



Maharshi Karve Stree Shikshan Samstha's
**Cummins College of Engineering
for Women**

Sharpening Engineering Acumen with a difference

NAAC Accredited

Approved by AICTE, New Delhi & DTE, Mumbai
Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University



CRITERIA – II (2.6)

STUDENT PERFORMANCE & LEARNING OUTCOMES

2.6.1 Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website



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Mouje Sukli (Gupchup), Hingna, Nagpur-441110



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CCOEW Follows OBE since many years. The College's Dean for Academic Affairs convened the Curriculum Development Cell (CDC), which advocated for the introduction of OBE in the UG curriculum. The faculty received guidance as part of the introduction to prepare curriculum in accordance with the characteristics of OBE. The OBE module consisted of Topics (SIX-units), 48 Hours, Books, Teaching Methods, Course Objectives & Outcomes, and Mapping of COs with PSOs and POs. Course outcomes are assessed at the end of each course, and program outcomes are assessed at the end of the program. The Program Specific Outcomes (PSO) are developed by the participating departments based on their vision, mission, and scope of the program. Course Outcomes (CO) are created in consultation with course teachers and in accordance with projected cognitive, emotional, and psychomotor learning levels. The implementation of OBE has improved the CBCS curricula, and the courses are infused with desirable objectives. The evaluation technique is modified to evaluate courses based on desired outcomes. OBE helped students to achieve higher order learning levels based on revised Bloom's Taxonomy, master the courses, and acquire the many competencies required for each course. It also helped students to develop employability and entrepreneurial abilities. OBE improved the courses offered in each program, equip teachers with knowledge and skills, and gave learners with program targets that are reachable. It has instilled in them a desire for vertical advancement in their future activities. The teachers are trained to focus on the students' attainment of higher order learning in order to enhance diverse talents, particularly their cognitive thinking. Program outcomes (PO's) & Course outcomes (CO) for all programs offered by the institution are stated and displayed on website & attainment of CO's PO's & PS's are evaluated. Alumni and other stakeholders' suggestions were also considered. The entire curriculum has been rewritten in conjunction with professionals, and the evaluation style was modified. The PO pattern was explained to students by appropriate course lecturers via the College Website, Digital Board, handouts, and orientation. If there is any non-compliance, CCOEW indicates the POs/PSOs that are just partially supported. Additional COs and actions to assist POs/PSOs are framed based on CCOEW guidelines. CCOEW approved content other than syllabi/virtual lab experiments/co-curricular activities for improved compliance. The course management faculty implemented CCOEW recommendations for greater compliances in the Teaching-Learning Process. CO's are defined for each course by referring Bloom's Taxonomy & it addresses the learning levels of students.



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Program: B.Tech First Semester (All Branches)

COURSE	MATHEMATICS – I		
COURSE CODE	BES1-1T	COURSE ABBREVIATION	M-I
SEMESTER	FIRST	BRANCH	All Branches
COURSE CREDITS	04	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of the Course, Students will be able to....

Course Outcomes		Blooms Level
BES1-1.1	<i>Analyze real world scenarios to recognize when derivatives or integrals are appropriate, formulate problems about the scenarios, creatively model these scenarios (using technology, if appropriate) to solve the problems using multiple Approaches, judge if the results are reasonable, and then interpret and clearly communicate the results.</i>	Level 1, 4
BES1-1.2	<i>Appreciate ODE and system of ODEs concepts that are encountered in the real world, understand and be able to communicate the underlying mathematics involved to help another person gain insight into the situation.</i>	Level 1, 2,
BES1-1.3	<i>Apply knowledge of mathematics, physics, and modern computing tools to scientific and engineering problems.</i>	Level 1, 3
BES1-1.4	<i>Develop an ability to identify, formulate and/or solve real world problems.</i>	Level 2
BES1-1.5	<i>Understand the impact of scientific and engineering solutions in a global and societal context.</i>	Level 1,2



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Program:- B. Tech First Year (All Branches)

COURSE	Applied Physics		
COURSE CODE	BES1- 2T	COURSE ABBREVIATION	AP
SEMESTER	FIRST	BRANCH	ALL
COURSE CREDITS	4	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BES1T2.1	<i>Apply concepts in interference and diffraction to solve relevant numerical problems and to relate to relevant engineering applications</i>	1,2,3
BES1T2.2	<i>Learn the basic concepts of dual nature of matter and wave packet and apply them to analyze various relevant phenomena and to solve related numerical problems</i>	1,2,3,4
BES1T2.3	<i>Recall the basic concepts of crystal structure and apply them in solving numerical problems based on them and in relating to applications for determination of crystal structure</i>	1,2,3
BES1T2.4	<i>Relate the basic idea of total internal reflection to the propagation of light in an optical fiber and make use of the fiber concepts to solve numerical problems and relate to applications in engineering</i>	1,2,4
BES1T2.5	<i>Find how to extend the basic concepts of motion of charged particles in electric magnetic fields to solve numerical problems and to relate to applications in electron optic devices and CRO</i>	1,2,3,



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Sanjivani

Dr. Shubhangi Bolpilwar

Shubhangi

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Program:- B. Tech First Semester (All branches)

