REGULATION: 2017

| S.NO | COURSE NAME | | COURSE OUT COMES |
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| 1 | C101 -Communicative English | C101.1 | Enable the development in sharing information about family and friends. |
| | | C101.2 | Strengthen general comprehending skills and present lucid skills in free writing |
| | | C101.3 | Understand the basic grammar techniques and utilize it in enhancing language development. |
| | | C101.4 | Foster an environment for reading and develop good language skills |
| | | C101.5 | Develop flair for any kind of writing with rich vocabulary and proper syntax |
| 2 | C102 - Engineering Mathematics – I | C102.1 | Diagonalize symmetric matrices and similar matrices using Eigen values and Eigen vectors. |
| | | C102.2 | Explain gradients, potential functions, and directional derivatives of functions of several variables. |
| | | C102.3 | Compute line, surface and volume integral using Gauss divergence, Green's and stoke's theorem. |
| | | C102.4 | Discuss analytic functions in heat and fluid flow |
| | | C102.5 | Extend the concept of contour integrals in evaluating Real Integrals and Discuss Laplace Transform methods to solve initial value problems for constant coefficient linear ODEs. |
| 3 | C103 - Engineering Physics | C103.1 | Discuss the Young's modulus and Rigidity modulus of elasticity of materials and its determination through experimental methods |
| | | C103.2 | Describe the characteristics of laser light and their application in semiconductor laser. |
| | | C103.3 | Discuss the principle behind the propagation of light through an optical fiber and its application in sensors |
| | | C103.4 | Summarize the different modes of heat transfer. |
| | | C103.5 | Relate the quantum concepts in electron microscopes and Describe the unit cell characteristics and the growth of crystals. |
| 4 | C104 - Engineering Chemistry | C104.1 | Summarize the water related problems in boilers and their treatment techniques. |
| | | C104.2 | Discuss the applications of adsorption in the field of water and air pollution abatement. |
| | | C104.3 | Discuss the types of catalysis and the mechanism of enzyme catalysis |
| | | C104.4 | Associate phase rule in the alloying and the behavior of one component and two component systems using phase diagram |
| | | C104.5 | Explain various types of fuels, their manufacturing processes and calculation of calorific theoretically and Summarize the principles and generation of energy in batteries, nuclear reactors, solar cells, wind mills and fuel cells. |
| | & g | C105.1 | Develop algorithmic solutions to simple computational problems |

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| 5 | C105 - Problem Solving and Python Programming | C105.2 | Design a structure for a simple Python programs for solving problems. |
| | | C105.3 | Analyze and decompose a python programs into functions |
| | | C105.4 | Represent compound data using Python lists, Tuples, Dictionaries. |
| | | C105.5 | Design Command line file programs and apply exception handling mechanisms |
| 6 | C106 - Engineering Graphics | C106.1 | Discuss about conics and orthographic views of engineering components |
| | | C106.2 | Draw the projection of points, lines and planes |
| | | C106.3 | Classify solids and projection of solids at different positions |
| | | C106.4 | Show sectioned view of solids and development of surface |
| | | C106.5 | Draw isometric projection and perspective views of an object/solid and Apply the concept of drawing in practical applications. |
| 7 | C107 - Problem Solving and Python Programming Laboratory | C107.1 | Develop solutions to simple computational problems using Python programs |
| | | C107.2 | Solve problems using conditionals and loops in Python. |
| | | C107.3 | Develop Python programs by defining functions and calling them. |
| | | C107.4 | Use Python lists, tuples & dictionaries for representing compound data. |
| | | C107.5 | Develop Python programs using files. |
| 8 | C108 - Engineering Physics & Chemistry Lab | C108.1 | Analyze the various modulus of elasticity of different types of materials. |
| | | C108.2 | Able to find the velocity of ultrasonic waves in different liquid. |
| | | C108.3 | Understand the various parameter affecting the thermal conductivity of poor conductor |
| | | C108.4 | Understand the concept of Laser and its diffraction for different usage |
| | | C108.5 | Analyze the acceptance angle and numerical aperture of optical fibers. |
| | | C108.6 | Understand the method of determine the strength of a pure acid and mixture of acids by using conductivity meter. |
| | | C108.7 | Understand the method of estimate the amount of iron content present in a given solution by means of potentiometric titration. |
| | C109 - Technical English | C109.1 | Read technical texts and write area specific texts effortlessly |
| | | C109.2 | Write formal letters / emails using vocabulary. |

