Terna Engineering College, Nerul, Navi Mumbai Mechanical Engineering Department				
	SUBJECT CODE	**SUBJECT**	**CO NO**	**CO Statement**
SEM III	**MEC301**	**Engineering Mathematics-III**	CO1	Apply the concept of Laplace transform to solve the real integrals in engineering problems.
			CO2	Apply the concept of inverse Laplace transform of various functions in engineering problems.
			CO3	Expand the periodic function by using Fourier series for real life problems and complex engineering problems.
			CO4	Find orthogonal trajectories and analytic function by using basic concepts of complex variable theory.
			CO5	Apply Matrix algebra to solve the engineering problems.
			CO6	Solve Partial differential equations by applying numerical solution and analytical methods for one dimensional heat and wave equations
	MEC302	**Strength of Materials**	CO1	Demonstrate fundamental knowledge about various types of loading and stresses induced.
			CO2	Draw the SFD and BMD for different types of loads and support conditions.
			CO3	Analyse the bending and shear stresses induced in beam.
			CO4	Analyse the deflection in beams and stresses in shaft.
			CO5	Analyse the stresses and deflection in beams and Estimate the strain energy in mechanical elements.
			CO6	Analyse buckling phenomenon in columns.
	MEC303	**Production Processes**	CO1	Demonstrate an understanding of casting process 2. Illustrate principles of forming processes.
			CO2	Demonstrate applications of various types of welding processes.
			CO3	Differentiate chip forming processes such as turning, milling, drilling, etc.
			CO4	Illustrate the concept of producing polymer components and ceramic components.
			CO5	Illustrate principles and working of non-traditional manufacturing
			CO6	Understand the manufacturing technologies enabling Industry 4.0
	MEC304	**Materials and Metallurgy**	CO1	Identify the various classes of materials and comprehend their properties
			CO2	Apply phase diagram concepts to engineering applications
			CO3	Apply particular heat treatment for required property development
			CO4	Identify the probable mode of failure in materials and suggest measures to prevent them
			CO5	Choose or develop new materials for better performance
			CO6	Decide an appropriate method to evaluate different components in service
	MEC305	**Thermodynamics**	CO1	Demonstrate application of the laws of thermodynamics to a wide range ofsystems.
			CO2	Compute heat and work interactions in thermodynamicsystems
			CO3	Demonstrate the interrelations between thermodynamic functions to solve practicalproblems.
			CO4	Compute thermodynamicinteractions using the steam table and Mollier chart
			CO5	Compute efficiencies of heat engines, power cycles.
			CO6	Apply the fundamentals of compressible fluid flow to the relevant systems
	MEL301	**Materials Testing**	CO1	Prepare metallic samples for studying its microstructure following the appropriate procedure.
			CO2	Identify effects of heat treatment on microstructure of medium carbon steel and hardenability of steel using Jominy end Quench test
			CO3	Perform Fatigue Test and draw S-N curve
			CO4	Perform Tension test to Analyze the stress - strain behaviour of materials

			CO5	Measure torsional strength, hardness and impact resistanceof the material
			CO6	Perform flexural test with central and three point loading conditions
	MEL302	**Machine Shop Practice**	CO1	Know the specifications, controls and safety measures related to machines and machining operations.
			CO2	Use the machines for making various engineering jobs.
			CO3	Perform various machining operations
			CO4	Perform Tool Grinding
			CO5	Perform welding operations
	MESBL301	**Skill Based Lab: CAD – Modeling**	CO1	Illustrate basic understanding of types of CAD model creation.
			CO2	Visualize and prepare 2D modeling of a given object using modeling software.
			CO3	Build solid model of a given object using 3D modeling software.
			CO4	Visualize and develop the surface model of a given object using modeling software.
			CO5	Generate assembly models of given objects using assembly tools of a modeling software
			CO6	Perform product data exchange among CAD systems.
	MEC401	**Engineering Mathematics-IV**	CO1	Apply the concept of Vector calculus to evaluate line integrals, surface integrals using Green's theorem, Stoke's theorem & Gauss Divergence theorem.
			CO2	Use the concepts of Complex Integration for evaluating integrals, computing residues & evaluate various contour integrals.
			CO3	Apply the concept of Correlation, Regression and curve fitting to the engineering problems in data science.
			CO4	Illustrate understanding of the concepts of probability and expectation for getting the spread of the data and distribution of probabilities.