COURSE	Energy and Environment		
COURSE CODE	BESI-3T	COURSE ABBREVIATION	EE
SEMESTER	First	BRANCH	B. Tech (All branches)
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BESI-3T.1	<i>To obtain</i> the knowledge of solid and gaseous fuels and their Calorific Value determination	Level 1, 2
BESI-3T.2	<i>To recognize</i> the type of liquid fuels and their uses in IC engines.	Level 1, 2
BESI-3T.3	<i>To apply</i> the knowledge about the use of alternative sources of energy & utilize solid waste as energy source	Level 2,3
BESI-3T.4	<i>To analyze</i> the impacts of Industrial pollution and its control.	Level 3,4
BESI-3T.5	<i>To develop</i> innovative ideas for use of advanced materials in sustainable development	Level 4,5



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Dr. Snehal Chavan



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Program:- B. Tech in First Year (All Branches)


COURSE	Communication Skills		
COURSE CODE	BSE1-4T	COURSE ABBREVIATION	CS
SEMESTER	FIRST	BRANCH	All Branches
COURSE CREDITS	02	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BSE1-4T.1	<i>To Understand the importance of communication and overcome barriers of communication.</i>	Level 2
BSE1-4T.2	<i>Acquire public speaking skills and handle group situation professionally.</i>	Level 3
BSE1-4T.3	<i>To comprehend passages and compose paragraph.</i>	Level 3
BSE1-4T.4	<i>To construct error free and meaningful sentence in English.</i>	Level 3




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Program: - B. Tech First Semester (All Branches)

COURSE	Engineering Graphics (Theory)		
COURSE CODE	BSE1-5T	COURSE ABBREVIATION	EG
SEMESTER	First	BRANCH	All Branches
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BSE1-5T.1	<i>Understand</i> basic knowledge of Engineering Graphics such as instruments, lines etc, and construct various engineering curves and basic of orthographic projection through drawing the projection of point and line	Level 1, 2
BSE1-5T.2	<i>Understand</i> different types of projection of planes (2D) & solid (3D) and will be able to draw different views of planes and solids	Level 1, 2
BSE1-5T.3	<i>Understand</i> concept of sectioning and development of lateral surfaces of solid and able to represent it.	Level 1, 2
BSE1-5T.4	<i>Apply</i> visualization skill to draw a simple isometric projection views from given orthographic views precisely using drawing instruments	Level 2,3




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Program:- B. Tech 1st Semester (All Branches)

COURSE	Basics of Civil and Mechanical Engineering		
COURSE CODE	BSE 1-6T	COURSE ABBREVIATION	BCME
SEMESTER	FIRST	BRANCH	All Branches
COURSE CREDITS	00	EXAMINATION SCHEME	Continual Assessment (Audit Course)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BSE 1-6T.1	<i>Understand</i> role of Civil Engineering specializations in development of nation and Society.	Level 1, 2
BSE 1-6T.2	<i>Explore</i> the Civil Engineering aspects of different ancient monuments and recently constructed marvelous monuments	Level 1, 2
BSE 1-6T.3	<i>Understand</i> basic manufacturing processes and working principle of different mechanisms with its application.	Level 1, 2
BSE 1-6T.4	<i>Analyze</i> the various renewable and non-renewable energy sources.	Level 2
BSE 1-6T.5	<i>Explore</i> various types of road vehicles and their specifications.	Level 1, 2



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Prof. Vikram Dandekar

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Program:- B. Tech First Year (All Branches)

COURSE	Applied Physics Lab		
COURSE CODE	BES1- 2P	COURSE ABBREVIATION	AP
SEMESTER	FIRST	BRANCH	All Branches
COURSE CREDITS	1.5	EXAMINATION SCHEME	Practical University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes -Practical		Blooms Level
BES1-2P.1	<i>Experiment with spectrometer to understand optical phenomenon such as interference and diffraction</i>	2
BES1-2P.2	<i>Get Acquaint of CRO and its use for engineering Applications</i>	3



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Program:- B. Tech (All branches)

COURSE	Energy and Environment Lab		
COURSE CODE	BESI-3P	COURSE ABBREVIATION	EE
SEMESTER	First	BRANCH	B. Tech (All branches)
COURSE CREDITS	01	EXAMINATION SCHEME	Practical University (PU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BESI-3P.1	<i>To gain the practical knowledge of handling chemicals.</i>	Level 1, 2
BESI-3P.2	<i>Analyzing a broad foundation in energy and environment that stresses scientific reasoning and analytical problem solving with a molecular perspective</i>	Level 1, 2
BESI-3P.3	<i>Experimental techniques using modern instrumentation</i>	Level 2,3



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Program:- B. Tech in First Year (All Branches)

COURSE	Communication Skills Lab		
COURSE CODE	BSE1-4P	COURSE ABBREVIATION	CS
SEMESTER	FIRST	BRANCH	FIRST Year
COURSE CREDITS	01	EXAMINATION SCHEME	PRACTICAL University (PU)

COURSE OUTCOMES

After the completion of the Course, Students will be able to.....

Course Outcomes		Blooms Level
BSE1-4P.1	<i>Understand</i> the importance of listening and overcome listening barriers of communication.	Level 2
BSE1-4P.2	<i>Enhance and apply</i> the knowledge of comprehending skills and speaking skills.	Level 3
BSE1-4P.3	<i>Apply</i> the knowledge of effective presentations and handle group situations professionally.	Level 3
BSE1-4P.4	<i>To apply</i> figurative language in their formal as well as informal communication.	Level 3



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Rashmi Deshpande
Prof. Rashmi Deshpande

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Program: - B. Tech First Semester

