in CPLD/FPGA
C411.5	Formulate a system design using Embedded and VLSI technologies

412.ANTENNA AND MICROWAVE ENGINEERING LABORATORY

COURSE OUTCOMES:

At the end of the course the student should be able to

C412.1	Contrast the different ways of measuring antenna parameters.
C412.2	Differentiate the different Radiation pattern of the antennas
C412.3	Study the characteristics of various microwave components
C412.4	Articulate the performance of Microwave components
C412.5	Formulate a antenna design using Antenna and Microwave technologies



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413.INDUSTRY ORIENTED MINI PROJECT

COURSE OUTCOMES:

At the end of the course the student should be able to

C413.1	Understand the working environment of an Industry
C413.2	Create an avenue in the industry in terms of a mini project
C413.3	Predict a timeline for the project
C413.4	Evaluate the requirements of the projects in terms of different subsystems
C413.5	Create a dissemination report for the mini project

IV B.TECH- II SEM

414.ELECTRONIC MEASUREMENTS AND INSTRUMENTATION

COURSE OUTCOMES:

At the end of the course the student should be able to

C414.1	Acquire knowledge in Characteristics of Instruments, measurement on non-electrical quantities
C414.2	Analyze the performance of various measuring systems based on the response to the given inputs.
C414.3	Design electronic instrumentation systems according the required specifications
C414.4	Apply different principles to measure a quantity and to provide wide range of solutions for the problems in real time world
C414.5	Recite the acquisition of Non Electrical quantities in a system.



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415.WIRELESS COMMUNICATIONS AND NETWORKS

COURSE OUTCOMES:

At the end of the course the student should be able to

C415.1	Infer the basic concepts of different Access techniques, data service, technology and standards associated with wireless communication networks
C415.2	Distinguish the multiple access techniques, standards, Technology used in wireless Communication and networks
C415.3	Interpret the recent wireless standards on communications and networks.
C415.4	Appraise the various wireless networks in communication systems.
C415.5	Distinguish the different wireless networks.

416.TECHNICAL SEMINAR

COURSE OUTCOMES:

At the end of the course the student should be able to

C416.1	Synthesizing information on any one specialized topic from text books, peer revised journals, hand books and other technical resources.
C416.2	Accumulate information regarding the topic
C416.3	Create a presentation to disseminate the accumulated data as presentation
C416.4	Generation a technical seminar report comprising of all relevant information with stipulated standards.
C416.5	Evaluate the intensity of topic in real time



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417.COMPREHENSIVE VIVA VOCE

COURSE OUTCOMES:

At the end of the course the student should be able to

C417.1	Remember the basics of Electronics and communication Engineering
C417.2	Understand the different methods of analyzing the circuits
C417.3	Recite the importance of Electronics and communication in terms of application
C417.4	Recap the knowledge of the subjects through modern applications
C417.5	Comprehensive understanding of the subject

418.MAJOR PROJECT

COURSE OUTCOMES:

At the end of the course the student should be able to

C418.1	Understand the basics of project management
C418.2	Identify an area of project work through extensive literature survey
C418.3	Formulation of Ideas from the survey
C418.4	Presentation of ideas in terms of presentation
C418.5	Create a dissemination report for the project done