## K.L.N COLLEGE OF ENGINEERING DEPARTMENT OF INFORMATION TECHNOLOGY Regulation-2017

## **Course Outcomes**

Sl.No	Semester	Course	CODE
1	Į	HS8151-Communicative English	C101
2		MA8151- Engineering Mathematics I	C102
3		PH8151- Engineering Physics	C103
4		CY8151 - Engineering Chemistry	C104
5	I SEM	GE8152- Problem Solving And Python Programming	C105
6		GE8152- Engineering Graphics	C106
		GE 8161- Problem Solving And Python Programming	
7	ļ	Laboratory	C107
8	<u> </u>	BS8161 -Physics And Chemistry Lab	C108

HS8151-COMMUNICATIVE ENGLISH – I (C101)		
C101.1	Listen and recognize main ideas from different discourses in different accents.	
C101.2	Speak clearly, confidently, comprehensively, and communicate with one or many listeners using appropriate communicative strategies.	
C101.3	Read different genres of text adopting various reading strategies	
C101.4	Write cohesively and coherently by using a wide range of vocabulary and organize ideas logically on a topic without grammatical errors	
C101.5	Determine the main and subordinate ideas, draw conclusions and summarize information from written material	

	MA8151- ENGINEERING MATHEMATICS I (C102)
C102.1	Use both the limit definition and rules of differentiation to differentiate functions.
C102.2	Apply differentiation to solve maxima and minima problems.
C102.3	Evaluate integrals both by using Reimann sums and by using the fundamental theorem
	of calculus and Determine the convergence /divergence of improper integrals and
	evaluate convergent improper integrals. Evaluate integrals using techniques of
	integration, such as substitution, partial Fractions, integration by parts and improper
	integrals.
C102.4	Apply integration to compute multiple integrals, area, volume, integrals in polar
	coordinates, in addition to change of order and change of variables.
C102.5	Apply various techniques in solving differential equations.

PH8151- ENGINEERING PHYSICS (C103)		
C103.1	Demonstrate the properties of elasticity and measure the different moduli of elasticity.	
C103.2	Examine the characteristics of waves, Laser and optical fiber	
C103.3	Illustrate different modes of heat transfer through objects.	
C103.4	Explain the black body radiation, properties of matter waves and schrodinger equations.	
C103.5	Classify the bravais lattices and different types of crystal structures.	

CY8151 - ENGINEERING CHEMISTRY (C104)		
C104.1	Explain the hardness of water, its types and estimation, boiler troubles and	
	treatment of boiler feed water.	
C104.2	Explain adsorption, types and theories of adsorption isotherm and its application	
	in pollution abatement, theories of catalysis and applications	
C104.3	Understand the basic concepts of phase rule and its application to one and two	
	component systems, properties, significance and applications of alloys.	
C104.4	Relate the significance of solid, liquid and gaseous fuels and to calculate the	
	calorific value of fuels.	
C104.5	Illustrate the methods of harvesting energy from non-conventional energy	
	sources.	

GE8152- PROBLEM SOLVING AND PYTHON PROGRAMMING(C105)		
C105.1	Develop algorithmic solutions to simple computational problems	
C105.2	Demonstrate programs using simple Python statements and expressions.	
C105.3	Explain control flow and functions concept in Python for solving problems.	
C105.4	Use Python data structures – lists, tuples & dictionaries for representing compound data.	
C105.5	Explain files, exception, modules and packages in Python for solving problems.	

GE8152- ENGINEERING GRAPHICS(C106)		
C106.1	Familiarize the fundamentals and standards of engineering graphics	
C106.2	Perform free hand sketching of basic construction and machine equipments.	
C106.3	Project orthographic projection of lines and plane surfaces	
C106.4	Draw the projection of solids and development of solid.	
C106.5	Visualize and project isometric perspective section of solids and surfaces.	

## GE 8161- PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY(C107)

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 and dictionaries for representing compound data.
C107.5	Develop Python programs using files.

BS8161 -PHYSICS AND CHEMISTRY LAB(C108)		
C108. 1	Determine and estimate the types of alkalinity & hardness of a given water sample. & evaluate moment of inertia of disc and rigidity modulus for thin wire using torsion pendulum.	
C108. 2	Estimate the amount of copper content present in a given sample & Appraise Young's modulus of the beam by Non - Uniform bending method.	
C108. 3	Determine the strength of an acid by using pH meter. & Measure the wavelength of laser, particle size and basic parameters of optical fiber using semiconductor diode laser.	
C108. 4	Determine the strength of a pure acid and mixture of acids by using conductivity meter. & Examine the thermal conductivity of bad conductors using Leeâ€ <sup>Ms</sup> disc apparatus.	
C108.5	Estimate the amount of iron content present in a given solution by means of potentiometric titration. & Determine the wavelength of the prominent spectral lines.	