COURSE	Engineering Graphics Lab		
COURSE CODE	BSE1-5P	COURSE ABBREVIATION	EG
SEMESTER	First Sem	BRANCH	All Branches
COURSE CREDITS	02	EXAMINATION SCHEME	Practical University (TP)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BSE1-5P.1	<i>Draw the fundamental engineering objects using basic rules and able to construct lines, simple geometries. Construct the various engineering curves using the drawing instruments.</i>	Level 1, 2
BSE1-5P.2	<i>Draw two dimensional and three dimensional objects, precisely using drawing instruments.</i>	Level 1, 2
BSE1-5P.3	<i>Draw the development of lateral surfaces for cut section of geometrical solids precisely using drawing instruments.</i>	Level 1, 2
BSE1-5P.4	<i>Draw simple isometric projection from given orthographic views precisely using drawing instruments.</i>	Level 2,3



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B.Tech Second Semester (All Branches)

COURSE	MATHEMATICS – II		
COURSE CODE	BES2-1T	COURSE ABBREVIATION	M-II
SEMESTER	SECOND	BRANCH	B. Tech (All Branch)
COURSE CREDITS	04	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of the Course, Students will be able to....

Course Outcomes		Blooms Level
BES1-2.1	<i>Analyze real world scenarios to recognize when integrals are appropriate, formulate problems about the scenarios, creatively model these scenarios (using technology, if appropriate) to solve the problems using multiple approaches, judge if the results are reasonable, and then interpret and clearly communicate the results.</i>	Level 1, 4
BES1-2.2	<i>Define and understand the geometry of vector differential operators and line and surface integrals.</i>	Level 1, 2,
BES1-2.3	<i>Explain and apply principles of study design and data collection.</i>	Level 1, 3
BES1-2.4	<i>Develop an ability to identify, formulate and/or solve real world problems.</i>	Level 2
BES1-2.5	<i>Understand the impact of scientific and engineering solutions in a global and societal context.</i>	Level 1,2



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Program:- B. Tech Second Semester (All Branches)

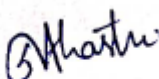
COURSE	Advanced Engineering Materials		
COURSE CODE	BES2-2T	COURSE ABBREVIATION	AEM
SEMESTER	SECOND	BRANCH	All Branches
COURSE CREDITS	3	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BES2-2T.1	<i>Learn the concept of formation of energy bands and to classify solids on its basis.</i>	1,2,3
BES2-2T.2	<i>Identify and explain different types of diodes, transistors and its applications</i>	1,2,3
BES2-2T.3	<i>Learn the concepts of magnetism and superconductivity, classify and analyze various types of magnetic and superconducting materials.</i>	1,2,3,4
BES2-2T.4	<i>Learn and explain quantum transitions and apply it to working of lasers.</i>	2,3
BES2-2T.5	<i>Learn the concept of nano materials and compare its properties with those of bulk materials.</i>	1,2,3,4




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Program:- B. Tech Second Semester (All branches)

COURSE	Applied Chemistry		
COURSE CODE	BES2-3T	COURSE ABBREVIATION	AC
SEMESTER	Second	BRANCH	B. Tech (All branches)
COURSE CREDITS	04	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES


After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BES2-3T.1	To <i>understand</i> the periodic properties and <i>analyze</i> the Microscopic Chemistry in terms of atomic and molecular orbital.	Level 2,4
BES2-3T.2	To <i>understand</i> the bulk properties and processes using thermodynamic processes & the causes of corrosion, its consequences and methods to minimize corrosion.	Level 1, 2
BES2-3T.3	To <i>distinguish</i> the ranges of the electromagnetic spectrum used for exciting different molecular energy levels in various spectroscopic techniques.	Level 3,4
BES2-3T.4	<i>Apply</i> the principles of green chemistry in designing alternative reaction methodologies to minimize hazards and environmental degradation.	Level 2,3
BES2-3T.5	<i>Apply</i> the techniques of water treatment in industrial purposes.	Level 2,3



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Program:- B. Tech in Second Semester (All Branches)

COURSE	Computational Skills		
COURSE CODE	BSE2-4T	COURSE ABBREVIATION	CS
SEMESTER	SECOND	BRANCH	All Branches
COURSE CREDITS	02	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BSE2-4T.1	<i>Understand</i> the components of a Computer System and to remember different hardware and software used in Computer System.	Level 1, 2
BSE2-4T.2	<i>Design</i> an algorithm and sketch the flowchart for any problem.	Level 2,6
BSE2-4T.3	<i>Apply</i> the knowledge of fundamentals of C language to Develop a program.	Level 3,6
BSE2-4T.4	<i>List</i> and explain different searching and sorting techniques for a given set of data.	Level 1,2
BSE2-4T.5	<i>Analyze</i> how exactly the data is stored, organized in memory and extend this knowledge to perform operations on the stored data.	Level 2,4



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Program: - B. Tech Second Semester

COURSE	BASIC ELECTRICAL ENGINEERING		
COURSE CODE	BSE2-6T	COURSE ABBREVIATION	BEE
SEMESTER	SECOND	BRANCH	All Branches
COURSE CREDITS	02	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of the Course, Students will be able to....

