

REGULATION: 2017

S.NO	COURSE NAME	COURSE OUT COMES	
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.
	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

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4	C104 - Engineering	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
5	C105 - Problem Solving & Python Programming	C105.1	Develop algorithmic solutions to simple computational problems
		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	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

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	C108 - Engineering	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.
9	C109 - Technical English	C109.1	Read technical texts and write area specific texts effortlessly
		C109.2	Write formal letters / emails using vocabulary.
		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 Information for Science	C111.1	Gain knowledge on classical and Quantum electron theories and energy band structure
		C111.2	Acquire knowledge on basics semiconductor physics and its application in various devices
		C111.3	Get knowledge magnetic properties of material and their application in data storage
		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 carbon electronics
12	2 - Basic Electrical, nics and Measurement Engineering	C112.1	Discuss the essentials of electric circuit analysis
		C112.2	Discuss the basic operation of electric machines and
		C112.3	Introduction of renewable Sources and Common Domestic Loads

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	C112 - Electronics	C112.4	Introduction to measurements and metering for electric circuit
13	C113 - Information Technology Essentials	C113.1	Design and deploy websites
		C113.2	Design and deploy websites in simple application
		C113.3	Create simple database application
		C113.4	Develop information system
		C113.5	Describe the basic of networking and mobile communication
14	C114 - Programming in C	C114.1	Develop simple applications in C using basic constructs
		C114.2	Design and implement applications using arrays and strings
		C114.3	Apply C functions and pointers in writing C programs.
		C114.4	Develop applications in C using structures.
		C114.5	Design applications using sequential and random access file processing.
15	C115 - Engineering Practices Laboratory	C115.1	Apply the knowledge of pipeline connections to household fittings and industrial buildings.
		C115.2	Prepare the different joints in roofs, doors, windows and furniture.
		C115.3	Perform step turning operation in a lathe.
		C115.4	Perform the various welding processes and know about its applications.
		C115.5	Produce a funnel using sheet metal.
16	C116 - C Programming Laboratory	C116.1	Develop C program for simple applications making use of basic construct, array and string
		C116.2	Develop c program involving function, recursion, pointers and structures
		C116.3	Design application using sequential and random access file processing
	Mathematics	C201.1	Understand and simplify basic logic statements, predicates and proofing methodology.
		C201.2	Able to solve counting problems such as permutation ,combination, set theory and generating functions

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17	C201- Discrete Math	C201.3	Understand graph theory and apply in data structures and real world problems.
		C201.4	Analyze the concepts and properties of algebraic structures such as groups, rings and fields.
		C201.5	Understand the basic concepts of Posets, Lattices and Boolean algebra
18	C202- Digital Principles and System Design	C202.1	Simply Boolean functions using K-Map
		C202.2	Analyse, design &write HDL code for combinational circuit.
		C202.3	Analyse, design &write HDL code for sequential circuit.
		C202.4	Apply the concept of asynchronous sequential circuits.
		C202.5	Implement design using programmable logic devices.
19	C203- Data Structures	C203.1	Implement abstract data types for linear data structures using List.
		C203.2	Implement abstract data types for linear data structures using Stack and Queue.
		C203.3	Represent and manipulate data using nonlinear data structures using trees to design algorithms for various applications
		C203.4	Illustrate the non – linear data structures using graph and its types
		C203.5	Illustrate and compare various techniques for searching and sorting.
20	C204- Object Oriented Programming	C204.1	Understanding of OOP concepts and basics of Java programming.
		C204.2	implement Object oriented constructs such as various class hierarchies, interfaces and exception handling
		C204.3	Explain the features of exception handling and input/output basics in Java.
		C204.4	Understand the concepts of threads and I/O in Java
		C204.5	Understand various components of Java AWT and Swing and Build applications that include GUIs and event driven programming.
	C205- Digital Communication	C205.1	Understand the various concept of analog communication
		C205.2	Compare data and pulse communication Techniques

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21	C205- Analog and Digital Communication	C205.3	Apply digital communication Techniques
		C205.4	Analyse source and error control coding.
		C205.5	Understand the significance and role of the course in present contemporary world.
22	C206- Data Structures Laboratory	C206.1	Explain appropriate data structures as applied to specified problem definition.
		C206.2	Applying queries like searching, insertion, and deletion, traversing mechanism etc. on various data structures.
		C206.3	Choose appropriate sorting/searching technique for given problem.
		C206.4	Design advance data structure using Non- Linear data structure.
		C206.5	Outline design by applying appropriate design pattern
23	C207- Object Oriented Programming Laboratory	C207.1	Understand and apply the concepts of classes, Packages, interface & Inheritance
		C207.2	Develop java program for practicing exception handling of files.
		C207.3	Develop application using generic programming & event handling
		C207.4	Develop java program for practicing threads and IO.
		C207.5	Develop a java program for real world application.
24	C208- Digital Systems Laboratory	C208.1	Apply boolean simplification techniques to design a combinational circuit.
		C208.2	Design and Implement combinational and sequential circuits.
		C208.3	Analyze the operation of comparator, shift registers and counters.
		C208.4	Simulate and implement combinational and sequential circuits using VHDL systems.
		C208.5	Design and Implement a simple digital system.
25	Interpersonal Communication & Speaking	C209.1	Listen and respond appropriately
		C209.2	Communicate with appropriate communicative strategies.
		C209.3	Decode what they listen or read.