SI.No	Semester	Course	CODE
1		HS 8251-Technical English	C201
2		MA8251- Engineering Mathematics II	C202
3		PH8252- Physics for Information Science	C203
4		<b>BE8255 - Basic Electrical, Electronics and Measurement Engineering</b>	C204
5	II SEM	IT8201- Information Technology Essentials	C205
6		CS8251- Programming in C	C206
7		GE82621-Engineering Practices Laboratory	C207
8		CS8261- C Programming Laboratory	C208
9		IT8211 -Information Technology Essentials Laboratory	C209

HS 8251-TECHNICAL ENGLISH(C201)		
C201.1	Read technical texts and write area- specific texts effortlessly	
C201.2	Listen and comprehend lectures and talks in their area of specialization successfully	
C201.3	Speak appropriately and effectively in varied formal and informal contexts	
C201.4	Write reports and winning job applications.	
C201.5	Use appropriate technologies to organize, present, and communicate information	
	to address a range of audiences, purposes, genres	

	MA8251- ENGINEERING MATHEMATICS II(C202)		
C202.1	Calculate the eigenvalues and eigen vectors, diagonalization of a matrix, symmetric		
	matrices, Positive definite matrices and similar matrices.		
C202.2			
	theorems and their verification		
C202.3	Determine Analytic functions, conformal mapping and Bilinear transformation .		
C202.4			
	evaluation for real integrals using circular and semicircular, contour.		
C202.5	Evaluate Laplace transform and inverse transform of simple functions, properties,		
	various related theorems and application to differential equations with constant coefficients.		
	coefficients.		

	PH8252- PHYSICS FOR INFORMATION SCIENCE(C203)		
C203.1	Gain the knowledge on classical and quantum electron theories and energy band structure.		
C203.2	Acquire knowledge on basics of semiconductor physics and its applications in various devices.		
C203.3	Get knowledge on magnetic properties of materials.		
C203.4	Have the necessary understanding on the functioning of optical materials for optoelectronics.		
C203.5	Understand the basics of quantum structures application and carbon nanotubes.		

<b>BE8255 - BASIC ELECTRICAL, ELECTRONICS AND MEASUREMENT</b>			
	ENGINEERING(C204)		
C204.1	I am able to solve the basic dc and ac circuits and explain the operation of ammeter,		
C204.1	voltmeter, and wattmeter and energy meter.		
C204.2	I am able to describe the working of dc generators and motors and capable to clarify		
C204.2	the application of single phase transformers and induction motors.		
C204.3	I am capable to clarify the application of Wind power, solar power, fluorescent lamp		
C204.3	and Li ion batteries		
C204.4	I am competent to explain the working of basic electronic devices such as diode		
C204.4	,transistors, ADC and DAC		
C204.5	I am able to describe the working of moving coil and moving iron and capable to		
C204.5	clarify the application of LVDT and LDR.		

<b>IT8201- INFORMATION TECHNOLOGY ESSENTIALS(C205)</b>		
C205.1	Understand the working of website and server	
C205.2	Apply various PHP concepts to create application	
C205.3	Understand the basic concepts of network protocols, components and its functionalities	
C205.4	Understand the basic concepts of mobile computing and its architecture	
C205.5	Integrate database with PHP to create interactive applications	

CS8251- PROGRAMMING IN C(C206)		
C206.1	Develop simple applications in C using basic constructs	
C206.2	Design and implement applications using arrays and strings	
C206.3	Develop and implement applications in C using functions and pointers.	
C206.4	Develop applications in C using structures.	
C206.5	Design applications using sequential and random access file processing.	

	GE82621-ENGINEERING PRACTICES LABORATORY(C207)
C207.1	I am able to do simple residential house wiring & I am able to fabricate carpentry
	components.
C207.2	I am able to measure earth resistance of an electrical equipment & I am able to mount
	pipe connections including plumbing works.
C207.3	I am able to measure ac signal parameter using CRO & I am able to use welding
	equipments to join the structures.
C207.4	Do you have experiences in developing logic circuits using basic Gates? & I am able to
	carry out the basic machining operations.
C207.5	I am able to determine the ripple factor of Half wave Rectifier and Full wave Rectifier
	& I am able to make the models using sheet metal works Illustrate on centrifugal
	pump, Air conditioner, operations of smithy, foundry and fittings.

