



# MECHANICAL ENGINEERING



## **B. TECH – MECHANICAL ENGINEERING**

### **Department Vision**

Mechanical Engineering Department strives to be recognized globally for quality education, training and research leading to well-qualified engineers, who are innovative, entrepreneurial, and successful in solving problems of society.

### **Department Mission:**

- Impart quality education to students to enhance their skills and make them globally competitive.
- Maintain a vital and state-of-the-art research to provide its students and faculty with opportunities to create, interpret, apply, and disseminate knowledge.
- Prepare its graduates to pursue higher studies, serve the profession and meet intellectual, ethical and career challenges.

### **Program Educational Objectives (PEOs) :**

<b>PEO1</b>	To Educate the graduate of the program to build a successful technical or professional career in Mechanical Engineering.
<b>PEO2</b>	To envisage graduate engineer to achieve the goal in terms of pursuing higher education and Research and Development activities.
<b>PEO3</b>	To help graduates become a moral & ethically responsible citizen in nation building.

### **Program Specific Outcomes (PSO's):**

<b>PSO1</b>	Apply mechanical engineering fundamentals to design mechanical engineering systems and thermal systems.
<b>PSO2</b>	Identify and select appropriate manufacturing processes and apply quality control methods for production of various components.



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**Program Outcomes (POs):**

**Engineering Graduates will be able to:**

1	<b>Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2	<b>Problem analysis:</b> Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3	<b>Design/development of solutions:</b> Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4	<b>Conduct investigations of complex problems:</b> Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5	<b>Modern tool usage:</b> Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6	<b>The engineer and society:</b> 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.
7	<b>Environment and sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8	<b>Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9	<b>Individual and team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10	<b>Communication:</b> 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 clear instructions.
11	<b>Project management and finance:</b> Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multi-disciplinary environments.
12	<b>Life-long learning:</b> Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.



**Course outcomes (Cos) of all courses of all programs offered by the institution**

<b>Course Outcomes for First Year First Semester Course</b>	
<b>Course Code: B19 HS 1101</b>	
<b>Course Title: English</b>	
<b>CO-1</b>	Identify the context, topic and pieces of specific information by understanding and responding to the social or transactional dialogues spoken by native speakers of English.
<b>CO-2</b>	Apply suitable strategies for skimming and scanning to get the main idea of a text and locate specific information.
<b>CO-3</b>	Build confidence and adapt themselves to the social and public discourses, discussions and presentations.
<b>CO-4</b>	Understand and apply the principles of writing to paragraphs, arguments, essays and formal/ informal communication.
<b>CO-5</b>	Construct sentences using proper grammatical structures and correct word forms.
<b>Course Code: B19 BS 1101</b>	
<b>Course Title: Mathematics-I</b>	
<b>CO-1</b>	Solve a given system of linear algebraic equations
<b>CO-2</b>	Determine Eigen values and Eigen vectors of a system represented by a matrix
<b>CO-3</b>	Solve linear ordinary differential equations of first order and first degree.
<b>CO-4</b>	Apply the knowledge in simple applications such as Newton's law of cooling, orthogonal trajectories and simple electrical circuits.
<b>CO-5</b>	Solve linear ordinary differential equations of second order and higher order.
<b>CO-6</b>	Determine Laplace transform and inverse Laplace transform and solve linear ODE.
<b>Course Code: B19 BS 1103</b>	
<b>Course Title: ENGINEERING PHYSICS</b>	
<b>CO-1</b>	Explain the structure of solids and their determination
<b>CO-2</b>	Demonstrate the synthesis methods and applications of nano materials
<b>CO-3</b>	Understand the concepts of elasticity and different types of moduli and their relation.
<b>CO-4</b>	Explain the sound propagation in buildings and related aspects
<b>CO-5</b>	Characterize the magnetic and dielectric materials from their basic behaviour and learn their applications.
<b>CO-6</b>	Understand the basics of modern technologies ultrasonics, lasers and optical fibers and their applications in various fields
<b>Course Code: B19 EE 1101</b>	
<b>Course Title: BASIC ELECTRICAL AND ELECTRONICS ENGINEERING</b>	
<b>CO-1</b>	Apply concepts of KVL/KCL in solving DC circuits.
<b>CO-2</b>	Analyze simple electric circuits with DC excitation and single phase AC circuits consisting of series RL RC - RLC combinations.
<b>CO-3</b>	Identify type of electrical machine based on their operation.
<b>CO-4</b>	Illustrate working principles of induction motor - DC Motor.
<b>CO-5</b>	Choose correct rating of a transformer for a specific application.
<b>CO-6</b>	Explain operation of Rectifiers and transistors.
<b>Course Code: B19 ME 1101</b>	
<b>Course Title: ENGINEERING DRAWING</b>	
<b>CO-1</b>	Apply principles of drawing to Construct polygons and engineering curves.
<b>CO-2</b>	Apply principles of drawing to draw the projections of points and lines.
<b>CO-3</b>	Apply principles of drawing to draw the projections of planes
<b>CO-4</b>	Apply principles of drawing to draw the projections of solids.
<b>CO-5</b>	Apply principles of drawing to represent the object in 3D view through isometric views.
<b>Course Code: B19 BS 1106</b>	
<b>Course Title: ENGINEERING PHYSICS LAB</b>	
<b>CO-1</b>	Students get hands on experience in setting up experiments and using the instruments / equipment individually.
<b>CO-2</b>	Get introduced to using new/ advanced technologies and understand their significance.
<b>Course Code: B19 HS 1102</b>	
<b>Course Title: ENGLISH LAB</b>	
<b>CO-1</b>	Remember and understand the different aspects of English language proficiency with emphasis



