



# BABA FARID COLLEGE OF ENGG. & TECHNOLOGY

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## Department of Mechanical Engineering Program- B.Tech Mechanical Engineering (PEO/PO/PSO/CO)

### 1. Program Educational Objective (PEO's)

**PEO 1:** Engage in designing, manufacturing, testing, operating and/or maintaining systems in the field of mechanical engineering and allied fields.

**PEO 2:** Solve problems of social relevance by applying the knowledge of mechanical engineering and/or pursue research and higher education.

**PEO 3:** Engage in lifelong learning, career enhancement, team work, leadership and adopt to changing professional and broader societal needs.

### 2. PROGRAM OUTCOMES (POs)

**Engineering Graduates will be able to:**

**PO1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO2. Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

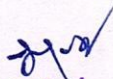
**PO3. Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO4. Conduct investigations of complex problems:** 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.

**PO5. Modern tool usage:** 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.

**PO6. The engineer and society:** 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.

**PO7. Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

  
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**PO8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10. Communication:** 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.

**PO11. Project management and finance:** 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 multidisciplinary environments.

**PO12. Life-long learning:** 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.

### 3. Programme Specific Outcomes (PSOs)

**PSO 1:** Graduates will demonstrate their knowledge in effective implementation during their practice of profession of Mechanical Engineering with due regard to environment and social concerns.

**PSO 2.** Graduates will be motivated for continuous self-learning in engineering practice to offer engineering services to the society, ethically and responsibly.

**PSO 3.** Graduates will develop their Ability to Analyze, design and evaluate mechanical components and systems using various technological tools.

### 4. Course Outcomes (Cos)

COURSE OUTCOMES 2018 BATCH ONWARDS				
Program	Course Code	Course	CO No.	Course outcome
B.Tech (Mechanical Engineering)	BCSE0- 101	Programming for Problem Solving	BCSE0- 101.CO1	After completing the course students will be able to: formulate simple algorithms for arithmetic and logical problems
			BCSE0- 101.CO2	translate the algorithms programs (in C language).
			BCSE0- 101.CO3	test and execute the programs and correct syntax and logical errors.
			BCSE0- 101.CO4	implement conditional branching, iteration and recursion.
			BCSE0- 101.CO5	decompose a problem in functions and synthesize a complete program using divide and conquer approach.

  
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			BCSE0-101.CO6	use arrays, pointers and structures formulate algorithms and programs.
			BCSE0-101.CO7	apply programming solve matrix addition and multiplication problems and searching and sorting problems.
			BCSE0-101.CO8	apply programming solve simple numerical method problems, namely root finding of function, differentiation of function and simple integration.
B.Tech (Mechanical Engineering)	BCHM0-102	Chemistry-I Lab.	BCHM0-102.CO1	estimate rate constants of reactions from concentration of reactants/products as a function of time
			BCHM0-102.CO2	measure molecular/system properties such as surface tension, viscosity, conductance of solutions, redox potentials, chloride content of water, etc.
			BCHM0-102.CO3	synthesize a small drug molecule and analyze a salt sample
B.Tech (Mechanical Engineering)	BCSE0-102	Programming for Problem Solving Lab.	BCSE0-102.CO1	understand C programming development environment, compiling, debugging, linking and executing a program using the development environment.
			BCSE0-102.CO2	analyzing the complexity of problems, modularize the problems into small modules and then convert into programs
			BCSE0-102.CO3	understand and apply the inbuilt functions and customized functions for solving the problems.
			BCSE0-102.CO4	understand and apply the pointers, memory allocation techniques and use of files for dealing with variety of problems
B.Tech (Mechanical Engineering)	BMFP0-101	Manufacturing Practices	BMFP0-101.CO1	gain knowledge of the different manufacturing processes which are commonly employed in the industry, fabricate components using different materials.
			BMFP0-101.CO2	fabricate components with their own hands.
			BMFP0-101.CO3	get practical knowledge of the dimensional accuracies and dimensional tolerances possible with different manufacturing processes.
			BMFP0-101.CO4	by assembling different components, students will be able produce small devices of their interest.