Course Outcomes		Blooms Level
BSE2-6T.1	<i>Understand the basics of electric circuits with reference to Ohms law, Superposition theorem, Types of sources</i>	Level 2
BSE2-6T.2	<i>Understand the Magnetic circuit</i>	Level 2
BSE2-6T.3	<i>Understand the AC circuit</i>	Level 2
BSE2-6T.4	<i>Understand the Single phase Transformer, SC-OC test on transformer with no load and on load performance</i>	Level 2



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Program: - B. Tech Second Semester

COURSE	ENGINEERING MECHANICS		
COURSE CODE	BES2-7T	COURSE ABBREVIATION	EM
SEMESTER	SECOND	BRANCH	All Branches
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

	Course Outcomes	Blooms Level
BES2-7T.1	<i>Find the effect of force and momentum on the body.</i>	Level 1, 2
BES2-7T.2	<i>Analyze the effect of system of forces on a given body with the concept of equilibrium and Free body diagram</i>	Level 1, 2, 3
BES2-7T.3	<i>Calculate centroid/C.G. and moments of inertia.</i>	Level 1, 2,3
BES2-7T.4	<i>Solve the problem of connected bodies by virtual work principle</i>	Level 1,2,3
BES2-7T.5	<i>Solve the problem of connected bodies by work, energy and D Alembert's principle connected bodies.</i>	Level 1, 2,3
BES2-7T.6	<i>Solve the problem of connected bodies by Impact and Impulse.</i>	Level 1, 2,3




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Program:- B. Tech Second Semester (All Branches)

COURSE	INDIAN CULTURE & CONSTITUTION		
COURSE CODE	BSE2-8T	COURSE ABBREVIATION	ICC
SEMESTER	SECOND	BRANCH	All Branches.
COURSE CREDITS	00	EXAMINATION SCHEME	AUDIT COURSE

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BSE2-8T.1	<i>Student will become aware of Indian Culture and Civilization and their role in development of society</i>	Level 1,2
BSE2-8T.2	<i>Students will understand Industrial work culture</i>	Level 1,2
BSE2-8T.3	<i>Students will be sensitized towards professional ethics</i>	Level 1,2
BSE2-8T.4	<i>Students will understand Indian Constitution and Governance of the country</i>	Level 1,2
BSE2-8T.5	<i>Students will be able to understand the structure and system of work organization</i>	Level 1,2



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Ramteke
Dr. Priyadarshini Ramteke

Cummins College of Engineering for Women, Nagpur

Program:- B. Tech in Second Semester (All Branches)

COURSE	Workshop Practices		
COURSE CODE	BSE2-5P	COURSE ABBREVIATION	WS
SEMESTER	Second	BRANCH	All Branches
COURSE CREDITS	02	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BSE2-5P.1	<i>Read and Interpret job drawing and plan operation.</i>	Level 1
BSE2-5P.2	<i>Identify and select proper material, tools ,machines and proper operational parameters.</i>	Level 3
BSE2-5P.3	<i>Set tools, work piece and machines for desired operations.</i>	Level 2
BSE2-5P.4	<i>Complete job of carpentry, Fitting, Welding and Smithy as per job drawing in allotted time.</i>	Level 2
BSE2-5P.5	<i>Inspect the job for confirm desired dimensions and shape</i>	Level 6



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Program:- B. Tech Second Semester (All Branches)

COURSE	Advanced Engineering Materials		
COURSE CODE	BES2-2P	COURSE ABBREVIATION	AEM
SEMESTER	SECOND	BRANCH	All Branches
COURSE CREDITS	1	EXAMINATION SCHEME	Practical University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes -Practical		Blooms Level
BES2-2P.1	Construct electronic circuit using various components.	2
BES2-2P.2	Develop the experimental skills and make use of new instruments in Engineering studies.	3



B. Shastri

Dr. Sanjivani Shashtri

Dr. Shubhangi Bolpilwar

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Cummins College of Engineering for Women, Nagpur

Program:- B. Tech Second Semester (All branches)

COURSE	Applied Chemistry		
COURSE CODE	BES2-3P	COURSE ABBREVIATION	AC
SEMESTER	Second	BRANCH	B. Tech (All branches)
COURSE CREDITS	1.5	EXAMINATION SCHEME	Practical University (PU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BES2-3P.1	<i>Measure molecular/system properties like, concentrations, surface tension, conductance of solutions etc.</i>	Level 1, 2
BES2-3P.2	<i>Estimate the soluble impurities present in the given water sample.</i>	Level 3,4
BES2-3P.3	<i>Handle the different instruments used in chemistry laboratory.</i>	Level 2,3



Dr. Asha Gedam

Dr. Snehal Chavan

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Program:- B. Tech in Second Semester

COURSE	Computational Skills		
COURSE CODE	BSE2-4P	COURSE ABBREVIATION	CS
SEMESTER	SECOND	BRANCH	All branches
COURSE CREDITS	02	EXAMINATION SCHEME	Practical University (PU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BSE2-4P.1	<i>Understand</i> the components of a Computer System and to remember different hardware and software used in Computer System.	Level 1, 2
BSE2-4P.2	<i>Demonstrate</i> how to compile and run a program in C Language and Distinguish the compile time and run time errors and modify the code.	Level 1,2,3,4
BSE2-4P.3	Experiment with various concepts of programming like decision control, looping, strings, arrays, structure and inspect the execution of same.	Level 3, 4
BSE2-4P.4	Apply the knowledge of fundamentals of C language to Develop a program using pointers.	Level 3,6
BSE2-4P.5	Compare the performances of different sorting techniques and different data structures	Level 4



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Program:- B. Tech in Mechanical Engineering