	CS8261- C PROGRAMMING LABORATORY(C208)		
C208.1	Develop simple applications in C using basic constructs		
C208.2	Design and implement applications using arrays and strings		
C208.3	Develop and implement applications in C using functions and pointers.		
C208.4	Develop applications in C using structures.		
C208.5	Design applications using sequential and random access file processing.		

IT821	IT8211 -INFORMATION TECHNOLOGY ESSENTIALS LABORATORY(C209)		
C209.1	Design interactive websites using basic HTML tags, different styles, links and		
	with all basic control elements		
C209.2	Create client side and server side programs using scripts using PHP		
C209.3	Design dynamic web sites and handle multimedia components		
C209.4	Create applications with PHP connected to database and Personal Information		
	System		
C209.5	Implement the technologies behind computer networks and mobile		
	communication		

SI.No	Semester	Course	CODE
1		MA8351- Discrete Mathematics	C301
2		CS8351 - Digital Principles and System Design	C302
3		CS8391 - Data Structures	C303
4	III SEM	CS8392 - Object Oriented Programming	C304
5		EC8394 -Analog And Digital Communication	C305
6		CS8381 - Data Structures Laboratory	C306
7		CS8383 - Object Oriented Programming Laboratory	C307
8		CS8382- Digital Systems Laboratory	C308
9		HS8381- Interpersonal Skills- Listening and Speaking	C309

	MA8351/DISCRETE MATHEMATICS(301)		
C301.1	Have knowledge of the concepts needed to test the logic of a program		
C301.2	Be aware of the counting principles.		
C301.3	Have an understanding in identifying structures on many levels.		
C301.4	Be exposed to concepts and properties of algebraic structures such as groups, rings and fields.		
C301.5	Be aware of a class of functions which transform a finite set into another finite set which relates to input and output functions in computer science		
(	CS8351 - DIGITAL PRINCIPLES AND SYSTEM DESIGN(C302)		
C302.1	Simply Boolean functions using K-Map		
C302.2	Design & Analyze combinatorial & sequential circuit		
C302.3	Design Analyze & write HDL code for synchronous sequential circuits		
C302.4	Design Analyze & write HDL code for asynchronous sequential circuits		
C302.5	Implement design using programmable logic devices		
	CS8391 - DATA STRUCTURES(C303)		
C303.1	Explain the fundamental data structures concepts and ADT		
C303.2	Summarize the various linear data structure operations and applications		
C303.3	Discuss about Tree operations and applications		
C303.4	Discuss about Graphs operations and applications		
C303.5	Demonstrate the sorting, searching and hashing techniques in data structures		
	CS8392 - OBJECT ORIENTED PROGRAMMING(C304)		
C304.1	Explain the concepts of Object Oriented Programming and the fundamentals of		
	java programming		
C304.2	Explain the principles of inheritance and interfaces		

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	Discuss the concept of exception handling mechanism and I/O streams		
	Use the concept of multithreading and generics classes in Java		
C304.5	Apply the AWT and Swing concepts to build GUI application		
	EC8394 -ANALOG AND DIGITAL COMMUNICATION(C305)		
<b>C305.1</b>	C305.1Apply analog communication techniques.		
C305.2	Use data and pulse communication techniques.		
C305.3	Apply digital communication techniques.		
C305.4	Analyze Source and Error control coding.		
C305.5	Utilize multi-user Radio communication.		
	CS8381 - DATA STRUCTURES LABORATORY(C306)		
C306.1	Compute Array implementation of stack, Queue and List ADTs using C program		
C306.2	Demonstrate Linked list implementation of list, Stack and Queue ADTs		
C306.3	Manipulate Binary trees, Binary search Trees and AVL tree and its operations		
C306.4 (	Compute graph representation and Traversal algorithms		
C306.5	Examine searching, sorting and hashing algorithms		
CS838.	3 - OBJECT ORIENTED PROGRAMMING LABORATORY(C307)		
C307.1 To understand and apply the concepts of classes, Packages, interface &			
	inheritance		
	To develop java program for practicing exception handling of files		
C307.3	To develop application using generic programming & event handling		
C307.4	To built software development skills in java		
C307.5	To develop a java program for real world application		
	CS8382- DIGITAL SYSTEMS LABORATORY(C308)		
	Apply Boolean simplification techniques to construct combinational logic		
	circuits.		
	Build combinational logic circuits to perform arithmetic operations.		
	Implement combinational circuits using MSI devices.		
	Construct Sequential circuits like registers and counters.		
C308.5	Simulate combinational and sequential circuits using HDL.		