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	on LSRW skills.
<b>CO-2</b>	Apply communication skills through various language learning activities.
<b>CO-3</b>	Analyze the English speech sounds, stress, rhythm, intonation and syllable division for better listening comprehension.
<b>CO-4</b>	Exhibit an acceptable etiquette essential in social settings.
<b>CO-5</b>	Get awareness on mother tongue influence and neutralize it in order to improve fluency and clarity in spoken English.
<b>Course Code: B19 ME 1102</b>	
<b>Course Title: WORKSHOP PRACTICE LAB</b>	
<b>CO-1</b>	Apply wood working skills in real world applications.
<b>CO-2</b>	Build different parts with metal sheets in real world applications.
<b>CO-3</b>	Apply fitting operations in various applications.
<b>CO-4</b>	Apply different types of basic electric circuit connections.
<b>Course Code: B19MC1101</b>	
<b>Course Title: ENVIRONMENTAL SCIENCE</b>	
<b>CO-1</b>	Overall understanding of the natural resources.
<b>CO-2</b>	Basic understanding of the ecosystem and its diversity.
<b>CO-3</b>	Acquaintance on various environmental challenges induced due to unplanned anthropogenic activities.
<b>CO-4</b>	An understanding of the environmental impact of developmental activities.
<b>CO-5</b>	Awareness on the social issues, environmental legislation and global treaties.

<b>Course Outcomes for First Year Second Semester Course</b>	
<b>Course Code: B19 BS 1201</b>	
<b>Course Title: MATHEMATICS – II</b>	
<b>CO-1</b>	Fit an interpolation formula and perform interpolation for an equally spaced data as well as unequally spaced data.
<b>CO-2</b>	Find a real root of algebraic and transcendental equations, evaluate numerically certain definite integrals & solve a first order ordinary differential equation by Euler and RK methods.
<b>CO-3</b>	Compute partial derivatives, total derivative and Jacobian
<b>CO-4</b>	Find maxima/minima of functions of two variables and evaluate some real definite integrals.
<b>CO-5</b>	Form partial differential equations and solve Lagrange linear equation. Solve linear higher order homogeneous and non-homogeneous PDEs.
<b>CO-6</b>	Find theoretical solution of one-dimensional wave equation and one-dimensional heat equation.
<b>Course Code: B19 ME 1202</b>	
<b>Course Title: ENGINEERING MECHANICS</b>	
<b>CO-1</b>	Determine the resultant of the given force systems & Analyze force systems using equations of equilibrium.
<b>CO-2</b>	Determine centroid, center of gravity and moment of inertia of areas and bodies.
<b>CO-3</b>	Analyze trusses and simple beams.
<b>CO-4</b>	Identify the frictional forces and its influence on equilibrium.
<b>CO-5</b>	Determine the displacement, velocity and acceleration relations and apply the work energy and impulse momentum to dynamic systems in rectilinear and curvilinear motion.
<b>CO-6</b>	Determine the displacement, velocity and acceleration relations and apply the work energy and impulse momentum to dynamic rigid bodies.