			CO5	Apply the concept of probability distribution to engineering problems & testing hypothesis of small samples using sampling theory.
			CO6	Apply the concepts of parametric and nonparametric tests for analyzing practical problems.
	MEC402	**Fluid Mechanics**	CO1	. Define properties of fluids, classify fluids and evaluate hydrostatic forces on various surfaces.
			CO2	Illustrate understanding ofdimensional analysis of Thermal and Fluid systems.
			CO3	Differentiate velocity potential function and stream function and solve for velocity and acceleration of a fluid at a given location in a fluid flow.
			CO4	. Formulate and solve equations of the control volume for fluid flow systems and Apply Bernoulli's equation to various flow measuring devices.
			CO5	Calculate pressure drop in laminar and turbulent flow, evaluate major and minor losses in pipes.
			CO6	Calculate resistance to flow of incompressible fluids through closed conduits and over surfaces.
	MEC403	**Kinematics of Machinery**	CO1	Identify various components of mechanisms
			CO2	Develop mechanisms to provide specific motion
			CO3	Draw velocity and acceleration diagrams of various mechanisms
			CO4	Choose a cam profile for the specific follower motion
			CO5	Predict condition for maximum power transmission in the case of a belt drive
			CO6	Illustrate requirements for an interference-free gear pair
	MEC404	**CAD/CAM**	CO1	Identify suitable computer graphics techniques for 3D modeling.
			CO2	Transform, manipulate objects & store and manage data.
			CO3	Develop 3D model using various types of available biomedical data.

SEM IV	[illegible]	CAD/CAM	CO4	Create the CAM Toolpath for specific given operations.
			CO5	Build and create data for 3D printing of any given object using rapid prototyping and tooling processes.
			CO6	Illustrate understanding of various cost effective alternatives for manufacturing products.
	MEC404	**Industrial Electronics**	CO1	Illustrate construction, working principles and applications of power electronic switches.
			CO2	Identify rectifiers and inverters for dc and ac motor speed control.
			CO3	Develop circuits using OPAMP and Timer IC 555.
			CO4	Identify digital circuits for industrial applications.
			CO5	Demonstrate the knowledge of basic functioning of microcontrollers.
			CO6	Analyze speed-torque characteristics of electrical machines for speed control.
	MEL401	**Industrial Electronics**	CO1	Demonstrate characteristics of various electrical and electronics components
			CO2	Develop simple applications built around these components
			CO3	Identify use of different logic gates and their industrial applications
			CO4	Built and demonstrate parameter measurements using microcontroller
			CO5	Test and Analyze speed-torque characteristics of electrical machines for speed control.
	MEL402	**Kinematics of Machinery**	CO1	Draw velocity diagram usingInstantaneous Centre method
			CO2	Find velocity and acceleration of a point on a four-bar mechanism by using Relative method.
			CO3	Analyze velocity and acceleration of a specific link of a slider crank mechanism using graphical approach by Relative method.
			CO4	Plot displacement-time, velocity-time, and acceleration-time diagrams of follower motion.
			CO5	Draw cam profile for the specific follower motion.
			CO6	Develop and build mechanisms to provide specific motion.
	MEL403	**Python Programming**	CO1	Demonstrate understand of basic concepts of python programming.
			CO2	Identify, install and utilize python packages
			CO3	Develop and execute python programs for specific applications.
			CO4	Develop and build python program to solve real-world engineering problems
			CO5	Prepare a report on case studies selected.
	MESBL401	**Skill based Lab: CNC and 3-D Printing**	CO1	Develop and execute part programing for any given specific operation.
			CO2	Build any given object using various CNC operations.
			CO3	Demonstrate CAM Tool path and prepare NC- G code.
			CO4	Develop 3D model using available biomedical data
			CO5	Build any given real life object using 3D printing process.
			CO6	Convert 2D images into 3D model
	MEC501	Mechanical Measurements and Controls	CO1	Handle, operate and apply the precision measuring instruments / equipment's
			CO2	Analyze simple machined components for dimensional stability & functionality
			CO3	Classify various types of static characteristics and types of errors occurring in the system.
			CO4	Classify and select proper measuring instrument for displacement, pressure, flow and temperature measurements.
			CO5	Design mathematical model of system/process for standard input responses and analyse error and differentiate various types of control systems and time domain specifications
			CO6	Analyse the problems associated with stability.