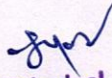
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B.Tech (Mechanical Engineering)	BPHY0- 101	Physics	BPHY0- 101.CO1	understand the basics Electromagnetism, Electrostatics in vacuum and in linear dielectric medium and electromagnetic waves.
			BPHY0- 101.CO2	understand the basics of Faraday laws and evaluate the Maxwell's equations in different medium.
			BPHY0- 101.CO3	understand the phenomenon of Magnestatics and magnestatic in linear magnetic medium.
			BPHY0- 101.CO4	understand the Relation between electric and magnetic field of EM wave
B.Tech (Mechanical Engineering)	BMAT0- 201	Mathematics-II	BMAT0- 201.CO1	learn mathematical tools needed in evaluating multiple integrals and their usage.
				use the effective mathematical tools for the solutions of differential equations that model physical processes.
				learn the tools of differentiation and integration of functions of a complex variable that are used in various techniques dealing engineering problems.
B.Tech (Mechanical Engineering)	BMEE0- 101	Engineering Graphics & Design	BMEE0- 101.CO1	get a basic understanding of engineering drawing and its principles.
			BMEE0- 101.CO2	get exposure to drawing, drafting techniques and interpretation of drawing Scales
			BMEE0- 101.CO3	learn about the projection of Point, line, Planes and regular solids.
			BMEE0- 101.CO4	understand and learn the development of surfaces.
			BMEE0- 101.CO5	draw and design the Isometric and Orthographic Projections of Simple and compound Solids.
B.Tech (Mechanical Engineering)	BELE0- 101	Basics Electrical Engineering	BELE0- 101.CO1	understand and analyze basic DC and AC circuits
			BELE0- 101.CO2	study the use and working principle of single phase transformers.
			BELE0- 101.CO3	introduce the components of low voltage electrical installations.
B.Tech (Mechanical Engineering)	BPHY0- 102	Physics Lab	BPHY0- 102.CO1	understand the working of CRO
			BPHY0- 102.CO2	understand the concept of oscillation in LCR Circuits
			BPHY0- 102.CO3	understand the properties of Magnetic material

  
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			BPHY0-102.CO4	get knowledge about the electric circuit (LC and RC circuits)
B.Tech (Mechanical Engineering)	BELE0-102	Basics Electrical Engineering Lab	BELE0-102.CO1	get an exposure common electrical components and their ratings
			BELE0-102.CO2	make electrical connections by wires of appropriate ratings
			BELE0-102.CO3	understand the usage of common electrical measuring instruments.
			BELE0-102.CO4	understand the basic characteristics of transformers and electrical induction motors.
B.Tech (Mechanical Engineering)	BMEE0-102	Engineering Graphics & Design Lab	BMEE0-102.CO1	get exposure computer-aided geometric design
			BMEE0-102.CO2	get exposure creating working drawings
			BMEE0-102.CO3	get exposure engineering communication
B.Tech (Mechanical Engineering)	BMECE0-001	ENGINEERING MECHANICS	BMECE0-001.CO1	solve the simple problems related Coplanar and concurrent forces using different techniques.
			BMECE0-001.CO2	understand the concepts of friction and the role of friction in screw Jack and inclined planes.
			BMECE0-001.CO3	draw shear force and bending moment diagrams by analytical method.
			BMECE0-001.CO4	find forces in simple trusses by using method of section and joints.
			BMECE0-001.CO5	apply fundamental concepts of kinematics and kinetics of particles and the analysis of simple practical problems.
			BMECE0-001.CO6	understand and apply the concept of centre of gravity, centroid and moment of inertia.
B.Tech (Mechanical Engineering)	BMECS1-301	STRENGTH OF MATERIALS-I	BMECS1-301.CO1	understand the fundamental concepts of stress and strain and the relationship between both through the strain-stress equations in order solve problems for simple tridimensional elastic solids
			BMECS1-301.CO2	plot Shear force and bending moment, slope and deflection in simply supported beam, cantilever beam and overhung beam

