

Sl.No.	Syllabus	Curriculum	Deployment Strategy and Tool	Cross-cutting issues integrated	PO, PSO and CO
1.	Construction Management and Entrepreneurship	<ul style="list-style-type: none"> ▪ Empower students to understand the construction management process ▪ Understand and solve variety of issues that are encountered by every professional in discharging professional duties. ▪ Educate students to fulfil the professional obligations effectively with global outlook ▪ Create awareness in students to understand the Engineering Economics. ▪ Provide information about project, project report, project management and project design & understand the concepts of Entrepreneurship and Construction planning process. 	<ol style="list-style-type: none"> 1. Chalk and Talk method 2. PPT 3. Youtube video on social responsibilities towards society 4. Youtube video on successful entrepreneurs. 	<ul style="list-style-type: none"> • Business Ethics • Human values • Social Accountability • Engineering Economics. 	<p>PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.</p> <p>PO2: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated</p> <p>PO6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.</p> <p>PO7: Understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development.</p> <p>PO8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.</p> <p>PO9: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings.</p> <p>PO10: Communicate effectively on complex engineering activities with the Engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive</p> <p>Clear instructions.</p> <p>PO11: Demonstrate knowledge and understanding of the Engineering and management</p>

					<p>principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.</p>
					<p>PSO1:</p>
					<p>CO1: Students will be able to understand the construction management process</p> <p>CO2: Students will be able understand and solve variety of issues that are encountered by every professional in discharging professional duties</p> <p>CO3: Students will be able to Fulfil the professional obligations effectively with global outlook.</p> <p>CO4: Students will be able to to understand the Engineering Economics.</p> <p>CO5: Students will be able to design a project and understand the various levels of project management & to understand the concepts of Entrepreneurship and Construction planning process</p>

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1.	DESIGN AND ANALYSIS OF ALGORITHMS LABORATORY	<p>1. students will be able to do the following:</p> <ul style="list-style-type: none"> Analyze the asymptotic performance of algorithms. Write rigorous correctness proofs for algorithms. Demonstrate a familiarity with major algorithms and data structures. Apply important algorithmic design paradigms and methods of analysis. Synthesize efficient algorithms in common engineering design situations. 	<p>1. Chalk and Talk method</p> <p>2. PPT</p>	<ul style="list-style-type: none"> Business Ethics Human values 	<p>PO1:Engineering Knowledge PO2:Problem Analysis PO3:Design/Development Of Solutions PO4:Conduct Investigations Of Complex Problems PO5:Modern Tool Usage PO12: Life-long Learning.</p> <p>PSO1:Professional Skills PSO2:Problem Solving Skill</p>	

			CO1:Apply and implement various object oriented concepts to solve real world problems.	
			CO2:Design algorithms using brute-force, greedy, dynamic programming, divide and conquer approaches to analyse the performance.	
			CO3:Implement algorithms such as sorting, graph related, combinatorial, to analyse the performance.	
			CO4:Apply and compare the performance of algorithms that use back tracking principle.	
			CO5:Apply /implemen t algorithm design techniques	

					and data structures to solve real world problems.	



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1.	OBJECT ORIENTED CONCEPTS	<ul style="list-style-type: none"> Students can apply OOPs in user interface design such as windows, menu. Real Time Systems. Simulation and Modeling. Object Oriented Development (OOD) has been touted as the next great advance in software engineering. It promises to reduce development time, reduce the time and resources required to maintain existing applications, increase code reuse, and provide a competitive advantage to organizations that use it. Faster development of code is done as 	<ol style="list-style-type: none"> Chalk and Talk method PPT 	<ul style="list-style-type: none"> Business Ethics Human values 	<div>PO1:Engineering Knowledge PO2:Problem Analysis PO3:Design/Development Of Solutions PO4:Conduct Investigations Of Complex Problems PO5:Modern Tool Usage PO9:INDIVIDUAL AND TEAM WORK</div> <div>PSO1:Professional Skills PSO2:Problem Solving Skill</div> <div></div> <div></div> <div>CO1:Explain and apply the object-oriented concepts for solving simple problems using C++ features.</div> <div></div> <div>CO2: Illustrate JAVA Buzzwords and apply Object Oriented constructs and semantics for a given simple problem.</div>	