			CO1	Analyze the three modes of heat transfer in engineering application

SEM-V	MEC502	Thermal Engineering	CO2	Develop mathematical models for different modes of heat transfer
			CO3	Analyze performance parameters of different types of heat exchangers.
			CO4	Identify and analyze the Transient heat Transfer in engineering applications.
			CO5	Explain construction and working of different components of internal combustion engines
			CO6	Evaluate engine performance and emission characteristics.
	MEC503	Dynamics of Machinery	CO1	Demonstrate working Principles of different types of governors and Gyroscopic effects on the mechanical systems
			CO2	Illustrate basic of static and dynamic forces
			CO3	Determine natural frequency of element/system
			CO4	Determine vibration response of mechanical elements / systems
			CO5	Design vibration isolation system for a specific application
			CO6	Demonstrate basic concepts of balancing of forces and couples
	MEC504	Finite Element Analysis	CO1	Solve differential equations using weighted residual methods.
			CO2	Develop the finite element equations to model engineering problems governed by second order differential equations
			CO3	Apply the basic finite element formulation techniques to solve engineering problems by using one dimensional elements.
			CO4	Apply the basic finite element formulation techniques to solve engineering problems by using two dimensional elements.
			CO5	Apply the basic finite element formulation techniques to find natural frequency of single degree of vibration system.
			CO6	Use commercial FEA software, to solve problems related to mechanical engineering.
	MEDLO5012	Statistical Technique	CO1	Apply the concepts of statistical distributions in engineering applications
			CO2	Use sampling theory for a given data set
			CO3	Fit curve for a given data set
			CO4	Demonstrate the understanding of correlation and regression analysis
			CO5	Perform analysis of variance from the available experimental data.
			CO6	Demonstrate the understanding of Statistical Decision making and Hypothesis testing
	MEL501	Thermal Engineering	CO1	Estimate thermal conductivity of engineering materials
			CO2	Evaluate performance parameters of extended surfaces
			CO3	Evaluate heat transfer coefficient for free/forced convection
			CO4	Anayse effectiveness of heat exchanger
			CO5	Analyze engine performance and heat balance sheet for different operating conditions.
			CO6	Evaluate the friction power overcome by the IC Engine
	MEL502	Dynamics of Machinery	CO1	Plot and analyze governor characteristics
			CO2	. Analyze gyroscopic effect on laboratory model
			CO3	Estimate natural frequency of mechanical systems
			CO4	Analyze vibration response of mechanical systems
			CO5	Determine damping coefficient of a system
			CO6	Balance rotating mass
	MEL503	Finite Element Analysis	CO1	Select appropriate element for given problem
			CO2	Select suitable meshing and perform convergence test
			CO3	Select appropriate solver for given problem
			CO4	Interpret the result
			CO5	Apply basic aspects of FEA to solve engineering problems

			CO6	Validate FEA solution
	MESBL501	Professional communication and ethics –II	CO1	Plan and prepare effective business/ technical documents which will in turn provide solid foundation for their future managerial roles.
			CO2	Strategize their personal and professional skills to build a professional image and meet the demands of the industry.
			CO3	Emerge successful in group discussions, meetings and result-oriented agreeable solutions in group communication situations.
			CO4	Deliver persuasive and professional presentations.
			CO5	Develop creative thinking and interpersonal skills required for effective professional communication.
			CO6	Apply codes of ethical conduct, personal integrity and norms of organizational behaviour.
	MEPBL501	Mini Project – 2 A	CO 1	Apply knowledge and skill to identify problems solve societal problems in a group.
			CO 2	Develop interpersonal skills to work as member of a group or leader.
			CO 3	Draw the proper inferences from available results through theoretical/ experimental/simulations.
			CO 4	Analyze the impact of solutions in societal and environmental context for sustainable development.
			CO 5	Use standard norms of engineering practices and Excel in written and oral communication.
			CO 6	Demonstrate capabilities of self-learning in a group and project management principles which leads to lifelong learning.
	MEC601	Machine Design	CO1	Use design data book/standard codes to standardise the designed dimensions
			CO2	Design Knuckle Joint, cotter joint and Screw Jack
			CO3	Design shaft under various conditions and couplings
			CO4	Select bearings for a given applications from the manufacturers catalogue.