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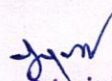
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			BMECS1-301.CO3	evaluate bending stress in simply supported beams
			BMECS1-301.CO4	determine the torsion in circular members and springs
			BMECS1-301.CO5	understand the concept of buckling and be able to solve the problems related to isolated bars
			BMECS1-301.CO6	understand the concept of frames and solving problems related to frames
B.Tech (Mechanical Engineering)	BMECS1-302	FLUID MECHANICS	BMECS1-302.CO1	identify and obtain the values of fluid properties and relationship between them and understand the principles of continuity, momentum, and energy as applied fluid motions.
			BMECS1-302.CO2	calculate and design engineering applications involving fluid.
			BMECS1-302.CO3	apply dimensional analysis predict physical parameters that influence the flow in fluid mechanics
B.Tech (Mechanical Engineering)	BMECS1-303	THERMODYNAMICS	BMECS1-303.CO1	apply energy balance systems and control volumes, in situations involving heat and work interactions
			BMECS1-303.CO2	evaluate changes in thermodynamic properties of substances
			BMECS1-303.CO3	evaluate the performance of energy conversion devices
			BMECS1-303.CO4	differentiate between high grade and low grade energies.
B.Tech (Mechanical Engineering)	BMECS1-304	MECHANICAL ENGINEERING LAB-I	BMECS1-304.CO1	measure the various mechanical properties such as tensile strength, compressive strength, shear strength, torsion strength, impact strength, fatigue strength and hardness of various materials.
			BMECS1-304.CO2	measure the bending stress and deflection in beams
			BMECS1-304.CO3	measure the strain energy and spring stiffness of a helical spring.
			BMECS1-304.CO4	calculate load carrying capacity of long columns and their buckling strength.
B.Tech (Mechanical Engineering)	BMECS1-401	MATERIALS ENGINEERING	BMECS1-401.CO1	student will be able identify crystal structures for various materials and understand the defects in such structures

  
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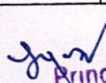
			BMECS1-401.CO2	understand how tailor material properties of ferrous and non-ferrous alloys.
B.Tech (Mechanical Engineering)	BMECS1-402	STRENGTH OF MATERIALS-II	BMECS1-402.CO1	determine the stresses, strains and strain energy in members subjected combined loading and apply the theories of failure for static loading
			BMECS1-402.CO2	design springs and determine operations stresses and deflections
			BMECS1-402.CO3	design pressure cylinder application
			BMECS1-402.CO4	determine and illustrate principal stresses, maximum shearing stress, and the stresses acting on a structural member
			BMECS1-402.CO5	apply strengths of materials theory complicated engineering applications
B.Tech (Mechanical Engineering)	BMECS1-403	FLUID MACHINES	BMECS1-403.CO2	apply the basic principles, the laws,
			BMECS1-403.CO3	the pertinent equations engineering design of the machines for required applications.
B.Tech (Mechanical Engineering)	BMECS1-404	APPLIED THERMODYNAMICS	BMECS1-404.CO1	get a good understanding of various practical power cycles and heat pump cycles.
			BMECS1-404.CO2	able to analyze energy conversion in various thermal devices such as nozzles, diffusers, steam turbines and reciprocating compressors
			BMECS1-404.CO3	understand phenomena occurring in high speed compressible flows
B.Tech (Mechanical Engineering)	BMECS1-405	MACHINE DRAWING USING CAD	BMECS1-405.CO1	understand the drawings of mechanical components and their assemblies along with their utility for design of components.
			BMECS1-405.CO2	carry out the assemblies both on sheet and on the computer using software
B.Tech (Mechanical Engineering)	BMECS1-406	MECHANICAL ENGINEERING LABORATORY (THERMAL-I)	BMECS1-406.CO1	understand the principles and performance characteristics of flow and thermal devices
			BMECS1-406.CO2	know about the measurement of the fluid properties