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<b>Course Code: B19 BS 1204</b>	
<b>Course Title: ENGINEERING CHEMISTRY</b>	
<b>CO-1</b>	At the end of the course the students learn the advantages and limitations of plastics materials and their use in design.
<b>CO-2</b>	Fuels which are used commonly and their economics, advantages, and limitations are discussed.
<b>CO-3</b>	Students gained knowledge reasons for corrosion and some methods of corrosion control.
<b>CO-4</b>	Students understands the impurities present in raw water; problems associated with them and how to avoid them.
<b>CO-5</b>	Similarly, students understand liquid crystals and semiconductors. Students can gain the building materials, solar materials, lubricants and energy storage devices.
<b>Course Code: B19 CS 1201</b>	
<b>Course Title: PROGRAMMING FOR PROBLEM SOLVING USING C</b>	
<b>CO-1</b>	Students will learn about computer systems, computing environments, developing of a computer program and Structure of a C Program.
<b>CO-2</b>	Students will learn to use different operators, data types and loops for developing C Programs..
<b>CO-3</b>	Students will able to write programs using Arrays , Strings, enumerated types, Structure and Union.
<b>CO-4</b>	Students will able to design and implement programs to analyze the different pointer applications.
<b>CO-5</b>	Students will able to decompose a problem into functions and to develop modular reusable code.
<b>Course Code:B19 ME 1203</b>	
<b>Course Title: COMPUTER AIDED ENGINEERING DRAWING</b>	
<b>CO-1</b>	Apply principles of drawing to draw the projections of solids.
<b>CO-2</b>	Apply principles of drawing to draw sections of solids and sectional views.
<b>CO-3</b>	Apply principles of drawing to draw the development of solids
<b>CO-4</b>	Apply the principles of drawing to draw the intersection of right regular solids.
<b>CO-5</b>	Apply the principles of drawing to draw the perspective views of points, lines, plane figures and simple solids.
<b>CO-6</b>	Draw isometric and orthographic drawings using CAD packages.
<b>Course Code: B19 BS 1207</b>	
<b>Course Title: ENGINEERING CHEMISTRY LAB</b>	
<b>CO-1</b>	An understanding of Professional and develop confidence on recent trends.
<b>CO-2</b>	Able to gain technical knowledge of measuring, operating, and testing of chemical instruments and equipments.
<b>CO-3</b>	Acquire ability to apply real time knowledge of chemistry.
<b>CO-4</b>	Students confidently face the interviews.
<b>CO-5</b>	Demonstrate the ability to learn Principles, design and conduct experiments.
<b>CO-6</b>	Ability to work on laboratory and multidisciplinary tasks.
<b>Course Code: B19 HS 1202</b>	
<b>Course Title:COMMUNICATION SKILLS LAB</b>	
<b>CO-1</b>	Learn different aspects of English language proficiency in LSRW skills.
<b>CO-2</b>	Apply communication skills through various language learning activities.
<b>CO-3</b>	Draft job application letters.
<b>CO-4</b>	Adopt a professional etiquette in formal settings.
<b>CO-5</b>	Improve fluency and clarity in both spoken and written English.
<b>Course Code: B19 CS 1204</b>	
<b>Course Title:PROGRAMMING FOR PROBLEM SOLVING USING C LAB</b>	
<b>CO-1</b>	Gains Knowledge on various concepts of a C language.
<b>CO-2</b>	Able to draw flowcharts and write algorithms.
<b>CO-3</b>	Able design and development of C problem solving skills.
<b>CO-4</b>	Able to design and develop modular programming skills.
<b>CO-5</b>	Able to trace and debug a program
<b>Course Code: B19 EE 1203</b>	
<b>Course Title: BASIC ELECTRICAL &amp; ELECTRONICS ENGINEERING LAB</b>	