			CO5	Select and/or design belts and flywheel for given applications
			CO6	Design springs, clutches and brakes
	MEC602	Turbo Machinery	CO1	Define various parameters associated with steam generators and turbo machines.
			CO2	Identify various components and mountings of steam generators with their significance.
			CO3	Identify various turbo machines and explain their significance.
			CO4	Apply principles of thermodynamics and fluid mechanics to estimate various parameters like mass flow rate power, torque, efficiency, temperature, etc.
			CO5	Evaluate performance of SG and Turbo machines and apply various techniques to enhance performance.
			CO6	Evaluate various phenomena related to performance like cavitation, choking, surging.
	MEC603	Heating,Ventilation ,Air Conditioning and Refrigeration	CO1	Illustrate the fundamental principles and applications of refrigeration and air conditioning systems.
			CO2	Identify various HVAC&R components
			CO3	Evaluate performance of various refrigeration system
			CO4	Select air handling unit & design air distribution system
			CO5	Identify and locate various important components of the air conditioning system
			CO6	Apply the knowledge of HVAC for the sustainable development of refrigeration and airconditioning systems.
	MEC604	Automation and Artificial Intelligence	CO1	Demonstrate understanding of fundamentals of industrial automation and AI
			CO2	Design and developof hydraulic/pneumatic ckt
			CO3	Design and develop of electropneumatic ckts and ladder logics
			CO4	Demonstrate and undetstand of robotic control systems and their applications
			CO5	Demonstrate understanding of various machine learning technologies.
			CO6	Demonstrate understanding of various AI and ANN technologies.

SEM-VI	MEDLO6021	Press Tool Design	CO1	Demonstrate various press working operations for mass production of sheet metal parts
			CO2	Identify press tool requirements to build concepts pertaining to design of press tools
			CO3	Prepare working drawings and setup for economic production of sheet metal components
			CO4	Select suitable materials for different elements of press tools
			CO5	Illustrate the principles and blank development in bent & drawn components
			CO6	understand safety aspects and automation in press working
	MEDLO6023	Metal FormingTechnology	CO1	Understand the concept of different metal formingprocess.
			CO2	Approach metal forming processes both analytically andnumerically
			CO3	Design metal formingprocesses
			CO4	Develop approaches and solutions to analyze metal forming processes and the associated problems andflaws.
	MEL601	Machine Design	CO1	Design shaft under various conditions
			CO2	Design Knuckle Joint / cotter join
			CO3	Design Screw Jack
			CO4	Design Flexible flange couplings/ Leaf spring
			CO5	Convert design dimensions into working/manufacturing drawing
			CO6	Use design data book/standard codes to standardise the designed dimensions.
	MEL602	Turbo Machinery	CO1	Differentiate boiler, boiler mountings and accessories
			CO2	Conduct a trial on reciprocating compressor / centrifugal compressor.
			CO3	. Conduct a trial on impulse turbine and analyze its performance
			CO4	Conduct a trail on reaction turbine and analyze its performance
			CO5	Conduct a trial on Centrifugal pump and analyze its performance
			CO6	Conduct a trial on Reciprocating pump and analyze its performance
			CO7	Conduct a trial on gear pump
	MEL603	Heating, Ventilation, Air Conditioning and Refrigeration	CO1	Aware of the roles and ethics of engineers in related industries.
			CO2	Present the impact of professional engineering solutions in societal and environmental contexts.
			CO3	Evaluate performance of HVAC &R systems
			CO4	Develop awareness of the engineering and technological aspects in the HVACR industries.
			CO5	Communicate effectively through the preparation ofreport and practical presentation.
			CO6	Analyse of HVAC&R invarious application design aspects .
	MESBL601	Measurements and Automation	CO1	Apply inspection gauge to check or measure surface parameters.
			CO2	Measure surface parameters using precision measurement tools and equipment.
			CO3	Measure different mechanical parameters by using sensors.
			CO4	Analyse the response of a control systems.
			CO5	Demonstrate use of automated controls using pneumatic and hydraulic systems.
			CO6	Implement program on PLC system and demonstrate its application
	MEPBL601	Mini Project - 2B	CO 1	Apply knowledge and skill to identify problems solve societal problems in a group.
			CO 2	Develop interpersonal skills to work as member of a group or leader.
			CO 3	Draw the proper inferences from available results through theoretical/ experimental/simulations.