  
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B.Tech (Mechanical Engineering)	BMECS1- E 1.3	INDUSTRIAL AUTOMATION AND ROBOTICS	BMECS1-E 1.3.CO1	understand the necessity of automation,
			BMECS1-E 1.3.CO2	implementation of fluid power control elements in modern industry
			BMECS1-E 1.3.CO3	get knowledge about Material handling systems and control of robotic manipulators
B.Tech (Mechanical Engineering)	BMECS1- 501	HEAT TRANSFER	BMECS1- 501.CO1	formulate and analyze a heat transfer problem involving any of the three modes of heat transfer
			BMECS1- 501.CO2	obtain exact/approximate solutions for the temperature variation using analytical methods where possible or employ approximate methods or empirical correlations evaluate the rate of heat transfer.
			BMECS1- 501.CO3	design devices such as heat exchangers and also estimate the insulation needed to reduce heat losses where necessary.
			BMECS1- 501.CO4	apply the boiling and condensation heat transfer principles engineering problems.
B.Tech (Mechanical Engineering)	BMECS1- 502	MECHANICAL MEASUREMENTS AND METROLOGY	BMECS1-502 .CO1	understand the classification of measurements and measurement standards used in industrial applications. introduce concepts of linear, angular, roughness thread, gear measurements, limits, fits and tolerances.
			BMECS1-502 .CO2	understand about various errors in measuring systems and evaluate the errors by statistical methods.
			BMECS1-502 .CO3	know about functions and types of sensors and transducers and their utility in instrumentation
			BMECS1-502 .CO4	use various instruments for measurements like pressure, flow, temperature etc. In process industry manufacturing
B.Tech (Mechanical Engineering)	BMECS1- 503	AUTOMOBILE ENGINEERING	BMECS1- 503.CO1	understand the layout, constructional and working of power unit and fuel supply system of an automobile.
			BMECS1- 503.CO2	understand the functioning of lubrication, cooling and suspension system of an

  
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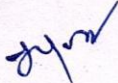
				aumobile
			BMECS1-503.CO3	understand construction and working of transmission, steering and braking system of an aumobile.
			BMECS1-503.CO4	understand working of starting and electrical systems of an automobile. Also get knowledge of recent developments in the aumobile field.
B.Tech (Mechanical Engineering)	BMECS1-504	KINEMATICS AND THEORY OF MACHINES	BMECS1-504.CO1	understand problems related to Four bar chain, displacement, and velocity and acceleration analysis of simple mechanisms
			BMECS1-504.CO2	analyze and solve design problems related to Cams and its displacement, velocity and acceleration diagrams, cams profiles, gears and gear trains.
			BMECS1-504.CO3	solve design problems related to Belts, ropes, chains and different types of governors.
			BMECS1-504.CO4	understand Balancing of reciprocating masses, engines rors and gyroscopic motion couples and robotic motions.
B.Tech (Mechanical Engineering)	BMECS1-505	MECHANICAL ENGINEERING LABORARY-III (MMM & HT)	BMECS1-505.CO1	define metrology and apply concept of metrology engineering applications
			BMECS1-505.CO2	understand the basic measurement units and able calibrate various measuring devices.
			BMECS1-505.CO3	use measuring tools such as Sine bar, surface roughness tester, profile projecr, tool Maker Microscope, stroboscope, Micrometer, etc.
			BMECS1-505.CO4	perform steady state conduction experiments estimate temperature distribution and thermal conductivity of different materials
			BMECS1-505.CO5	perform transient heat conduction experiments
			BMECS1-505.CO6	estimate heat transfer coefficient in natural, forced convection and condensation and boiling process also.

  
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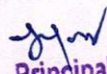
			BMECS1-505 .CO7	determine surface emissivity of different surfaces and Stefan Boltzmann's constant.
B.Tech (Mechanical Engineering)	BMECS1- 506	MECHANICAL ENGINEERING LABORARY-IV (AE & TOM)	BMECS1-506 .CO1	identify the different components of the automobile
			BMECS1-506 .CO2	understand the functioning of different systems of automobile.
			BMECS1-506 .CO3	do fault diagnosis and troubleshooting capabilities of different systems of an automobile
			BMECS1-506 .CO4	construct different types of cam profile for a given data & for opening and closing of valves.
			BMECS1-506 .CO5	do kinematic synthesis and different applications of gyroscopic effect, gyroscope active and reactive couple for ships and aeroplanes.
B.Tech (Mechanical Engineering)	BMECS1- 601	MANUFACTURING TECHNOLOGY & PROCESSES	BMECS1- 601.CO1	apply knowledge of manufacturing processes and the skills develop and manipulate the operating parameters for a given process.
			BMECS1- 601.CO2	understand processing of plastic and ceramic materials.
			BMECS1- 601.CO3	understand the latest technologies in casting and welding processes will get increased.
			BMECS1- 601.CO4	come up with innovative conceptual idea about latest manufacturing processes and their industrial applications.
B.Tech (Mechanical Engineering)	BMECS1- 602	DESIGN OF MACHINE ELEMENTS	BMECS1- 602.CO1	understand the concept of machine design and procedure for selection of materials
			BMECS1- 602.CO2	understand the overview of the design methodologies employed for the design of various machine components.
			BMECS1- 602.CO3	understand the relationship between component level design and overall machine design