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| 9 | C109 - Technical | C109.3 | Speak appropriately and effectively in varies formal and informal contexts. |
| | | C109.4 | Prepare reports and winning job applications. |
| | | C109.5 | Listen and comprehend lectures in the area of specialization successfully. |
| 10 | C110 - Engineering Mathematics - II | C110.1 | Understand the Concepts of Diagonalization of matrices. |
| | | C110.2 | Understand the concepts of Vector Calculus and their applications. |
| | | C110.3 | Interpret the Concepts of analytic functions and Conformal mapping. |
| | | C110.4 | Understand the integration concepts on Complex integration |
| | | C110.5 | Demonstrate the concepts of Laplace transformations and their applications |
| 11 | C111 - Physics for Electronics engineering | C111.1 | Gain knowledge on classical and quantum electron theories sand energy bond structure |
| | | C111.2 | Acquire knowledge on basics of semiconductor physics and its application in various devices |
| | | C111.3 | Get knowledge on magnetic and dielectric properties of materials |
| | | C111.4 | Have the necessary understanding on the functioning of optical materials for optoelectronics |
| | | C111.5 | Understand the basics of quantum structure and their application in spintronics and electronics |
| 12 | C112 - Basic Electrical, Electronics and Measurement Engineering | C112.1 | Able to determine the performance characteristic of different electrical machines |
| | | C112.2 | Design simple electric circuits using basic laws and theorems |
| | | C112.3 | Design simple electronics circuits using diodes and transistors |
| | | C112.4 | Understand the concepts of measurement of AC signals |
| | | C112.5 | Analysis the measurements of displacement and temperature |
| 13 | C113 - Circuit analysis | C113.1 | Develop the capacity to analysis electrical circuit |
| | | C113.2 | Apply the circuit theorem in real time application |
| | | C113.3 | Design and understand and evaluate the AC and DC Circuits |
| 14 | - Electronic Devices | C114.1 | Explain the V-1 characteristic of diode, UJT and SCR |
| | | C114.2 | Describe the equivalent circuits of transistors |

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| | C114 | C114.3 | Operate the basic electronic devices such as PN Junction diode, Bipolar and field effect transistors, power control devices, LED, LCD and other opto-electronic devices |
| 15 | C115 - Circuit and devices Laboratory | C115.1 | Analyze the character of basic electronic devices |
| | | C115.2 | Design RL and RC Circuits |
| | | C115.3 | Verify thevin and Norton theorem KVL and KCL and super position theorem |
| 16 | C115 – Engineering Practices Laboratory | C116.1 | Apply the knowledge of pipeline connections to household fittings and industrial buildings. |
| | | C116.2 | Prepare the different joints in roofs, doors, windows and furniture. |
| | | C116.3 | Perform step turning operation in a lathe. |
| | | C116.4 | Perform the various welding processes and know about its applications. |
| | | C116.5 | Produce a funnel using sheet metal. |
| 17 | C201 - Linear Algebra & Partial Differential Equations | C201.1 | Explain the fundamental concepts of Vector spaces, Basis and dimensions |
| | | C201.2 | Demonstrate the matrix representation of linear transformation and diagonalization |
| | | C201.3 | Understand the concepts of inner product and Grant-Schmidt orthogonalization process |
| | | C201.4 | Apply various techniques in solving the partial differential equations. |
| | | C201.5 | Understand the physical significance of Fourier series techniques solving one dimensional and two dimensional heat flow problems and one dimensional wave equations |
| 18 | C202 Fundamentals of Data Structure in C | C202.1 | Understand the fundamentals of C programming which includes data types, expressions, I/O operations, branching, looping, array and string concepts. |
| | | C202.2 | Understand the basic fundamentals of function, pointer, structures and union in C, storage classes and preprocessor directions. |
| | | C202.3 | Obtain the basic learning of linear data structures and its applications. |
| | | C202.4 | Understand the ability of using tree concepts and graphs in various applications. |
| | | C202.5 | Understand the various types of sorting and searching techniques. |
| 19 | C203 Electronic Circuits I | C203.1 | Understand the ac and dc load line, design transistor circuits with different biasing and compensation methods. |
| | | C203.2 | Design simple amplifier circuits of Bipolar Junction Transistor using small signal model. |
| | | C203.3 | Analyze the small signal equivalent circuits of Field Effect Transistor and MOSFETS. |
| | | C203.4 | Understand the frequency response of transistor amplifiers. |