			CO 4	Analyze the impact of solutions in societal and environmental context for sustainable development.
			CO 5	Use standard norms of engineering practices and Excel in written and oral communication.

			CO 6	Demonstrate capabilities of self-learning in a group and project management principles which leads to lifelong learning.
SEM-VII	MEC701	Design of Mechanical System	CO1	Apply the concept of system design.
			CO2	Select appropriate gears for power transmission on the basis of given load and speed
			CO3	Design material handling systems such as hoisting mechanism of EOT crane,
			CO4	Design belt conveyor systems
			CO5	Design engine components such as cylinder, piston, connecting rod and crankshaft
			CO6	Design pumps for the given applications
	MEC702	Logistics and Supply Chain Management	CO1	Demonstrate a sound understanding of Logistics and Supply Chain Management concepts and their role in today's business environment.
			CO2	Identify the drivers of supply chain performance and risks in supply chain management
			CO3	Apply various techniques of inventory management and rank the items using inventory management technique
			CO4	Apply various strategies and techniques to minimize overall logistics cost
			CO5	Understand the role of digitization in supply chain management leading to sustainability
			CO6	Apply various mathematical models/tools to design the supply chain network
	MEDLO7032	Department Level Optional Course – 3 Renewable Energy Systems	CO1	Describe the need for renewable energy and its potential for the development of a sustainable environment and solar radiation terminology.
			CO2	Analyze different solar collectors using geometrical parameters and photovoltaics for generation of solar energy and different solar thermal devices.
			CO3	Understad the solar PV systems and methods to improve the efficiency of PV cells.
			CO4	Identify and analyze various wind turbine energy harnessment techniques
			CO5	Understand and design biogas plant for harnessing energy from organic waste and Describe significance of hydrogen energy and fuel cells.
			CO6	Describe the operating principle of geothermal energy and ocean energy and their role in sustainable development
	MEDLO7041	Department Level Optional Course – 4 Machinery Diagnostics	CO1	Relate basic concepts of Machinery Diagnostic.
			CO2	Describe the working of Vibration Measuring Instruments.
			CO3	Apply different Signal Processing Techniques in Vibration Measurement.
			CO4	To identify unbalance, bent shaft, Misalignment,Soft foot conditions, Mechanical looseness in machines by use of time and frequency domain analysis
			CO5	To identify faults in rolling element bearing and Journal Bearing fault diagnosis, Faults related to Gearbox, vane defects in pumps, Fault in Fans and Blowers by use of time and frequency domain analysis
			CO6	Interpret the Vibration Signals for Monitoring and Prognosis.
	ILO7011	Product Lifecycle Management	CO1	Gain knowledge about phases of PLM, PLM strategies and methodology
			CO2	Gain knowledge about for PLM feasibility study and PDM implementation.
			CO3	Illustrate various approaches and techniques for designing and developing products.
			CO4	Understand and apply Design for X approaches
			CO5	Apply product engineering guidelines / thumb rules in designing products for moulding, machining, sheet metal working etc.

			CO6	Acquire knowledge in applying virtual product development tools for components, machining and manufacturing plant
	LO7017	Disaster Management and Mitigation Measures	CO1	Get to know natural as well as manmade disaster and their extent and possible effects on the economy.
			CO2	Plan of national importance structures based upon the previous history
			CO3	Get acquainted with government policies, acts and various organizational structure associated with an emergency
			CO4	Get to know the simple do's and don'ts in such extreme events and act accordingly.
	MEL701	Design of Mechanical System	CO1	Apply the concept of system design.
			CO2	Design of Gear box
			CO3	Design of hoisting mechanism of EOT crane.
			CO4	Design belt conveyor systems.
			CO5	Design engine components such as cylinder, piston, connecting rod and crankshaft
			CO6	Design pumps for the given applications.
	MEL702	Maintenance Engineering	LO1	Identify different tools used for maintenance.
			LO2	Demonstrate the process of servicing a machine.
			LO3	Apply different maintenance strategies.
			LO4	Identify common faults in Machinery using Vibration Spectrum.
			LO5	Time and Frequency domain analysis to identify unbalance, bent shaft, Misalignment,Soft foot conditions, Mechanical looseness in machines
			LO6	Interpret the Vibration Signals for Monitoring and Prognosis.