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	C209- Skills/Lists	C209.4	Participate in group discussion
		C209.5	Make effective presentations
26	C210 - Probability and Statistics	C210.1	Understand the fundamental knowledge of the Probability and distributions.
		C210.2	Understand the basic concepts of one and two dimensional random Variables.
		C210.3	Apply the concept of testing of hypothesis for small and large samples in real life problems.
		C210.4	Apply the basic concepts of classifications of design of experiments in the field of agriculture and statistical quality control.
		C210.5	Apply the concepts of control charts to control the manufacturing Products.
27	C211 - Computer Architecture	C211.1	Explain the computer organization components, instructions and addressing modes
		C211.2	Demonstrate arithmetic operations
		C211.3	Interpret the basic of MIPS implementation and pipelining
		C211.4	Outline the concept of parallelism and multi-core processor
		C211.5	Classify the memory technologies and I/O systems
28	C212 - Database Management Systems	C212.1	Explain about a sound introduction to the discipline of database management Systems.
		C212.2	Learn a good formal foundation on the relational model of data and usage of Relational Algebra.
		C212.3	Illustrate the concepts of basic SQL as a universal Database language.
		C212.4	Build a knowledge to advanced SQL topics like embedded SQL, Procedures connectivity through JDBC.
		C212.5	Demonstrate the principles behind systematic database design approaches by covering conceptual design, logical design through normalization.
29	and Analysis of Algorithms	C213.1	Interpret the fundamental needs of algorithms in problem solving.
		C213.2	Classify the Brute force and divide-and-conquer design techniques for problem solving
		C213.3	Develop algorithms for various computing problems

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	C213- Design and Analysis of Algorithms	C213.4	Analyze the iterative improvement methods.
		C213.5	Identify the limitations of algorithms in problem solving.
30	C214 - Operating Systems	C214.1	Explain the basic concepts and functions of Operating Systems.
		C214.2	Explain various threading models, process synchronization and deadlocks and Analyze the performance of various CPU scheduling algorithms.
		C214.3	Discuss various memory management schemes.
		C214.4	Explain I/O management and file systems.
		C214.5	Explain administrative tasks on Linux Servers and Distinguish iOS and Android OS.
31	C215- Environmental Science and Engineering	C215.1	Understand the types, characteristics of Ecosystem & Biodiversity.
		C215.2	Understand the types of pollution & its causes.
		C215.3	Understand the importance of Natural Resources.
		C215.4	Understand the Environmental problems.
		C215.5	Explain the importance of women, child education and HIV /AIDS.
32	C216 - Database Management Systems Laboratory	C216.1	Understand data definitions and data manipulation commands
		C216.2	Learn the use of nested and join queries
		C216.3	Understand functions, procedures and procedural extensions of data bases
		C216.4	Understand design and implementation of typical database applications
		C216.5	Improve the design by applying appropriate design pattern
33	C217- Operating Systems Laboratory	C217.1	Experiment with Unix commands and shell programming.
		C217.2	Build 'C' program for process and file system management using system calls.
		C217.3	Choose the best CPU scheduling algorithm for a given problem instance.
		C217.4	Identify the performance of various page replacement algorithms.
		C217.5	Develop algorithm for deadlock avoidance, detection and file allocation strategies.
	Reading and Writing Skills	C218.1	Read and evaluate texts critically.

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34	C218 - Advanced Reading Writing	C218.2	Develop paragraph with reasons and examples
		C218.3	Write different types of essays.
		C218.4	Create job applications and resume.
		C218.5	Display critical thinking in various professional contexts.
35	C301 - Algebra and Number Theory	C301.1	Apply the concepts of groups and rings in related problem solving.
		C301.2	Apply the polynomial equations for real time problems.
		C301.3	Demonstrate the number theory and its applications.
		C301.4	Apply linear equations to solve non trivial problems.
		C301.5	Demonstrate the classical theorems in different applications.
36	C302 - Computer Networks	C302.1	Understand the basic layers and its functions in computer networks.
		C302.2	Evaluate the performance of a network.
		C302.3	Understand the basics of how data flows from one node to another.
		C302.4	Analyze and design routing algorithms
		C302.5	Design protocols for various functions in the network.
37	C303 - Microprocessors and Microcontrollers	C303.1	Understand the programs based on 8086 microprocessor.
		C303.2	Design Memory Interfacing circuits.
		C303.3	Design and interface I/O circuits.
		C303.4	Design and implement 8051 microcontroller based system
		C303.5	Develop application based microcontroller systems.
38	C304 - Web Technology	C304.1	Understand the communication technologies and summarize the basic tags and properties in HTML.
		C304.2	Design a web page based on HTML tags and CSS properties with java script functionalities
		C304.3	To learn the server side programming using servlets and JSP
		C304.4	Create web pages using XML, Schema and XSLT to prepare XML documents to store and transport data.
		C304.5	Understand AJAX technologies and web services and how these web services are interact.