  
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			BMECS1-602.CO4	understand the concept of design software and their utility/ application for designing of different machine components
B.Tech (Mechanical Engineering)	BMECD1-613	POWER PLANT ENGINEERING	BMECD1-613.CO1	Describe sources of energy and types of power plants.
			BMECD1-613.CO2	analyze different types of steam cycles and it's efficiencies in a steam power plant,
			BMECD1-613.CO3	Describe basic working principles of gas turbine and diesel engine power plants.
			BMECD1-613.CO4	Define the performance characteristics and components of such power plants.
B.Tech (Mechanical Engineering)	BMECD1-623	AUMATION IN MANUFACTURING	BMECD1-623.CO1	understanding operating principles and constructional features of hydraulic and pneumatic systems
			BMECD1-623.CO2	explain the architecture, installation procedures and trouble shooting of PLCs
			BMECD1-623.CO3	explain the application development procedures in SCADA and manage data, alarm, srage and can explain the architecture of DCS
			BMECD1-623.CO4	describe the advanced controller elements and program methods
B.Tech (Mechanical Engineering)	BMECD1-622	MICROPROCESSORS IN AUMATION	BMECD1-622.CO1	Define Microprocessor and Microcontroller family and working of 8085 Microcontroller Architecture and Programming model.
			BMECD1-622.CO2	understand the programming of 8085 and 8255 microprocessors
			BMECD1-622.CO3	Understand the concept of Timer, Interrupt, I/O Port interfacing with 8251/8253 microcontroller and advanced features of 8086/8088.
			BMECD1-622.CO4	understand the concept of digital control interfacing with Real time system
B.Tech (Mechanical Engineering)	BMECS1-603	MECHANICAL ENGINEERING LABORARY-V(MP)	BMECS1-603.CO1	Understand the different manufacturing and fabrication processes which are commonly employed in the industry, fabricate components using different materials.
			BMECS1-603.CO2	Fabricate components with their own hands.

  
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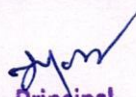
			BMECS1-603 .CO3	Acquire the practical knowledge of the dimensional accuracies and dimensional clearances possible with different manufacturing processes.
B.Tech (Mechanical Engineering)	BMECS1-604	MECHANICAL ENGINEERING LABORATORY-VI(MSM)	BMECS1-604 .CO1	Analyses the microstructure of different ferrous and non-ferrous samples.
			BMECS1-604 .CO2	explore the effect of heat treatment on various engineering materials by analyzing its microstructure and hardness.
B.Tech (Mechanical Engineering)	BMECS1-605	MINOR PROJECT	BMECS1-605.CO1	apply the theoretical and practical knowledge gained so far, by taking up the study in the form of a project work.
			BMECS1-605.CO2	Provide a good initiation in R&D work.
B.Tech (Mechanical Engineering)	BMECS1-701	REFRIGERATION & AIR CONDITIONING	BMECS1-701.CO1	Illustrate the fundamental principles and applications of refrigeration and air conditioning system.
			BMECS1-701.CO2	obtain cooling capacity and coefficient of performance by conducting test on vapour compression refrigeration systems
			BMECS1-701.CO3	present the properties, applications and environmental issues of different refrigerants
			BMECS1-701.CO4	calculate cooling load for air conditioning systems used for various
B.Tech (Mechanical Engineering)	BMECD1-711	COMPUTER AIDED DESIGN	BMECD1-711.CO1	understand The fundamentals of computer graphics and its architecture
			BMECD1-711.CO2	know about the geometric modeling and able differentiate various kinds of curves
			BMECD1-711.CO3	know about Visual realism and excel the knowledge related assembly of parts
			BMECD1-711.CO4	learn about various CAD standards and understand about finite element analysis (FEM)
B.Tech (Mechanical Engineering)	BEEEE0-F94	NON-CONVENTIONAL ENERGY RESOURCES	BEEEE0-F94.CO1	become aware about non-conventional Energy sources and Solar energy, different types of collects, their uses, wind energy, tidal energy, geothermal energy, Thermo Nuclear Fusion, Cold Fusion.
			BEEEE0-F94.CO2	develop the use of wind energy and Biomass energy

