



4	CY8151 / Engineering Chemistry	3	CY8151	The knowledge gained on engineering materials, fuels, energy sources and water treatment techniques will facilitate better understanding of engineering processes and applications for further learning.	√	√	√														
5	GE8151 / Problem Solving and Python Programmin g	3	GE8151	Develop algorithmic solutions to simple computational problems	√	√	√														
				Read, write, execute by hand simple Python programs.	√	√	√														
				Structure simple Python programs for solving problems.	√	√	√														
				Decompose a Python program into functions.	√	√	√														
				Represent compound data using Python lists, tuples, dictionaries.	√	√	√														
				Read and write data from/to files in Python Programs.	√	√	√														
6	GE8152 / Engineering Graphics	4	GE8152	Familiarize with the fundamentals and standards of Engineering graphics	√	√	√		√			√	√	√			√				
				Perform freehand sketching of basic geometrical constructions and multiple views of objects	√	√	√		√			√	√	√				√			
				Project orthographic projections of lines and plane surfaces.	√	√	√		√			√	√	√				√			
				Draw projections and solids and development of surfaces.	√	√	√		√			√	√	√				√			
				Visualize and to project isometric and perspective sections of simple solids.	√	√	√		√			√	√	√				√			
7	GE8161 / Problem Solving and Python Programmin g Laboratory	2	GE8161	Write, test, and debug simple Python programs.	√	√	√		√			√	√	√			√				
				Implement Python programs with conditionals and loops.	√	√	√		√			√	√	√			√				
				Develop Python programs step-wise by defining functions and calling them.	√	√	√		√			√	√	√			√				
				Use Python lists, tuples, dictionaries for representing compound data.	√	√	√		√			√	√	√			√				
				Read and write data from/to files in Python.	√	√	√		√			√	√	√			√				

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					1	2	3	4	5	6	7	8	9	10	11	12			
8	BS8161 / Physics and Chemistry Laborator y	2	BS8161	Apply principles of elasticity, optics and thermal properties for engineering applications.	√	√	√							√	√	√			
				The students will be outfitted with hands-on knowledge in the quantitative chemical analysis of water quality related parameters.	√	√	√									√	√	√	



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5	GE8291 / Environmental Science and Engineering	3	GE8291	Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental Protection. One will obtain knowledge on the following after completing the course.	√	√	√					√	√	√	√			√				
				Public awareness of environmental is at infant stage.	√	√	√					√	√	√	√					√		
				Ignorance and incomplete knowledge has lead to misconceptions	√	√	√						√	√	√	√					√	
				Development and improvement in std. of living has lead to serious environmental disasters	√	√	√						√	√	√	√					√	
6	CS8251 / PROGRAMMING IN C	3	CS8251	Develop simple applications in C using basic constructs	√	√	√						√	√	√			√				
				Design and implement applications using arrays and strings	√	√	√						√	√	√					√		
				Develop and implement applications in C using functions and pointers.	√	√	√							√	√	√					√	
				Develop applications in C using structures.	√	√	√							√	√	√					√	
				Design applications using sequential and random access file processing	√	√	√							√	√	√					√	
7	GE8261 / Engineering Practices Laboratory	2	GE8261	Fabricate carpentry components and pipe connections including plumbing works.	√	√	√	√	√	√			√	√	√			√				
				Use welding equipments to join the structures.	√	√	√	√	√	√			√	√	√					√		
				Carry out the basic machining operations	√	√	√	√	√	√			√	√	√					√		
				Make the models using sheet metal works	√	√	√	√	√	√			√	√	√					√		
				Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundry and fittings	√	√	√	√	√	√			√	√	√					√		
				Carry out basic home electrical works and appliances	√	√	√	√	√	√			√	√	√					√		
				Measure the electrical quantities	√	√	√	√	√	√			√	√	√					√		
				Elaborate on the components, gates, soldering practices.	√	√	√	√	√	√			√	√	√					√		
8	CS8261 / C Programming Laboratory	2	CS8261	Develop C programs for simple applications making use of basic constructs, arrays and strings.	√	√	√						√	√	√			√				
				Develop C programs involving functions, recursion, pointers, and structures.	√	√	√						√	√	√					√		
				Design applications using sequential and random access file processing	√	√	√						√	√	√					√		