COURSE	MATHEMATICS-III		
COURSE CODE	BEME301T	COURSE ABBREVIATION	M-III
SEMESTER	THIRD	BRANCH	Mechanical Engineering
COURSE CREDITS	04	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME301T.1	<i>Apply Laplace Transform to solve ordinary differential equations, Integral equations and Integro-differential Equations</i>	Level 2,3
BEME301T.2	<i>Apply Fourier series in the analysis of periodic functions in terms sine and cosine encountered in engineering problems and Fourier Transform to solve integral equations</i>	Level 2,3
BEME301T.3	<i>Learn the concept of differentiating, integrating and expanding of analytic functions in complex numbers and their applications such as evaluation of integrals of complex functions</i>	Level 1, 2
BEME301T.4	<i>Solve partial differential equations of first order, higher order with constant coefficients and of second order using method of separation of variables</i>	Level 2,3
BEME301T.5	<i>Analyze real world scenarios to recognize when matrices are appropriate, formulate problems about the scenarios, creatively model these scenarios in order to solve the problems using multiple approaches</i>	Level 4, 3



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Program:- B. Tech in Mechanical Engineering

COURSE	MANUFACTURING PROCESSES		
COURSE CODE	BEME302T	COURSE ABBREVIATION	MP
SEMESTER	THIRD	BRANCH	Mechanical Engineering
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME302T.1	<i>Understand the importance of manufacturing processes, techniques of pattern making and moulding with their properties. Design gating system along with selection of different types of melting furnaces and special casting process.</i>	Level 1, 2
BEME302T.2	<i>Get acquainted with the basic concept of joining process, welding process and its types, defects and application.</i>	Level 1, 2
BEME302T.3	<i>Get acquainted with the forming process for metal, mechanics of forming process along with different types of rolling machine.</i>	Level 1, 2
BEME302T.4	<i>Understand and define press working process along with its classification, types and terminology, different types of dies and introduction to shaping operation.</i>	Level 2
BEME302T.5	<i>Understand the plastics, ceramics and glasses, its properties, application, forming and its shaping.</i>	Level 1, 2



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Program:- B. Tech in Mechanical Engineering

COURSE	MANUFACTURING PROCESSES		
COURSE CODE	BEME302P	COURSE ABBREVIATION	MP
SEMESTER	THIRD	BRANCH	Mechanical Engineering
COURSE CREDITS	01	EXAMINATION SCHEME	Practical University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME302P.1	<i>Think</i> in core concept of their engineering application by studying various topics involved in branch specific applications.	Level 2
BEME302P.2	<i>Understand</i> the relevance and importance of the Different manufacturing techniques and real life application in industry.	Level 2,3
BEME302P.3	<i>Design</i> the gating and riser system needed for casting and requirements to achieve defect free casting.	Level 3
BEME302P.4	<i>Analyze</i> the welding process behavior and requirements to achieve sound welded joint while welding different similar and dissimilar engineering material	Level 4
BEME302P.5	<i>Understand</i> the plastic, glass and ceramic Processing	Level 2



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Program:- B. Tech in Mechanical Engineering

COURSE	Fluid Mechanics		
COURSE CODE	BEME 303T	COURSE ABBREVIATION	FM
SEMESTER	Third	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME 303T.1	<i>to understand the behavior of fluids at rest or in motion and calculate viscosity</i>	Level 2
BEME 303T.2	<i>To measure the pressure using manometer and evaluate the stability and center of pressure</i>	Level 2
BEME 303T.3	<i>explain behavior of fluid in motion condition and application of Bernoulli's equation to fluid flow measuring devices.</i>	Level 3
BEME 303T.4	<i>To understand and calculate the lift and drag forces in fluid flow field</i>	Level 2
BEME 303T.5	<i>apply dimensional analysis to design hydraulic machines and different losses of fluid flow through pipes.</i>	Level 2



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Program:- B. Tech in Mechanical Engineering

COURSE	Kinematics of Machines		
COURSE CODE	BTME304T	COURSE ABBREVIATION	KOM
SEMESTER	THIRD	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BTME304T.1	<i>Perform kinematic and dynamic analysis (Displacement, Velocity, acceleration, Inertia forces) of a given mechanism using graphical method</i>	Level 3
BTME304T.2	<i>Understand the concept of compliant mechanisms</i>	Level 2
BTME304T.3	<i>Contrive or synthesize new mechanisms for specific requirements</i>	Level 6
BTME304T.4	<i>Construct cam profiles and analysis the follower motion.</i>	Level 6
BTME304T.5	<i>Understand Geometry of gear, its types, analysis of forces and motions of gear teeth. Study of gear trains.</i>	Level 2



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Program:- B. Tech in Mechanical Engineering

COURSE	Machine Drawing & Solid Modelling		
COURSE CODE	BTME305P	COURSE ABBREVIATION	MDSM
SEMESTER	THIRD	BRANCH	Mechanical Engineering.
COURSE CREDITS	02	EXAMINATION SCHEME	PU

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BTME305P.1	<i>Create 2-D orthographic manual drawings as well as digital drawing using CAD software package of standard machine components</i>	Level 3
BTME305P.2	<i>Apply standard practices for creation of 2-D orthographic manual drawings as well as digital drawing using CAD software package of assembly with dimension detailing, part list and ballooning. Also perform 2-D detailing of assembly components.</i>	Level 2
BTME305P.3	<i>Create 3-D solid model and 2-D detailing of simple parts using CAD software package and perform 2-D detailing.</i>	Level 6
BTME305P.4	<i>Create production drawing and process sheet for standard machine components.</i>	Level 2
BTME305P.5	<i>Get hands on experience of reverse engineering process and concepts.</i>	Level 2



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Program:- B. Tech in Mechanical Engineering

COURSE	MATERIAL SCIENCE & ENGINEERING		
COURSE CODE	BEME306T	COURSE ABBREVIATION	MSE
SEMESTER	THIRD	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course.....