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<b>CO-1</b>	A study of the communicative items in the laboratory will help the students become successful in the competitive world.
<b>CO-2</b>	Students enhance their presentation skills.
<b>CO-3</b>	Students participate in group discussions and improve their team skills.
<b>CO-4</b>	Students confidently face the interviews.
<b>Course Code: B19 ME 1204</b>	
<b>Course Title: ENGINEERING EXPLORATION PROJECT</b>	
<b>CO-1</b>	Build mind sets & foundations essential for designers
<b>CO-2</b>	Learn about the Human-Centered Design methodology and understand their real-world applications
<b>CO-3</b>	Use Design Thinking for problem solving methodology for investigating ill-defined problems.
<b>CO-4</b>	Under go several design challenges and work towards the final design challenge

<b>Course Outcomes for Second Year First Semester Course</b>	
<b>Course Code: B19 BS 2101</b>	
<b>Course Title: MATHEMATICS – III</b>	
<b>CO-1</b>	Determine Fourier series and half range series of functions.
<b>CO-2</b>	Determine different Fourier transforms of non-periodic functions and also use them to evaluate integrals.
<b>CO-3</b>	Use the knowledge of Beta and Gamma functions in evaluating improper integrals.
<b>CO-4</b>	Evaluate double integrals, simple triple integrals & find areas and volume.
<b>CO-5</b>	Determine the gradient of a scalar function, divergence and curl of a vector function. Determine scalar potential.
<b>CO-6</b>	Apply Green's, Stokes' and Gauss divergence theorems to solve problems.
<b>Course Code: B19 ME 2101</b>	
<b>Course Title: STRENGTH OF MATERIALS</b>	
<b>CO-1</b>	Understand the concepts of simple stresses and strains under different loads, and apply the knowledge for structural members and calculating principal stresses.
<b>CO-2</b>	Construct and interpret Shear Force and Bending Moment Diagrams for statically determinate beams under different loading conditions.
<b>CO-3</b>	Determine stresses due to bending of beams subjected to different loads.
<b>CO-4</b>	Understand the concepts of strain energy under different loading conditions, and examine the stresses produced in circular shafts subjected to twisting moments.
<b>CO-5</b>	Solve for stresses and strains produced in thin and thick-walled pressure vessels.
<b>Course Code: B19 ME 2102</b>	
<b>Course Title: ENGINEERING THERMODYNAMICS</b>	
<b>CO-1</b>	Apply the thermodynamic concepts in real life systems and compute properties of various perfect gases.
<b>CO-2</b>	Analyze the first law of thermodynamics to various thermodynamic systems undergoing different thermodynamic processes.
<b>CO-3</b>	Apply the second law of thermodynamics to working of various heat engine and thermal efficiency of air standard cycles.
<b>CO-4</b>	Analyze the general relation of thermodynamic functions, availability and irreversibility.
<b>Course Code: B19 ME 2103</b>	
<b>Course Title: MANUFACTURING PROCESSES</b>	
<b>CO-1</b>	Analyze various factors involved in casting process for mould preparation, casting methods, melting, gating system design and casting defects..
<b>CO-2</b>	Identify various cold and hot working processes such as rolling, extrusion, drawing, spinning.
<b>CO-3</b>	Analyze various sheet metal operations and forging techniques.
<b>CO-4</b>	Distinguish various welding processes.
<b>Course Code: B19 ME 2104</b>	
<b>Course Title: METALLURGY AND MATERIALS SCIENCE</b>	
<b>CO-1</b>	Apply standard empirical formulae for various screw threads, screw fastenings, keys and joints. Identify the various shaft couplings and bearings.
<b>CO-2</b>	Prepare assembly drawing of various mechanical components.