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1	MA8351/ Discrete Mathematics	4	MA8351	Have knowledge of the concepts needed to test the logic of a program.	√	√	√							√									
				Have an understanding in identifying structures on many levels.	√	√	√									√							
				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.	√	√	√										√						
				Be aware of the counting principles.	√	√	√										√						
				Be exposed to concepts and properties of algebraic structures such as groups, rings and fields	√	√	√										√						
2	CS8351 / Digital Principles and Design	4	CS8351	Simplify Boolean functions using KMap	√	√	√																
				Design and Analyze Combinational and Sequential Circuits	√	√	√																
				Implement designs using Programmable Logic Devices	√	√	√																
				Write HDL code for combinational and Sequential Circuits	√	√	√																
3	CS8391/ Data Structures	3	CS8391	Implement abstract data types for linear data structures.	√	√	√																
				Apply the different linear and non-linear data structures to problem solutions.	√	√	√																
				Critically analyze the various sorting algorithms.	√	√	√																
4	CS8392/ Object Oriented Programming	3	CS8392	Develop Java programs using OOP principles	√	√	√																
				Develop Java programs with the concepts inheritance and interfaces	√	√	√																
				Build Java applications using exceptions and I/O streams	√	√	√																
				Develop Java applications with threads and generics classes	√	√	√																
				Develop interactive Java programs using swings	√	√	√																
5	EC8395 / Communication Engineering	3	EC8395	Ability to comprehend and appreciate the significance and role of this course in the present contemporary world	√	√	√																
				Apply analog and digital communication techniques.	√	√	√																
				Use data and pulse communication techniques.	√	√	√																
				Analyze Source and Error control coding.	√	√	√																
6	CS8381 / Data Structures Laboratory	2	CS8381	Write functions to implement linear and non-linear data structure operations	√	√	√						√	√	√			√					
				Suggest appropriate linear / non-linear data structure operations for solving a given problem	√	√	√									√	√	√			√		
				Appropriately use the linear / non-linear data structure operations for a given problem	√	√	√										√	√	√			√	
				Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval	√	√	√										√	√	√			√	

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7	CS8383/ Object Oriented Programming Laboratory	2	CS8383	Develop and implement Java programs for simple applications that make use of classes, packages and interfaces.	√	√	√							√	√	√		√				
				Develop and implement Java programs with arraylist, exception handling and multithreading .	√	√	√						√	√	√					√		
				Design applications using file processing, generic programming and event handling.	√	√	√							√	√	√					√	
8	CS8382/ Digital Systems Laboratory	2	CS8382	Implement simplified combinational circuits using basic logic gates	√	√	√				√		√	√	√			√				
				Implement combinational circuits using MSI devices	√	√	√				√		√	√	√					√		
				Implement sequential circuits like registers and counters	√	√	√				√		√	√	√						√	
				Simulate combinational and sequential circuits using HDL	√	√	√				√		√	√	√						√	

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9	HS8381/ INTERPERSONAL SKILLS/LISTENING& SPEAKING	1	HS8381	Listen and respond appropriately.										√	√	√			√				
				Participate in group discussions												√	√	√			√		
				Make effective presentations													√	√	√			√	
				Participate confidently and appropriately in conversations both formal and informal													√	√	√			√	



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6	CS8494/ Software Engineering	3	CS8494	Identify the key activities in managing a software project.	√	√	√		√	√		√	√	√		√				
				Compare different process models.	√	√	√		√	√		√	√	√		√				
				Concepts of requirements engineering and Analysis Modeling	√	√	√		√	√		√	√	√		√				
				Apply systematic procedure for software design and deployment.	√	√	√		√	√		√	√	√		√				
				Compare and contrast the various testing and maintenance.	√	√	√		√	√		√	√	√		√				
				Manage project schedule, estimate project cost and effort required.	√	√	√		√	√		√	√	√		√				
7	CS8481/ Database Management Systems Laboratory	2	CS8481	Use typical data definitions and manipulation commands.	√	√	√					√	√	√		√				
				Design applications to test Nested and Join Queries	√	√	√					√	√	√		√				
				Implement simple applications that use Views	√	√	√					√	√	√		√				
				Implement applications that require a Front-end Tool	√	√	√					√	√	√		√				
				Critically analyze the use of Tables, Views, Functions and Procedures	√	√	√					√	√	√		√				
8	CS8461/ Operating Systems Laboratory	2	CS8461	Compare the performance of various CPU Scheduling Algorithms	√	√	√					√	√	√		√				
				Implement Deadlock avoidance and Detection Algorithms	√	√	√					√	√	√		√				
				Implement Semaphores	√	√	√					√	√	√		√				
				Create processes and implement IPC	√	√	√					√	√	√		√				
				Analyze the performance of the various Page Replacement Algorithms	√	√	√					√	√	√		√				
				Implement File Organization and File Allocation Strategies	√	√	√					√	√	√		√				

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9	HS8461 / Advanced Reading and Writing	1	HS8461	Write different types of essays.									√	√	√		√	
				Write winning job applications.								√	√	√		√		
				Read and evaluate texts critically.								√	√	√		√		
				Display critical thinking in various professional contexts.								√	√	√		√		