Course Outcomes		Blooms Level
BEME306T.1	<i>Student will be capable to define microstructure and analyze the effect of Crystalline nature of metals, construct and analyze Iron-Iron carbide equilibrium diagram</i>	Level 1, 4
BEME306T.2	<i>Student will be able to explain the commercial steels.</i>	Level 2
BEME306T.3	<i>Student will be able to analyze and illustrate suitable heat treatment processes.</i>	Level 4,2
BEME306T.4	<i>Student will be able to analyze the Cast Iron.</i>	Level 4
BEME306T.5	<i>Student will be able to perceive the basics of powder Metallurgy for powder metallurgical components.</i>	Level 5



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Program:- Mechanical Engineering

COURSE	Sports		
COURSE CODE	BEME308T	COURSE ABBREVIATION	Sports
SEMESTER	THIRD	BRANCH	Mechanical Engineering.
COURSE CREDITS	0	EXAMINATION SCHEME	Audit

COURSE OUTCOMES

After the completion of Course.....

Course Outcomes		Blooms Level
BEME308T.1	<i>Through sports, students should able to build a wide range of abilities and skills such as leadership, confidence, teamwork, patience, self-reliance, trust, and many more which facilitate the overall development of an individual</i>	--
BEME308T.2	<i>Students should learn to manage time between their lectures, sports, and personal life.</i>	--



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Program:- Mechanical Engineering

COURSE	Yoga		
COURSE CODE	BEME308T	COURSE ABBREVIATION	Yoga
SEMESTER	THIRD	BRANCH	Mechanical Engineering.
COURSE CREDITS	0	EXAMINATION SCHEME	Audit

COURSE OUTCOMES

After the completion of Course.....

Course Outcomes		Blooms Level
BEME308T.1	<i>To introduce basic wellness principles and practices of Yoga to students</i>	--
BEME308T.2	<i>To bring awareness of the fundamentals of Yoga for wellness in their daily lives</i>	--
BEME308T.3	<i>To bring peace and harmony in the society at large by introducing the Yogic way of life.</i>	--



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Program:- Mechanical Engineering

COURSE	NSS		
COURSE CODE	BEME308T	COURSE ABBREVIATION	NSS
SEMESTER	THIRD	BRANCH	Mechanical Engineering.
COURSE CREDITS	0	EXAMINATION SCHEME	Audit

COURSE OUTCOMES

After the completion of Course.....

Course Outcomes		Blooms Level
BEME308T.1	<i>Understand the community in which they work.</i>	--
BEME308T.2	<i>Understand themselves in relation to their community.</i>	--
BEME308T.3	<i>Identify the needs and problems of the community and involve them in problem-solving.</i>	--
BEME308T.4	<i>Develop among them a sense of social and civic responsibility.</i>	--
BEME308T.5	<i>Utilize their knowledge in finding practice solutions to individual and community problems.</i>	--
BEME308T.6	<i>Develop competence required for group-living and sharing of responsibilities.</i>	--
BEME308T.7	<i>Gain skills in mobilizing community participation.</i>	--
BEME308T.8	<i>Acquire leadership qualities and democratic attitudes</i>	--
BEME308T.9	<i>Develop capacity to meet emergencies and natural disasters.</i>	--
BEME308T.10	<i>Practice national integration and social harmony</i>	--



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Program:- Mechanical Engineering

COURSE	NCC		
COURSE CODE	BEME308T	COURSE ABBREVIATION	NCC
SEMESTER	THIRD	BRANCH	Mechanical Engineering.
COURSE CREDITS	0	EXAMINATION SCHEME	Audit

COURSE OUTCOMES

After the completion of Course.....

Course Outcomes		Blooms Level
BEME308T.1	<i>During the training of NCC, candidates should get the basic military training. This training should be conducted to develop the interest of young students in all three forces; the army, the navy and the air force of India. Students should be able to check their abilities to join the Indian Defence Services.</i>	--



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Program:- B. Tech in Mechanical Engineering

COURSE	MACHING PROCESSES		
COURSE CODE	BEME401T	COURSE ABBREVIATION	MP
SEMESTER	FOURTH	BRANCH	Machining Processes
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

	Course Outcomes	Blooms Level
BEME401T.1	<i>Design journal and thrust bearings and selection of standard rolling contact bearings</i>	Level 2
BEME401T.2	<i>Design flexible transmission drives like belts, chains and rope.</i>	Level 2
BEME401T.3	<i>Design the positive transmission drives like gears as spur and Helical Gear.</i>	Level 2
BEME401T.4	<i>Design the positive transmission drives like gears as worm and Bevel Gears</i>	Level 2
BEME401T.5	<i>Design the energy storing components like Flywheels for various applications.</i>	Level 2



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Program:- B. Tech in Mechanical Engineering

COURSE	MACHING PROCESSES		
COURSE CODE	BEME401P	COURSE ABBREVIATION	MP
SEMESTER	FOURTH	BRANCH	Machining Processes
COURSE CREDITS	01	EXAMINATION SCHEME	Practical University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

	Course Outcomes	Blooms Level
BEME401P.1	<i>Understand basic cutting tools</i>	<i>Level 2</i>
BEME401P.2	<i>Understand the working of lathe and turning operation</i>	<i>Level 2</i>
BEME401P.3	<i>Understand the shaping and planning operation</i>	<i>Level 2</i>
BEME401P.4	<i>Understand the milling and drilling operation</i>	<i>Level 2</i>
BEME401P.5	<i>Understand the grinding and surface finishing</i>	<i>Level 2</i>