		<p>we develop classes parallel instead of sequentially. OOP provides greater security due to data abstraction. The outside world cannot access the hidden data</p>			<p>CO3: Elucidate the need of classes, inheritance, packages, exception handling and interface in JAVA language and develop simple programs of JAVA for corresponding problem statement.</p> <p>CO4: Explain the need of multithreaded programming and the event handling procedure in JAVA language and develop simple programs of JAVA for a given problem statement</p> <p>CO5: Write a JAVA program to create an appropriate user interface using Applet and swing components for a given problem statement.</p>	
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1.	ANALOG AND DIGITAL ELECTRONICS	<ul style="list-style-type: none"> Students get knowledge of how our world is powered through electrical means. Electronic circuits work to process and transmit electrical current information in our computers, TVs, -radios, and mobile devices. Integrated circuits help manage power in our mobile devices. These are known as power management integrated circuits (PMICs) and are used mainly in mobile devices to lessen the required amount of space. Learning about circuits will help students to understand how to analyze circuits that use direct current (DC) or 	<ol style="list-style-type: none"> Chalk and Talk method PPT 	<ul style="list-style-type: none"> Business Ethics 	PO1:Engineering Knowledge PO2:Problem Analysis PO3:Design/Development Of Solutions PO5:Modern Tool Usage PO7:Environment And Sustainability PO8:ETHICS PO12: Life-long Learning.	
					PSO1:Professional Skills PSO2:Problem Solving Skill	

		alternating current (AC) voltage. You will learn about open, closed, and short circuits. Anyone who wants to become an electrician, or work in a public utility for electricity will need to know the foundational elements of circuits, resistors, capacitors, and inductors and how they work.				
					CO1 Acquire knowledge of <ul style="list-style-type: none"> ○ JFETs and MOSFETs, Operational Amplifier circuits and their applications. ○ Combinational Logic, Simplification Techniques using Karnaugh Maps, Quine McClusk technique. ○ Operation of Decoder s, Encoder s, 	

				<p>Multiple xers, Adders and Subtract ors.</p> <ul style="list-style-type: none"> Working of Latches, Flip- Flops, Designin g Register s, Counter s, A/D and D/A converte rs. <p>CO1 Analyse the performance of</p> <ul style="list-style-type: none"> JFETs and MOSFET s , Operatio nal Amplifie r circuits Simplific ation Techniq ues using Karnaug h Maps, Quine McClusk y 	
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					<p>Technique.</p> <ul style="list-style-type: none"> ○ Synchronous and Asynchronous Sequential Circuits. ○ Apply the knowledge gained in the design of Counters, Registers and A/D & D/A converters 	
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1.	SYSTEM SOFTWARE AND OPERATING SYSTEMS LABORATORY	<p>1. The goal of this course is to have students understand and appreciate the principles in the design and implementation of operating systems software. Lab Course Outline: Introduction to operating systems concepts, process management, memory management, file systems, virtualization, and distributed operating systems.</p> <p>2. An Operating System (OS) is an interface between a computer user and computer hardware. An</p>	<p>1. Chalk and Talk method</p> <p>2. PPT</p>	<ul style="list-style-type: none"> • Business Ethics • Human values 	<p>P01:Engineering Knowledge P02:Problem Analysis P03:Design/Development Of Solutions P04:Conduct Investigations Of Complex Problems P05:Modern Tool Usage</p> <p>P012: Life-long Learning.</p> <p>PS01:Professional Skills PS02:Problem Solving Skill</p> <p>CO1:Implement</p>	