Sl.No	Semester	Course	CODE
1		MA8391 - Probability and Statistics	C401
2		CS8491- Computer Architecture	C402
3		CS8492 – Database Management Systems	C403
4		CS8451 - Design and Analysis of Algorithms	C404
5	IV SEM	CS8493 – Operating Systems GE8291 – Environmental Science and Engineering	C405 C406
7		CS8481- Database Management Systems Laboratory CS8461– Operating Systems Laboratory	C407 C408
9		HS8461- Advanced Reading and Writing	C409

MA8391 /PROBABILITY AND STATISTICS (C401)			
C401.1	Identify the functions of discrete and continuous random variables, moments and moment generating function		
C401.2	Solve problems in marginal conditional distribution, using the concepts of correlation, regressions and transformation of two dimensional random variables		
C401.3	Apply the concept of testing of hypothesis for small and large samples in real life problems.		
C401.4	Apply ANOVA test to design of experiments.		
C401.5	Have the notion of sampling distributions and statistical techniques used in engineering and management problems.		
	CS8491- COMPUTER ARCHITECTURE(C402)		
C402.1	Discuss the basic components of computers, operations and instructions		
C402.2	Outline the circuits required to perform operations in Arithmetic Logic Unit		
C402.3	Describe the importance of basic data path, pipelined executions and hazards		
C402.4	Identify parallel processing architectures with instruction level parallelism, multi core processing and graphics processing units		
C402.5	Explain the performance of memory systems and input/output system		
	CS8492 – DATABASE MANAGEMENT SYSTEMS(403)		
C403.1	Classify the modern and futuristic database applications based on size and complexity		
C403.2	.2 Map ER model to Relational model to perform database design effectively		

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C403.3		Write queries using normalization criteria and optimize queries		
C403.4	1	Compare and contrast various indexing strategies in different database systems		
C403.5				
		CS8451 - DESIGN AND ANALYSIS OF ALGORITHMS(C404)		
C404.1	Understand different analysis techniques for various problems			
C404.2	Un	derstand different problems under divide and conquer methodology and brute force		
C404.3	pro	der and analyze various problems under greedy algorithm and dynamic ogramming		
C404.4	Un	derstand and analyze the problem of iterative algorithms		
C404.5	An	alyzing the limitation of various algorithmic methodologies		
		CS8493 – OPERATING SYSTEMS(C405)		
C405.1	Ex	plain the basic concepts and functions of Operating Systems.		
C405.2	Explain various threading models, process synchronization and deadlocks.			
C405.3	Analyze the performance of various CPU scheduling algorithms.			
C405.4	Dis	scuss various memory management schemes.		
C405.5	Ex	plain I/O management and file systems.		
C405.6	Ex	plain administrative tasks on Linux Servers and Distinguish iOS and Android OS.		
(	C <b>S8</b> 4	81- DATABASE MANAGEMENT SYSTEMS LABORATORY(C407)		
<b>C407.</b>	<b>C407.1</b> Use typical data definitions and manipulation commands.			
C407.2	2	Design applications to test Nested and Join Queries		
C407.3	3	Implement simple applications that use Views		
C407.4	4	Implement applications that require a Front-end Tool		
C407.5	C407.5 Critically analyze the use of Tables, Views, Functions and Procedures			
		CS8461- OPERATING SYSTEMS LABORATORY(408)		
C408.1	Examine various Unix commands and shell programming			
C408.2	Poi	int out the best CPU scheduling algorithm for a given problem instance		
C408.3	De	monstrate Semaphores, Deadlock avoidance and detection Algorithms		
C408.4	-	erate on processes, Threads and implement IPC		
C408.5	Examine various Memory Management and File Management techniques			

SI.No	Semester	Course	CODE
1		MA8551-Algebra and Number Theory	C501
2		CS8591-Computer Networks	C502
3		EC8691-Microprocessors and Microcontrollers	C503
4		IT8501-Web Technology	C504
5		CS8494-Software Engineering	C505
6		Open Elective-I	C506
7		EC8681-Microprocessors and Microcontrollers Laboratory	C507
8		CS8581-Networks Laboratory	C508
9		IT8511-Web Technology Laboratory	C509