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Program:- B. Tech in Mechanical Engineering

COURSE	Fluid Mechanics & Hydraulic Machines		
COURSE CODE	BEME402T	COURSE ABBREVIATION	HM
SEMESTER	FOURTH	BRANCH	Mechanical Engineering
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME402T.1	<i>Classify and explain fluid their properties, fluid in rest condition, types of flow & flow measuring devices and mathematical application of equations on hydraulic components.</i>	<i>Level 2</i>
BEME402T.2	<i>Explain behavior of fluid in motion condition and application of Bernoullie's equation to fluid flow measuring devices.</i>	<i>Level 2</i>
BEME402T.3	<i>Apply dimensional analysis to design hydraulic machines and different losses of fluid flow through pipes.</i>	<i>Level 2</i>
BEME402T.4	<i>(i) classify different layout of hydro-electric power plant and (ii) analyze design characteristics of hydraulic machines i.e. turbines (impulse and reaction), Pelton turbine , Francis turbine, propeller turbine and Kaplan turbine</i>	<i>Level 2</i>
BEME402T.5	<i>Explain the working principle & design of Centrifugal and reciprocating pump & practical application of similitude & model testing.</i>	<i>Level 2</i>



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Program:- B. Tech in Mechanical Engineering

COURSE	Fluid Mechanics & Hydraulic Machines		
COURSE CODE	BEME402 P	COURSE ABBREVIATION	HM
SEMESTER	FOURTH	BRANCH	Mechanical Engineering
COURSE CREDITS	01	EXAMINATION SCHEME	Practical University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME402T.1	<i>Explain what is Stability condition of floating bodies, Law of conservation of Energy.</i>	<i>Level 2</i>
BEME402T.2	<i>Apply Frictional losses and Hydraulic coefficient in the pipe flow.</i>	<i>Level 2</i>
BEME402T.3	<i>Estimate the Performance characteristics of Pelton Turbine</i>	<i>Level 2</i>
BEME402T.4	<i>Estimate the Performance characteristics of Francis Turbine & Kaplan Turbine.</i>	<i>Level 2</i>
BEME402T.5	<i>Estimate the Performance characteristics of Centrifugal Pump & Reciprocating Pump.</i>	<i>Level 2</i>



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Program:- B. Tech in Mechanical Engineering

COURSE	MATERIAL TESTING LAB		
COURSE CODE	BEME403P	COURSE ABBREVIATION	MTL
SEMESTER	FOURTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	01	EXAMINATION SCHEME	Practical University (PU)

COURSE OUTCOMES

After the completion of Course.....

Course Outcomes		Blooms Level
BEME403P.1	Analyze the Microstructure and investigate various properties of ferrous and Non ferrous Materials . Analyze the stress strain behaviour of materials	Level 1, 4
BEME403P.2	Analyse the effect of tensile, shearing force and can utilized the gained while tackling real life engineering problems for different types of Materials	Level 2
BEME403P.3	Understand Microstructures and their Applications for various uses	Level 4,2
BEME403P.4	Measure torsional strength , hardness of material	Level 4
BEME403P.5	Incorporate the various important concepts learnt while designing components	Level 5



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Program:- B. Tech in Mechanical Engineering

COURSE	MECHANICS OF MATERIAL		
COURSE CODE	BEME404T	COURSE ABBREVIATION	MoM
SEMESTER	FOURTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course.....

Course Outcomes		Blooms Level
BEME404T.1	<i>Demonstrate</i> fundamental knowledge about various types of loading and stresses induced	Level 2
BEME404T.2	<i>Develop</i> the SFD and BMD for different types of loads and support conditions.	Level 3
BEME404T.3	<i>Estimate</i> the strain energy in mechanical elements. And <i>analyze</i> the deflection in beams	Level 4,6
BEME404T.4	Can <i>design</i> shaft for various loading conditions.	Level 6
BEME404T.5	<i>Understand</i> theory of failure and effective designing of column and strut.	Level 1



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Program:- B. Tech in Mechanical Engineering

COURSE	MECHANICS OF MATERIAL		
COURSE CODE	BEME404T	COURSE ABBREVIATION	MoM
SEMESTER	FOURTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Practical University (PU)

COURSE OUTCOMES

After the completion of Course.....

Course Outcomes		Blooms Level
BEME404T.1	<i>Analyze</i> the Microstructure and investigate various properties of ferrous and Nonferrous Materials. <i>Analyze</i> the stress strain behavior of materials	Level 4
BEME404T.2	<i>Analyze</i> the effect of tensile, shearing force and can utilized the gained while tackling real life engineering problems for different types of Materials	Level 4
BEME404T.3	<i>Demonstrate</i> Microstructures and their Applications for various uses	Level 2
BEME404T.4	<i>Measure</i> torsional strength , hardness of material	Level 5
BEME404T.5	<i>Interprete</i> the various important concepts learnt while designing components	Level 5



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Program:- B. Tech in Mechanical Engineering

COURSE	ENGINEERING THERMODYNAMICS		
COURSE CODE	BEME404T	COURSE ABBREVIATION	ET
SEMESTER	Fourth	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
ME402T.1	Understand and <i>explain</i> gas laws, thermodynamic processes, concept of energy,	Level 2
ME402T.2	<i>Analyze</i> work and heat interactions associated with thermodynamic process	Level 4
ME402T.3	<i>Define</i> first law and second law of thermodynamics and <i>apply</i> it to thermodynamic systems	Level 1,3
ME402T.4	<i>Define</i> the concept of entropy and <i>Evaluate</i> the entropy changes in different processes	Level 1, 5
ME402T.5	<i>Explain</i> air standard and vapor power cycles	Level 2