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<b>CO-3</b>	Identify various symbols for materials, machining operations and welded joints. Calculate tolerances to obtain various fits. Identify geometrical tolerances and surface finish symbols.
<b>CO-4</b>	Prepare process sheets and production drawings various components
<b>Course Code: B19 ME 2105</b>	
<b>Course Title: MECHANICAL ENGINEERING DRAWING</b>	
<b>CO-1</b>	Apply principles of drawing to represent dimensions of an object.
<b>CO-2</b>	Draw projections solids with axis inclined to both planes.
<b>CO-3</b>	Represent sectional views of solids.
<b>CO-4</b>	Develop the surfaces of regular solids and draw the projections of intersection of solids.
<b>CO-5</b>	Gain knowledge on Computer Aided Drafting.
<b>Course Code: B19 ME 2106</b>	
<b>Course Title: MECHANICAL ENGINEERING LAB</b>	
<b>CO-1</b>	Assess the environmental, societal safety and health issue through determining the flash & fire point of various lubricating oils as well as fuels, along with computing the viscosity of lubricating oils
<b>CO-2</b>	Functioning and communicating as an individual in a team to write and prepare effective reports on experiments conducted in the laboratory
<b>Course Code: B19 ME 2107</b>	
<b>Course Title: MANUFACTURING PROCESSES LAB</b>	
<b>CO-1</b>	Apply the knowledge of casting, welding and forging to make various sand moulds, welded joints and forged Components
<b>CO-2</b>	Distinguish various moulding sand tests
<b>Course Code: B19 MC2101</b>	
<b>Course Title: PROFESSIONAL ETHICS AND HUMAN VALUES</b>	
<b>CO-1</b>	Identify and analyze an ethical issue in the subject matter under investigation or in a relevant field. Demonstrate knowledge of ethical values in non-classroom activities, such as service learning, internships and field work.
<b>CO-2</b>	Identify the multiple ethical interests at stake in a real-world situation or practice and articulate what makes a particular course of action ethically defensible.
<b>CO-3</b>	Assess their own ethical values and the social context of problems.
<b>CO-4</b>	Identify ethical concerns in research and intellectual contexts, including academic integrity, use and citation of sources, the objective presentation of data, and the treatment of human subjects.
<b>CO-5</b>	Integrate, synthesize, and apply knowledge of ethical dilemmas and resolutions in academic settings, including focused and interdisciplinary research.
<b>Course Code: B19 MC 2104</b>	
<b>Course Title: INTRODUCTION TO MACHINE LEARNING USING PYTHON</b>	
<b>CO-1</b>	Understand basic fundamentals of python programming
<b>CO-2</b>	Acquire in-sights into Numpy, Pandas & Matplotlib
<b>CO-3</b>	Understand the importance of machine learning
<b>CO-4</b>	Differentiate supervised & unsupervised learning
<b>CO-5</b>	Build his own machine learning algorithm to deal with real data

Course Outcomes for Second Year Second Semester Course	
<b>Course Code: B19 BS 2201</b>	
<b>Course Title: MATHEMATICS-IV</b>	
<b>CO-1</b>	Comprehend the concept of Analytic function and apply in Electrostatics and Fluid dynamics
<b>CO-2</b>	Determine Laurent series of functions about isolated singularities, and determine residues. Use the residue theorem to evaluate certain real definite integrals.
<b>CO-3</b>	Formulate and solve linear difference equations.
<b>CO-4</b>	Use Z-transforms to solve linear difference equations with constant coefficients.
<b>CO-5</b>	Identify a random variable as discrete/continuous, find its expected value and also fit a probability distribution for a given frequency distribution.
<b>CO-6</b>	Decide the test applicable and apply it for giving inference about Population Parameter based on sample statistic for some large samples and small samples.
<b>Course Code: B19 ME 2201</b>	
<b>Course Title: ADVANCED STRENGTH OF MATERIALS</b>	
<b>CO-1</b>	Apply the knowledge of mathematics and engineering fundamentals to solve the problems of slope and deflection of statically determinate beams.
<b>CO-2</b>	Acquire the knowledge of constructing Shear Force and Bending Moment diagrams for fixed Beams.
<b>CO-3</b>	Acquire the knowledge of constructing Shear Force and Bending Moment diagrams for continuous Beams.