	CS8591-COMPUTER NETWORKS(C502)				
C502.1	Understand the basic layers and its functions in computer networks and evaluate the performance of a network.				
C502.2	Understand the basics of how data flows from one node to another				
C502.3	Analyze and design routing algorithms.				
C502.4	Design protocols for various functions in the network.				
C502.5	Understand the working of various application layer protocols				
	EC8691-MOCROPROCESSORS AND MICROCONTROLLERS(C503)				
C503.1	Understand about the architecture of 8086 microprocessor and Demonstrate the programs on 8086 microprocessor				
C503.2	2 Illustrate the Bus structure and communication of microprocessor				
C503.3	3 Illustrate the design aspects of I/O and memory interfacing circuits				
C503.4	Explain about the architecture of 8051 Microcontroller and Demonstrate the programs on 8051 Microcontroller				
C503.5	5 Develop a simple 8051 microcontroller based systems				
	IT8501 / WEB TECHNOLOGY(C504)				
C504.1	Design Simple Web pages using markup languages like HTML and XHTML				
C504.2	Create dynamic web pages using DHTML and java script that is easy to navigate ad use				
C504.3	Program server side web pages that have to process request from the client side web pages				
C504.4	Represent web data using XML and develop web pages using JSP				
C504.5	Understand various web services and how these web services interact				

		CS8494 / Software Engineering (C505)	
C505.1		Identify the key activities in managing project and compare different process model	
C505.2		To learn Concepts of requirements engineering and analysis modeling	
C505.3		Apply systematic procedure for software design and deployment	
C505.4		Compare and contrast the various testing and maintenance	
C505.5		Manage project schedule, estimate project cost and effort required	
EC8681	-MI	CROPROCESSORS AND MICROCONTROLLERS LABORATORY(C507)	
C507.	1	To Write ALP Programmes for fixed and Floating Point and Arithmetic operations	
C507.	2	To Interface different I/Os with processor	
C507.	3	To Generate waveforms using Microprocessors	
C507.4	4	To Execute Programs in 8051	
C507.5 To Explain the difference between simulator and Emulator		To Explain the difference between simulator and Emulator	
		CS8581-NETWORKS LABORATORY(C508)	
C508.1	Implement various protocols using TCP and UDP.		
C508.2	Co	mpare the performance of different transport layer protocols.	
C508.3	Use	e simulation tools to analyze the performance of various network protocols	
C508.4	Analyze various routing algorithms.		
C508.5			
		IT8511-WEB TECHNOLOGY LABORATORY(C509)	
C509.1	9.1 Design Web pages using HTML/DHTML and style sheets		
C509.2	Develop user interfaces using Java frames and applets		
C509.3	Des	sign and Implement database applications	
C509.4	Co	nstruct dynamic web pages using server side scripting.	
C509.5	Experiment with Client Server applications.		

Sl.No	Semester	Course	CODE
1		IT8601- Computational Intelligence	C601
2		CS8592- Object Oriented Analysis And Design	C602
3		IT8602- Mobile Communication	C603
4		CS8091- Big Data Analytics	C604
5	VI SEM	CS8092-Computer Graphics and Multimedia	C605
6		Professional Elective I	C606
7		CS8662 - Mobile Application Development Laboratory	C607
		CS8582 - Object Oriented Analysis And Design	
		Laboratory	
8			C608
9		IT8611 - Mini Project	C609

	IT8601- COMPUTATIONAL INTELLIGENCE(C601)
C601.1	Identify problems that are amenable to solution by AI methods.
C601.2	Recognize appropriate AI methods to solve a given problem.
C601.3	Discuss a given problem in the language/framework of different AI methods.
C601.4	Develop basic AI algorithms.
C601.5	Model an empirical evaluation of different algorithms on a problem formalization, and state the conclusions that the evaluation supports.
	CS 8592/Object Oriented Analysis and Design (602)
C602.1	Express software design with UML diagrams
C602.2	Design software applications using OO concepts.
C602.3	Identify various scenarios based on software requirements
C602.4	Transform UML based software design into pattern based design using design patterns
C602.5	Understand the various testing methodologies for OO software
	IT8602- MOBILE COMMUNICATION(C603)
C603.1	Explain the basics of mobile telecommunication system
C603.2	Illustrate the generations of telecommunication systems in wireless network
C603.3	Understand the architecture of Wireless LAN technologies
C603.4	Determine the functionality of network layer and Identify a routing protocol for a