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| | C2 | C203.5 | Design rectifier, voltage regulator and power supplies. |
| 20 | C204 Signals and Systems | C204.1 | Classify the signals or systems based on its characteristics |
| | | C204.2 | ApplApply Fourier and the Laplace transforms to analyze continuous-time Signals. |
| | | C204.3 | Analyze continuous time LTI systems using Fourier and Laplace Transforms |
| | | C204.4 | Apply Z and Fourier transforms to analyze discrete-time Signals. |
| | | C204.5 | Analyze discrete time LTI systems using Fourier and Z Transforms |
| 21 | C205 Digital Electronics | C205.1 | Understand the postulates and laws of number system,minterm,Maxterm and minimization techniques |
| | | C205.2 | Design and analyze the combinational circuit using logic functions. |
| | | C205.3 | Design and implementation of sequential circuits. |
| | | C205.4 | Discuss the characteristics of memory, IC, logic family and implement digital function using PLD's. |
| | | C205.5 | Design and implementation of synchronous and asynchronous sequential circuits. |
| 22 | C206 Control System Engineering | C206.1 | Understand the basic elements of control system modeling electrical and mechanical system. |
| | | C206.2 | Perform the time response analysis for first order and second order system. |
| | | C206.3 | Perform the frequency response the analysis and design the compensation technique used to stabilize control systems. |
| | | C206.4 | Analysis the stability of the control system using Routh-Hurwitz criteria and root locus. |
| | | C206.5 | Perform the state variable analysis of analog and discrete time system. |
| 23 | C207 Fundamentals of Data Structure in C Laboratory | C207.1 | Understand and implement the basic C programs. |
| | | C207.2 | Implement functions and recursive functions in C. |
| | | C207.3 | Apply linear data structures in problem solving using C language. |
| | | C207.4 | Apply non-linear data structures in problem solving using C language. |
| | | C207.5 | Implement searching, sorting and hashing functions. |
| | d Digital oratory | C208.1 | Determine the frequency response of CE/CC/CB/CS amplifiers. |
| | | C208.2 | Observe the characteristics of Darlington and differential amplifier. |

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| 24 | C208 Analog and Circuits Lab | C208.3 | Analyze the bandwidth of single stage and multistage amplifiers. |
| | | C208.4 | Design combinational circuits for arithmetic, code conversions and comparison operations. |
| | | C208.5 | Simulate analog and digital circuits using simulation tool. |
| 25 | C209 Interpersonal Skills/Listening &Speaking | C209.1 | Take international examination such as IELTS and TOEFL |
| | | C209.2 | Make presentations and Participate in Group Discussions. |
| | | C209.3 | Successfully answer questions in interviews. |
| | | C209.4 | Develop felicity of expression and familiarity with technology enabled Communication |
| | | C209.5 | Analyse, distinguish and Prepare their own resume and report. |
| 26 | C210 Probability and Random Processes | C210.1 | Explain the basic concepts of probability and have the knowledge of standard distributions |
| | | C210.2 | Understand the concepts of probability in two dimensional random variables |
| | | C210.3 | Apply the concepts of stationary, Markov and Poisson process |
| | | C210.4 | Understand the concepts of Correlation and Spectral densities |
| | | C210.5 | Interpret the response of linear time invariant system with random inputs |
| 27 | C211 Electronic Circuits II | C211.1 | Design feedback amplifiers and understand its characteristics |
| | | C211.2 | Construct RC, LC and Crystal Oscillators |
| | | C211.3 | Analyze the performance characteristics of tuned amplifiers. |
| | | C211.4 | Construct wave shaping and multivibrators circuits for given specification |
| | | C211.5 | Classify the blocking Oscillators and time base generators |
| 28 | C212 Communication Theory | C212.1 | Understand the concepts of generation and detection various AM Schemes |
| | | C212.2 | Understand the concepts of modulation and demodulation of FM Waves. |
| | | C212.3 | Apply the concepts of random process to design of communication systems. |
| | | C212.4 | Analyze the noise performance of AM and FM systems. |
| | | C212.5 | Understanding the concepts of sampling, quantization & encoding methods. |