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<b>CO-4</b>	Apply different theories to design the columns and struts subjected to different load conditions.
<b>CO-5</b>	Investigate various structural members such as curved bars, subjected to different loading conditions for determination of stresses and Strains.
<b>Course Code: B19 ME 2202</b>	
<b>Course Title: APPLIED THERMAL ENGINEERING</b>	
<b>CO-1</b>	Apply the laws of thermodynamics for estimating the properties of pure substance
<b>CO-2</b>	Analyze the working of vapour power cycles and their performance
<b>CO-3</b>	Analyze the functionality of steam nozzle and steam Turbine in power plants to estimate their performance
<b>CO-4</b>	Apply the laws of thermodynamics for estimating the performance of steam Condensers and steam boilers in power plants
<b>Course Code: B19 ME 2203</b>	
<b>Course Title: METAL CUTTING AND MACHINE TOOLS</b>	
<b>CO-1</b>	Analyze mechanics of metal cutting to determine cutting forces, tool life, tool wear..
<b>CO-2</b>	Differentiate various machining operations on lathe, shaper, planer, slotting and boring machine tool.
<b>CO-3</b>	Illustrate various machining operations on milling, drilling, broaching and grinding machines.
<b>CO-4</b>	Distinguish various Unconventional methods of machining process such as AJM, USM, EDM, ECM.
<b>Course Code: B19 ME 2204</b>	
<b>Course Title: FLUID MECHANICS</b>	
<b>CO-1</b>	Understand the basic concepts and properties of fluids.
<b>CO-2</b>	Apply the principles of fluid kinematics and dynamics in solving problems.
<b>CO-3</b>	Analyze and solve fluid flow problems in pipe and apply the concepts of dimensional analysis.
<b>CO-4</b>	Understand and analyze boundary layer concepts.
<b>CO-5</b>	Apply compressible fluid flow theory in solving aerospace and other systems.
<b>Course Code: B19 HS 2202</b>	
<b>Course Title: MANAGERIAL ECONOMICS AND FINANCIAL ACCOUNTANCY</b>	
<b>CO-1</b>	Able to analyse Demand.
<b>CO-2</b>	Able to Calculate BEP
<b>CO-3</b>	Able to understand Pricing Practices
<b>CO-4</b>	Able to understand Economics Systems and Business Cycles
<b>CO-5</b>	Able to Calculate Depreciation and Final Accounts
<b>Course Code: B19 ME 2205</b>	
<b>Course Title: STRENGTH OF MATERIALS LAB</b>	
<b>CO-1</b>	Analyze the relationship between load and deformation of different materials under the influence of axial (tensile & compressive), shear and bending loads.
<b>CO-2</b>	Analyze the torsional stresses produced in different machine members, e.g., shafts and springs, and to compute the rigidity modulus of their materials.
<b>CO-3</b>	Examine the strength of different materials under impact loads.
<b>CO-4</b>	Determine the indentation hardness of different materials on different hardness scales.
<b>Course Code: B19 ME 2206</b>	
<b>Course Title: MACHINE TOOLS LAB</b>	
<b>CO-1</b>	Distinguish various machining operations on Lathe, Shaper and Milling.
<b>CO-2</b>	Analyze the shear angle, tool tip temperature and surface roughness by applying the knowledge of metal cutting.
<b>Course Code: B19 MC2202</b>	
<b>Course Title: CONSTITUTION OF INDIA</b>	
<b>CO-1</b>	Understand historical background of the constitution making and its importance for building a democratic India.
<b>CO-2</b>	Understand the functioning of three wings of the government ie., executive, legislative and judiciary.
<b>CO-3</b>	Understand the value of the fundamental rights and duties for becoming good citizen of India.
<b>CO-4</b>	Analyze the decentralization of power between central, state and local self-government.
<b>CO-5</b>	Apply the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy.
<b>CO-6</b>	a. Know the sources, features, and principles of Indian Constitution. b. Learn about Union Government, State government and its administration. c. Get acquainted with Local administration and Panchayati Raj. d. Be aware of basic concepts and developments of Human Rights. e. Gain knowledge on roles and functioning of Election Commission