	given Ad hocnetworks				
C603.5	Explain the functionality of Transport and Application layer				
	CS8091- BIG DATA ANALYTICS(C604)				
C604.1	Work with big data tools and its analysis techniques.				
C604.2	Analyze data by utilizing clustering and classification algorithms.				
C604.3	Learn and apply different mining algorithms and recommendation systems for large volume of data.				
C604.4	Perform analytics on data streams				
C604.5	Learn NoSQL database and management				
	CS8092-COMPUTER GRAPHICS AND MULTIMEDIA(C605)				
C605.1	Apply Illumination and color models and apply clipping techniques to graphics.				
C605.2	Design two dimensional graphics and apply two dimensional transformations.				
C605.3	Design three dimensional graphics. Apply three dimensional transformations.				
C605.4	Understood Different types of Multimedia File Format				
C605.5					
CS	8662 - MOBILE APPLICATION DEVELOPMENT LABORATORY(C607)				
C607.1 Design a native application using GUI components and Layouts.					
C607.2	2 Develop an application using Event listener functions and graphical primitives.				
C607.	B Construct an application using databases and notification manager.				
C607.4	threading, and location identification using GPS in an application				
C607.5 Analyze and discover new applications in your own for simple needs.					
	CS 8582/Object Oriented Analysis and Design Lab (608)				
C608.1	Perform OO analysis and design for a given problem specification.				
C608.2	Identify and map basic software requirements in UML mapping				
C608.3	Improve the software quality using design patterns.				
C608.4	To explain the rationale behind applying specific design patterns				
C608.5	Test the compliance of the software with the SRS				

Sl.No	Semester	Course	CODE
1		MG8591- Principles of Management	C701
2		CS8792- Cryptography and Network Security	C702
3		CS8791- Cloud Computing	C703
4	VII	Open Elective-II	C704
	SEM		
5		Professional Elective-II	C705
6		Professional Elective-III	C706
7		IT8711- FOSS and Cloud Computing Laboratory	C707
8		IT8761- Security Laboratory	C708

	CS8792- CRYPTOGRAPHY AND NETWORK SECURITY(C702)
C702.1	Understand the fundamentals of networks security, security architecture, threats and vulnerabilities
C702.2	Apply the different cryptographic operations of symmetric cryptographic algorithms
C702.3	Apply the different cryptographic operations of public key cryptography
C702.4	Understand the various Authentication schemes to simulate different applications.
C702.5	Understand various Security practices and System security standards.
	CS8791- CLOUD COMPUTING(C703)
C703.1	Articulate the main concepts, key technologies, strengths and limitations of cloud computing
C703.2	Learn the key and enabling technologies that help in the development of cloud
C703.3	Develop the ability to understand and use the architecture of compute and storage cloud, service and delivery models
C703.4	Explain the core issues of cloud computing such as resource management and security and able to install, use current cloud technologies.
C703.5	Evaluate and choose the appropriate technologies, algorithms and approaches for implementation and use of cloud.
	IT8711- FOSS AND CLOUD COMPUTING LABORATORY(C707)
C707.1	Configure various virtualization tools such as Virtual Box, VMware workstation
C707.2	Design and deploy a web application in a PaaS environment.
C707.3	Learn how to simulate a cloud environment to implement new schedulers.
C707.4	Install and use a generic cloud environment that can be used as a private cloud
C707.5	Manipulate large data sets in a parallel environment

## IT8761- SECURITY LABORATORY(C708)

C708.1	Develop code for classical Encryption Techniques to solve the problems
C708.2	Build cryptosystems by applying symmetric and public key encryption algorithms
C708.3	Construct code for authentication algorithms
C708.4	Develop a signature scheme using Digital signature standard.
C708.5	Demonstrate the network security system using open source tools

SI.No	Semester	Course	CODE
1		Professional Elective IV	C801
2		Professional Elective IV	C802
3		IT8811- Project Work	C803

	IT8811- PROJECT WORK(C803)		
C803.1	Identify the problem by applying acquired knowledge.		
C803.2	Analyze and categorize executable project modules after considering risks.		
C803.3	Choose efficient tools for designing project modules.		
C803.4	Combine all the modules through effective team work after efficient testing.		
C803.5	Elaborate the completed task and compile the project report.		