	MEL703	Industrial Skills	CO1	Skilfully prepare and edit documents and slides on MS Word and MS PowerPoint etc.
			CO2	Execute functions on MS Excel.
			CO3	Learn how to navigate tasks and execute functions in G-suite.
			CO4	Understand and practice metacognitive skills of creativity and problem solving.
			CO5	Hone team building and leadership skills.
			CO6	Solve basic numerical and reasoning aptitude questions.
	MEP701	Major Project I	CO1	To Cultivate the habit of working in a team with professsional ethics. PO9, PO8
			CO2	To identify the problem statement by literature survey / industrial visits.
			CO3	To apply engineering fundamentals to find probable solutions. PO1, P02
			CO4	To Identify suitable timeline along with cost required for completing various activities involved in the project.PO11
			CO5	To design solution for engineering problem using appropriate modern tool.
			CO6	To devlop environment friendly and sustainable solution following professional engineering ethics and practices.
			CO7	Correlate the theoretical/ simulations and experimental results and draw the proper inferences
			CO8	To Prepare and present report as per the standard guidelines.
	MEC801	Operations Planning and Control	CO 1	To provide an exposure to Operations Planning & Control (OPC) and its significance in manufacturing and service organizations
			CO 2	To appraise about need and benefits of planning functions related to products and processes
			CO 3	To provide exposure to production scheduling, sequencing and project management so as to optimize resources
			CO 4	To provide insights into MRP and ERP to minimize the total cost and to manage operations functions in a better way
			CO 5	To demonstrate different techniques used for facility planning and assembly line balancing

			CO 6	To develop an understanding of JIT, Lean, Agile and Synchronous Manufacturing system
	MEDLO8052	Smart Materials	CO 1	Classify and select different types of smart materials
			CO 2	Comprehend Important Concepts and principles of Smart Materials
			CO 3	synthesis, sensing and actuation of Piezoelectric Materials, Magneto strictive Materials, Shape Memory Alloys, Electroactive Polymers
			CO 4	synthesis, sensing and actuation of Ferrofluids and Magneto rheological Fluids, Soft Matter,Carbon Nanotubes and Carbon nanostructures, Thermoelectric Materials
			CO 5	Classify and select Smart Materials for Energy Applications: Materials used for energy stora
			CO 6	Classify and select Composite Materials, Nano Composite Materials
	MEDLO8063	Ttoal Quality Management	CO1	To apply QM and principles of TQM in organizational development process.
			CO2	To apply the QC & QM tools in process improvement.
			CO3	To apply SQC techniques to improve process quality
			CO4	To apply Six Sigma project in TQM Implementation
			CO5	To apply QMS and Certification for Quality Accreditation
			CO6	To apply the advanced tools for Quality Sustainability.
SEM-VIII	ILO8021	Project Management	CO1	Understand basic of project management.
			CO2	Apply selection criteria and select an appropriate project from different options.
			CO3	Write work break down structure for a project and develop a schedule based on it.
			CO4	Identify opportunities and threats to the project and decide an approach to deal with them strategically.
			CO5	Use Earned value technique and determine & predict status of the project
			CO6	Capture lessons learned during project phases and document them for future reference
	MEL801	Product Design and Development	LO1	Identify the need for developing products.
			LO2	Select suitable PD&D processes.
			LO3	Apply the creativity & industrial design methods to design & develop the chosen product
			LO4	Create 3D solid models of mechanical components using CAD software.
			LO5	Work collaboratively in a team to complete a PD&D project.
			LO6	Effectively communicate the results of projects and other assignments both in a written and oral format.
	MEL802	IoT Lab	L1	Develop simple aaplication using 8051 and Arduino
			L2	Interface simple peripheral devices to microcontroller
			L3	Use micrcontroller based embedded platforms in IoT
			L4	Use wireless peripherals for exchange of data
			L5	Set up cloud platform and log sensor data
			CO 1	Students will be able to implement solutions for the selected problem by applying technical and professional skills.
			CO 2	Students will be able to analyze impact of solutions in societal and environmental context for sustainable development.
			CO 3	Students will be able to collaborate best practices along with effective use of modern tools.
			CO 4	Students will be able to develop proficiency in oral and written communication with effective leadership and teamwork.
			CO 5	Students will be able to nurture professional and ethical behavior.
			CO6	Students will be able to gain expertise that helps in building lifelong learning experience.