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| 29 | C213 Electromagnetic Fields | C213.1 | Analyze field potentials due to static changes and static magnetic fields. | |
| | | C213.2 | Explain how materials affect electric and magnetic fields. | |
| | | C213.3 | Analyze the relation between the fields under time varying situations. | |
| | | C213.4 | Discuss the principles of propagation of uniform plane waves. | |
| | | C213.5 | Analyze field potentials due to static changes and static magnetic fields. | |
| 30 | C214 Linear Integrated Circuits | C214.1 | Understand the current mirror circuits, operational amplifier stages and internal circuit diagram of IC 741. | |
| | | C214.2 | Understand the applications of op-amp and able to design circuits using op-amp. | |
| | | C214.3 | Demonstrate the analog multiplier using emitter coupled pair, Gilbert Multiplier cell, analyze PLL and its applications. | |
| | | C214.4 | Understand the operation of data converter circuits | |
| | | C214.5 | Understand the current mirror circuits, operational amplifier stages and internal circuit diagram of IC 741. | |
| 31 | C215 Environmental Science and Engineering | C215.1 | Understand the types, characteristics of eco system and biodiversity. | |
| | | C215.2 | Explain the types of pollution and its causes. | |
| | | C215.3 | Explain the importance of natural resources | |
| | | C215.4 | Understand the environmental problems. | |
| | | C215.5 | Understand the importance of women, child education and HIV /Aids. | |
| 32 | C216 Circuits Design and Simulation Laboratory | C216.1 | Analyze various types of feedback amplifiers. | |
| | | C216.2 | Design of oscillators, tuned amplifiers, wave-shaping circuits and multivibrators. | |
| | | C216.3 | Demonstrate the oscillators and tuned amplifiers using SPICE Tool. | |
| | | C216.4 | Demonstrate the voltage and current time base circuits using SPICE Tool. | |
| 33 | Linear Integrated Circuits Laboratory | C217.1 | Design of oscillators and amplifiers using Op-Amp. | |
| | | C217.2 | Design of filters using Op-Amp and analyze the frequency response. | |
| | | C217.3 | Investigate the working of PLL and its frequency multiplier circuit. | |
| | | C217.4 | Design of DC power supply circuit using ICs. | |

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| | C217 | C217.5 | Analyze the performance of oscillators and multivibrators using PSPICE |
| 35 | C301 Digital Communication | C301.1 | Describe and design the channel coding schemes using Shannon –fano and Huffman codes. |
| | | C301.2 | Describe the various waveform coding schemes and their performance. |
| | | C301.3 | Design and implement baseband transmission schemes and their noise performance. |
| | | C301.4 | Analyze the spectral characteristics of band pass signaling schemes and their noise performance. |
| | | C301.5 | Detect and correct the errors through various error control coding schemes. |
| 36 | C302 Discrete-Time Signal Processing | C302.1 | Apply DFT for the analysis of digital signals & systems |
| | | C302.2 | Design Infinite impulse response filters for the given specification |
| | | C302.3 | Design Infinite impulse response filters for the given specification |
| | | C302.4 | Understand the finite Word length effect on filters. |
| | | C302.5 | Understand multi-rate signal processing and its applications. |
| 37 | C303 Computer Architecture and Organization | C303.1 | Understand the basic of computer system, addressing modes and instruction formats. |
| | | C303.2 | Apply fixed and floating point arithmetic methods and find solutions. |
| | | C303.3 | Analyze the data path of a processor and pipe lining concepts with its limitations. |
| | | C303.4 | Understand the concepts of parallism, challenges and multicore processors. |
| | | C303.5 | Analyze various memory technologies and their organization. |
| 38 | C304 Communication Networks | C304.1 | Explain the division of network functionalities into layers. |
| | | C304.2 | Outline the media access control and internetworking protocols. |
| | | C304.3 | Construct routing tables using various routing protocols. |
| | | C304.4 | Demonstrate the congestion control mechanism in TCP. |
| | | C304.5 | Relate the protocols used in network applications. |
| | Electronics Statements | C305.1 | Understand the basics of cell biology and to the bio-potentials. |
| | | C305.2 | Understand of various biochemical processes. |

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| 39 | C305 Medical E Course Outcome | C305.3 | Understand the working of assistive devices. |
| | | C305.4 | Uses of radiation for diagnostic and bio-telemetry |
| | | C305.5 | To understand the recent instruments developed in medical fields |
| 40 | C306 Geographic Information System | C306.1 | Understand the fundamentals of GIS |
| | | C306.2 | Understand the types of data models |
| | | C306.3 | Understand about data input and topology |
| | | C306.4 | Analyse data quality and standard. |
| | | C306.5 | Apply data management function and output |
| 41 | C307 Digital Signal Processing Laboratory | C307.1 | Design the various types of continuous signal and discrete signal. |
| | | C307.2 | Demonstrate their abilities towards DSP processor based implementation of DSP system. |
| | | C307.3 | Calculate and analyze the continuous and discrete signals using FFT algorithm. |
| | | C307.4 | Analyze Finite word length effect on DSP systems. |
| | | C307.5 | Implement adaptive filters for various applications of DSP. |
| 42 | C308 Communication Systems Laboratory | C308.1 | Design the various types of continuous and discrete signals |
| | | C308.2 | Design and verify various modulation and demodulation circuits |
| | | C308.3 | Demonstrate band pass and baseband digital signaling schemes through simulation of FSK, PSK, QPSK, QAM and DPSK. |
| | | C308.4 | Apply various channel coding schemes and demonstrate their capabilities towards the improvement of noise performance of communication system |
| | | C308.5 | Simulate and validate the various fictional modules of a communication system |
| 43 | C309 Networks Laboratory | C309.1 | Explain the division of network functionalities into layers. |
| | | C309.2 | Outline the media access control and internetworking protocols. |
| | | C309.3 | Construct routing tables using various routing protocols. |
| | | C309.4 | Demonstrate the congestion control mechanism in TCP. |
| | | C309.5 | Relate the protocols used in network applications. |