  
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			BEEE0-F94.CO3	become aware about potential of energy present under earth surface and about energy of oceanic water tides.
			BEEE0-F94.CO4	students would develop the understanding about Nuclear energy, Hydrogen energy etc.
B.Tech (Mechanical Engineering)	BMECS1-702	MECHANICAL ENGINEERING LAB-VII (DMS&IAR LAB)	BMECS1-702.CO1	do the manual part programming on CNC machine
			BMECS1-702.CO2	create the assembly of hydraulic/pneumatic components
			BMECS1-702.CO3	apply CAD software and 3D modelling software's
			BMECS1-702.CO4	understand the robotics arm and its configuration
B.Tech (Mechanical Engineering)	BMECS1-703	MECHANICAL ENGINEERING Lab-VIII (RAC LAB)	BMECS1-703.CO1	Illustrate the fundamental principles and applications of refrigeration and air conditioning system
			BMECS1-703.CO2	obtain cooling capacity and coefficient of performance by conducting test on vapour compression refrigeration systems
			BMECS1-703.CO3	present the properties, applications and environmental issues of different refrigerants
			BMECS1-703.CO4	calculate cooling load for air conditioning systems used for various
			BMECS1-703.CO5	operate and analyze the refrigeration and air conditioning systems.
B.Tech (Mechanical Engineering)	BMECS1-704	INDUSTRIAL TRAINING	BMECS1-704.CO1	use knowledge to solve industrial problems.
			BMECS1-704.CO2	understand general and specific working procedures in the field of engineering.
			BMECS1-704.CO3	understand the impact of engineering solutions and industrial safety
			BMECS1-704.CO4	communicate effectively in the working environment.
B.Tech (Mechanical Engineering)	BMECD1-811	INDUSTRIAL SAFETY & ENVIRONMENT	BMECD1-811.CO1	understand importance of safety at work
			BMECD1-811.CO2	understand various safety measures and how it leads increasing plant productivity
			BMECD1-811.CO3	understand basics of environmental design
			BMECD1-811.CO4	understand the control of Ventilation and heat etc

  
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B.Tech (Mechanical Engineering)	BTEX0- F92	INTECTUAL PROPERTY RIGHTS AND PATENTING SYSTEM IN INDIA	BTEX0- F92.CO1	get exposure of various intellectual property rights.
			BTEX0- F92.CO2	learn about various laws of intellectual property rights with emphasis on patent acts
			BTEX0- F92.CO3	understand about patenting system in india.
			BTEX0- F92.CO4	learn about the process of applying patent.
B.Tech (Mechanical Engineering)	BMECS1- 801	MAJOR PROJECT	BMECS1- 801.CO1	to plan and implement an investigative or developmental project given general objectives and guidelines.effectively, report writing, presentation skills.
			BMECS1- 801.CO2	In-depth skill to use some laboratory, modern tools and techniques.
			BMECS1- 801.CO3	to analyze data to produce useful information and to draw conclusions by systematic deduction
			BMECS1- 801.CO4	facilitate significant individualized interactions between faculty members and students through a multi-term research experience.
			BMECS1- 801.CO5	communicate results, concepts, analyses and ideas in written and oral form.

*[Handwritten Signature]*

**Principal**  
Baba Farid College of Engineering & Technology  
BATHINDA.