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39	C305 - Software Engineering	C305.1	Explain the software engineering process and Agile development.
		C305.2	Demonstrate software requirements and analysis.
		C305.3	Outline the software design process and user interface
		C305.4	Compare and contrast various software testing
		C305.5	Discuss about the software integration and project management
40	C306–Geographical Information Systems	C306.1	Describe the basic idea about the fundamentals of GIS.
		C306.2	Understand the types of data models.
		C306.3	Get knowledge about data input and topology.
		C306.4	Gain knowledge on data quality and standards.
		C306.5	Understand data management functions and data output.
41	C307 - Microprocessors and Microcontrollers Laboratory	C307.1	Develop ALP for fixed and Floating Point and Arithmetic operations using 8086 Microprocessor.
		C307.2	Make use of different I/O interfacing with 8086 microprocessor
		C307.3	Generate different waveforms using 8086 microprocessor
		C307.4	Model serial and parallel interfacing of 8086 microprocessor
		C307.5	Develop assembly language programs for various applications using 8051 microcontroller
42	C308 – Networks Laboratory	C308.1	Apply the different types of network topologies and protocols
		C308.2	Build the different types of network devices and their functions within a network
		C308.3	Experiment the basic protocols of computer networks, and evaluates how they can be used to assist in network design and implementation.
		C308.4	Understand the concepts of routing mechanisms , network interfaces, and design/performance issues in local area networks and wide area networks
		C308.5	Design by applying appropriate design patterns.

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43	C309 – Web Technology Laboratory	C309.1	Outline the web pages to apply basic tags and properties in HTML.
		C309.2	Design a web page based on HTML tags and CSS properties with java script functionalities
		C309.3	Design server side programming using servlets and JSP
		C309.4	Create web pages using XML,Schema and XSLT to prepareXML documents to store and transport data.
		C309.5	Construct web application and learn how these web services are interact.
44	C310 - Computational intelligence	C310.1	Identify problems that are amenable to solution by AI methods.
		C310.2	Recognize appropriate AI methods to solve a given problem.
		C310.3	Discuss a given problem in the language/framework of different AI methods.
		C310.4	Develop basic AI algorithms.
		C310.5	Model an empirical evaluation of different algorithms on a problem formalization, and state the conclusions that the evaluation supports.
45	C311 - Object oriented analysis and design	C311.1	Express software design with UML diagrams
		C311.2	Design software applications using OO concepts.
		C311.3	Identify various scenarios based on software requirements
		C311.4	Transform UML based software design into pattern based design using design patterns
		C311.5	Understand the various testing methodologies for OO software
46	C312- Mobile Communication	C312.1	Explain the basics of mobile telecommunication system
		C312.2	Illustrate the generations of telecommunication systems in wireless network
		C312.3	Understand the architecture of Wireless LAN technologies
		C312.4	Determine the functionality of network layer and Identify a routing protocol for a given Ad hocnetworks
		C312.5	Explain the functionality of Transport and Application layer
	tics	C313.1	Work with big data tools and its analysis techniques.

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47	C313 - Big data analysis	C313.2	Analyze data by utilizing clustering and classification algorithms.
		C313.3	Learn and apply different mining algorithms and recommendation systems for large volume of data.
		C313.4	Perform analytics on data streams
		C313.5	Learn NoSQL database and management
48	C315 - Computer graphics and multimedia	C314.1	Apply Illumination and color models and apply clipping techniques to graphics.
		C314.2	Design two dimensional graphics and apply two dimensional transformations.
		C314.3	Design three dimensional graphics. Apply three dimensional transformations.
		C314.4	Understood Different types of Multimedia File Format
		C314.5	Understand the basic Hypermedia features and design Basic 3d Scenes using Blender
49	C315 - Mobile Application Development Laboratory (CS8662)	C315.1	Design a native application using GUI components and Layouts.
		C315.2	Develop an application using Event listener functions and graphical primitives.
		C315.3	Construct an application using databases and notification manager.
		C315.4	Develop an application using RSS feed, Internal/External storage , SMS, multi threading, and location identification using GPS in an application
		C315.5	Analyze and discover new applications in your own for simple needs.
50	C316 - Object oriented analysis and design Laboratory	C316.1	Perform OO analysis and design for a given problem specification.
		C316.2	Identify and map basic software requirements in UML mapping
		C316.3	Improve the software quality using design patterns.
		C316.4	To explain the rationale behind applying specific design patterns
		C316.5	Test the compliance of the software with the SRS