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| 44 | C310 Microprocessor and Microcontrollers | C310.1 | Understand the architecture of 8086 microprocessor. |
| | | C310.2 | Understand the Bus structure of 8086 and execute programs based on 8086. |
| | | C310.3 | Design Memory Interfacing circuits. |
| | | C310.4 | Design and implement 8051 microcontroller based systems. |
| | | C310.5 | Design and interface I/O circuits. |
| 45 | C311 VLSI Design | C311.1 | Understand the basics of CMOS circuits and CMOS technology |
| | | C311.2 | Design the logic circuits of combinational devices and understand the concept of power dissipation. |
| | | C311.3 | Design and analysis of sequential logic circuits. |
| | | C311.4 | Understand the building blocks of adder and multipliers. circuits |
| | | C311.5 | Design and Implementation of Full custom and Semicustom ICs. |
| 46 | C312 Wireless Communication | C312.1 | Understand the characteristics of wireless channels and fading concepts. |
| | | C312.2 | Understand and implement various multiple access techniques and cellular architecture. |
| | | C312.3 | Design and implement different signaling schemes for fading channels. |
| | | C312.4 | Analyze the performance of various multipath mitigation techniques. |
| | | C312.5 | Implement system with transmit/receive diversity and MIMO systems |
| 47 | C313 Principles of Management | C313.1 | Understand the concepts of management practices and its impacts in current scenario |
| | | C313.2 | Illustrate the concepts, process and importance of managerial skills like planning, decision making and its application in various management practices. |
| | | C313.3 | Describe the basis and designs of organizations and its implementation in management effectiveness |
| | | C313.4 | Illustrate the importance of directing and how it is attained by managerial skills like motivation and leadership |
| | | C313.5 | Understand the needs, process and application of controlling and its influence in management processes. |
| 48 | Transmission Lines and RF systems | C314.1 | Explain the characteristics of transmission lines and losses. |
| | | C314.2 | Analyze the impedance matching using stubs in transmission lines. |
| | | C314.3 | Design constant k and m-derived sections of low pass and high pass filters |

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| | C314 | C314.4 | Understand the wave behavior in guiding structures and design cavity resonators |
| 49 | C315 Wireless Networks | C315.1 | Comprehend on Wireless networks, protocol stack and is standards. |
| | | C315.2 | Analyze the network layer solutions for Wireless networks |
| | | C315.3 | Outline the fundamentals of 3G Services, its protocols and applications |
| | | C315.4 | Demonstrate the concept of internetworking of WLAN and WWAN |
| | | C315.5 | Develop prototypes for applications for smart phones and mobile devices with latest network strategies |
| 50 | C316 Microprocessor and Microcontrollers Laboratory | C316.1 | Demonstrate and apply working of programs in 8086 microprocessor and 8051 microcontroller. |
| | | C316.2 | Explain various assembly language programs. |
| | | C316.3 | Develop the basic knowledge of microprocessor and microcontroller interfacing and their application. |
| | | C316.4 | Design the system using capabilities of stack program counter and status register and show how these are used to execute a machine code program. |
| | | C316.5 | Execute arithmetic, logical operations, unpacked BCD to ASCII using 8051. |
| 51 | C317 VLSI Design Laboratory | C317.1 | Develop the HDL code for basic as well as advanced digital Integrated circuits. |
| | | C317.2 | Import the logic modules into FPGA Boards. |
| | | C317.3 | Perform the Synthesization, Place and Route the digital IPs. |
| | | C317.4 | Design, Simulate and Extract the layouts of Analog IC Blocks using EDA tools. |
| | | C317.5 | Simulate the modern chip manufacturing software tools. |
| 52 | C318 Technical Seminar | C318.1 | To encourage the students to study advanced engineering developments. |
| | | C318.2 | To prepare and present technical reports |
| | | C318.3 | To encourage the students to use various teaching needs aids such as overhead projectors. PPT and demonstrative models. |
| | | C318.4 | To be able to review, prepare and present technological developments. |
| | | C318.5 | To be able to face placement interviews. |