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6	EC8681 / Microprocessors and Microcontrollers Laboratory	2	EC8681	Write ALP Programmes for fixed and Floating Point and Arithmetic operations	√	√	√					√	√	√		√				
				Interface different I/Os with processor	√	√	√					√	√	√		√				
				Generate waveforms using Microprocessors	√	√	√					√	√	√		√				
				Execute Programs in 8051	√	√	√					√	√	√		√				
				Explain the difference between simulator and Emulator	√	√	√					√	√	√		√				
7	CS8582 / Object Oriented Analysis and Design Laboratory	2	CS8582	Perform OO analysis and design for a given problem specification.	√	√	√		√	√		√	√	√		√				
				Identify and map basic software requirements in UML mapping.	√	√	√		√	√		√	√	√		√				
				Improve the software quality using design patterns and to explain the rationale behind applying specific design patterns	√	√	√		√	√		√	√	√		√				
				Test the compliance of the software with the SRS.	√	√	√		√	√		√	√	√		√				
8	CS8581/ Networks Laboratory	2	CS8581	Implement various protocols using TCP and UDP.	√	√	√					√	√	√		√				
				Compare the performance of different transport layer protocols.	√	√	√					√	√	√		√				
				Use simulation tools to analyze the performance of various network protocols.	√	√	√					√	√	√		√				
				Analyze various routing algorithms.	√	√	√					√	√	√		√				
				Implement error correction codes.	√	√	√					√	√	√		√				



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6	CS8661/ Internet Programmi ng Laboratory	2	CS8661	Construct Web pages using HTML/XML and style sheets.	√	√	√		√			√	√	√		√				
				Build dynamic web pages with validation using Java Script objects and by applying different event handling mechanisms.	√	√	√		√			√	√	√		√				
				Develop dynamic web pages using server side scripting.	√	√	√		√			√	√	√		√				
				Use PHP programming to develop web applications.	√	√	√		√			√	√	√		√				
				Construct web applications using AJAX and web services.	√	√	√		√			√	√	√		√				
7	CS8662 / Mobile Application Developme nt Laboratory	2	CS8662	Develop mobile applications using GUI and Layouts.	√	√	√		√	√		√	√	√		√				
				Develop mobile applications using Event Listener.	√	√	√		√	√		√	√	√		√				
				Develop mobile applications using Databases.	√	√	√		√	√		√	√	√		√				
				Develop mobile applications using RSS Feed, Internal/External Storage, SMS, Multithreading and GPS.	√	√	√		√	√		√	√	√		√				
				Analyze and discover own mobile app for simple needs.	√	√	√		√	√		√	√	√		√				
8	Mini Project	1	CS8611		√	√	√	√	√	√	√	√	√	√	√	√				

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9	HS8581/ Profession al Communica tion	1	HS8581	Make effective presentations						√				√		√				
				Participate confidently in Group Discussions						√				√		√				
				Attend job interviews and be successful in them							√				√		√			
				Develop adequate Soft Skills required for the workplace							√				√		√		√	

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1	MG8591 / Principles of Management	3	MG8591	Upon completion of the course, students will be able to have clear understanding of managerial functions like planning, organizing, staffing, leading & controlling and have same basic knowledge on international aspect of management	√	√	√															
2	CS8792/ Cryptography and Network Security	3	CS8792	Understand the fundamentals of networks security, security architecture, threats and vulnerabilities	√	√	√															
				Apply the different cryptographic operations of symmetric cryptographic algorithms	√	√	√															
				Apply the different cryptographic operations of public key cryptography	√	√	√															
				Apply the various Authentication schemes to simulate different applications.	√	√	√															
				Understand various Security practices and System security standards	√	√	√															
3	CS8791/ Cloud Computing	3	CS8791	Articulate the main concepts, key technologies, strengths and limitations of cloud computing	√	√	√															
				Learn the key and enabling technologies that help in the development of cloud.	√	√	√															
				Develop the ability to understand and use the architecture of compute and storage cloud, service and delivery models	√	√	√															
				Explain the core issues of cloud computing such as resource management and security.	√	√	√															
				Be able to install and use current cloud technologies.	√	√	√															
				Evaluate and choose the appropriate technologies, algorithms and approaches for implementation and use of cloud.	√	√	√															
4	CS8711 / Cloud Computing Laboratory	2	CS8711	Configure various virtualization tools such as Virtual Box, VMware workstation.	√	√	√		√			√	√	√			√					
				Design and deploy a web application in a PaaS environment.	√	√	√		√			√	√	√			√					
				Learn how to simulate a cloud environment to implement new schedulers.	√	√	√		√			√	√	√			√					
				Install and use a generic cloud environment that can be used as a private cloud.	√	√	√		√			√	√	√			√					
				Manipulate large data sets in a parallel environment	√	√	√		√			√	√	√			√					