		operating system is a software which performs all the basic tasks like file management, memory management, process management, handling input and output, and controlling peripheral devices such as disk drives and printers.		<p>various problems using LEX and YACC tool</p> <p>CO2:Implement parsing techniques using YACC/C language for the grammars and Parse the given input string.</p> <p>CO3:Implement the program in C/JAVA language to generate machine codes for the input statement.</p> <p>CO4:Implement C/C++/JAVA program to simulate various operating system algorithms.</p>	
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Sl. No.	Course Name	Curriculum	Deployment Strategy and tool	Cross-cutting issues integrated Tool	CO, PO, PSO
1	TRANSFORM CALCULUS, FOURIER SERIES AND NUMERICAL	Educate the students To have an insight into Fourier series, Fourier transforms, Laplace transforms, Difference equations and Z-transform. Also develop the proficiency in variational calculus and solve ODE's arising in engineering applications, using numerical methods.	1. Chalk and talk method the good 2. PPT be used	Professional ethics Human values Mathematical knowledge	CO1: Use Laplace transform and inverse Laplace transform in solving differential/ integral equation arising in network analysis, control systems and other fields of engineering. CO2: Demonstrate Fourier series to study the behaviour of periodic functions and their applications in system communications, digital signal processing and field theory. CO3: Make use of

Fourier transform
and Z-transform to
illustrate
discrete/continuous

function arising in
wave and heat
propagation, signals
and systems.

CO4: Solve first
and second order
ordinary differential
equations arising in
engineering

problems using
single step and
multistep numerical
methods.

CO5:Determine the
extremals of
functionals using
calculus of
variations and solve

PSO

1. problems arising
in dynamics of
rigid bodies and
vibrational
analysis.. Will
be able to
analyze, interpret
and provide
solutions to

					<p>engineering and social problems.</p> <p>2. . Adapt to the dynamic challenges and scenario in the industries</p>
2	MECHANICS OF MATERIALS	<p>Educate the student To know the different types of stresses and strains developed in the member subjected to axial bending, shear, torsion & thermal loads.</p> <p>To know behaviour & properties of engineering materials.</p> <p>To understand the stresses developed in bars, compound bars, beams, shafts, and cylinders.</p> <p>To understand the concept calculation of shear force and bending moment for beams with different supports.</p> <p>To expose the students to concepts of Buckling of columns and strain energy</p>	<p>1. Chalk and talk Method the good</p> <p>2. PPT be used</p> <p>3. Videos</p>	<p>Professional ethics</p> <p>Human values</p> <p>Engineering knowledge</p>	<p>CO1: Understand simple, compound, thermal stresses and strains their relations and strain energy.</p> <p>CO2: Analyse structural members for stresses, strains and deformations.</p> <p>CO3: Analyse the structural members subjected to bending and shear loads.</p> <p>CO4: Analyse shafts subjected to twisting loads.</p> <p>CO5: Analyse the short columns for stability.</p> <p>PSO</p>

					<p>1. problems arising in dynamics of rigid bodies and vibrational analysis.. Will be able to analyze, interpret and provide solutions to engineering and social problems.</p> <p>2. Adapt to the dynamic challenges and scenario in the industries</p>
3	BASIC THERMODYNAMICS	<p>Make student to understand</p> <p>Learn about thermodynamic system and its equilibrium</p> <p>Understand various forms of energy - heat transfer and</p> <p>Study the basic laws of thermodynamics including, zeroth law, first law and second law.</p> <p>Interpret the behaviour of pure substances and its application in practical problems.</p> <p>Study of Ideal and real gas and evaluation of thermodynamic properties</p>	<p>1. Chalk and talk Method the good</p> <p>2. PPT be used</p> <p>3. Videos</p>	<p>Professional ethics</p> <p>Human values</p> <p>Engineering knowledge</p>	<p>CO1: Explain fundamentals of thermodynamics and evaluate energy interactions across the boundary of thermodynamic systems.</p> <p>CO2: Evaluate the feasibility of cyclic and non-cyclic processes using 2nd law of thermodynamics.</p> <p>CO3: Apply the</p>

					<p>knowledge of entropy, reversibility and irreversibility to solve numerical problems and</p> <p>apply 1st law of thermodynamics to closed and open systems and determine quantity of energy</p> <p>transfers and change in properties.</p> <p>CO4: Interpret the behavior of pure substances and its application in practical problems.</p> <p>CO5: Recognize differences between ideal and real gases and evaluate thermodynamic properties of</p> <p>ideal and real gas mixtures using various relations.</p>
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