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Program:- B. Tech in Mechanical Engineering

COURSE	Computer Application/Programming		
COURSE CODE	BEME405P	COURSE ABBREVIATION	CP
SEMESTER	THIRD	BRANCH	MECHANICAL ENGINEERING
COURSE CREDITS	02	EXAMINATION SCHEME	Practical University (PU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME306P.1	<i>Understand and explore concepts in basic programming like data types, input/output functions, operators, programming constructs and user defined functions.</i>	Level 1, 2
BEME306P.2	<i>Develop capabilities of writing „C“ programs in optimized, robust and reusable code</i>	Level 2,3
BEME306P.3	<i>Apply appropriate concepts of data structures like arrays, structures implement programs for various applications</i>	Level 1, 2,3



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Program:- B. Tech in Mechanical Engineering

COURSE	PROFESSIONAL ETHICS		
COURSE CODE	BEME406T	COURSE ABBREVIATION	PE
SEMESTER	FOURTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME405T.1	<i>Understand basic purpose of profession, professional ethics and various moral and social issues</i>	Level 2
BEME405T.2	<i>Analyze various moral issues and theories of moral development</i>	Level 2, 4
BEME405T.3	<i>Realize their roles of applying ethical principles at various professional levels</i>	Level 2, 4
BEME405T.4	<i>Identify their responsibilities for safety and risk benefit analysis.</i>	Level 2
BEME405T.5	<i>Understand their roles in dealing various global issues</i>	Level 2



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Dr. Priyadarshini Ramteke

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Program:- B. Tech in Mechanical Engineering

COURSE	Heat Transfer		
COURSE CODE	BEME501T	COURSE ABBREVIATION	HT
SEMESTER	Fifth	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME501T.1	<i>Define and compare the different modes of heat transfer and calculation of thermal resistance and heat transfer through plane and composite wall, cylinder and sphere with and without thermal contact resistances.</i>	Level 1, 2
BEME501T.2	<i>Apply the concept of internal heat generation for the calculation of heat transfer for plane wall, cylinder and sphere and also learn about various types of fins and their significance in steady state conduction heat transfer calculations and -understand the concept of unsteady state heat transfer</i>	Level 1, 2
BEME501T.3	<i>Select and apply appropriate empirical correlations to estimate forced convection and free convection heat transfer, for internal and external flows</i>	Level 1, 2
BEME501T.4	<i>Evaluate heat transfer rate by radiation from ideal and actual surfaces and enclosures of different geometries.</i>	Level 1
BEME501T.5	<i>Evaluate heat exchanger performance for the given geometry and boundary conditions and design suitable heat exchanger geometry to deliver a desired heat transfer rate.</i>	Level 1



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Program:- B. Tech in Mechanical Engineering

COURSE	Heat Transfer		
COURSE CODE	BEME501P	COURSE ABBREVIATION	HT
SEMESTER	Fifth	BRANCH	Mechanical Engineering.
COURSE CREDITS	01	EXAMINATION SCHEME	Practical University (PU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME501T.1	Determine the heat transfer rates through various cross-sections and mediums in different modes.	Level 1, 2
BEME501T.2	Acquire, tabulate, analyze experimental data, and draw interpretation and conclusions	Level 1, 2
BEME501T.3	Calculate radiation heat transfer and utilize that knowledge in designing any heat transfer application .	Level 1, 2
BEME501T.4	Evaluate heat transfer rate by radiation from ideal and actual surfaces and enclosures of different geometries.	Level 1
BEME501T.5	Understand heat exchanger analysis.	Level 1



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Program:- B. Tech in Mechanical Engineering

COURSE	Design of Machine Element		
COURSE CODE	BEETE502T	COURSE ABBREVIATION	DME
SEMESTER	FIFTH	BRANCH	ME
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME502T.1	<i>Explain, classify, analyze layout of power plant, cogeneration principle of steam generators (i.e. Boilers), boiler mountings & accessories and evaluate performance parameters of boiler.</i>	Level 2, 4, 5
BEME502T.2	<i>Explain the concepts of fluidized bed boilers and various draught system and evaluate performance parameters of natural draught system(i.e. chimney)</i>	Level 2, 4, 5
BEME502T.3	<i>Explain the importance of steam nozzle and determine its throat area, exit area, exit velocity. Also compare impulse and reaction steam turbines and explain the concept of governing of steam turbine</i>	Level 4,5
BEME502T.4	<i>Explain the methods of compounding of steam turbine, various energy losses in steam turbine and able to draw velocity diagrams of steam turbine blades to analyze the angles of the blades, work done, thrust, power, efficiencies of turbine.</i>	Level 2, 4,5
BEME502T.5	<i>Explain, classify steam condensers, cooling towers and evaluate performance parameters of surface condenser.</i>	Level 1, 2, 4



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Program:- B. Tech in Mechanical Engineering

COURSE	Design of Machine Element		
COURSE CODE	BEETE503T	COURSE ABBREVIATION	DME
SEMESTER	FIFTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	04	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME503T.1	<i>Apply principals of static loading for design of Cotter joint, Knuckle joint .</i>	Level 1, 2
BEME503T.2	<i>Design bolted, welded joints, power screws & pressure vessels .</i>	Level 1, 2
BEME503T.3	<i>Design the power transmission shaft & coupling .</i>	Level 1, 2
BEME503T.4	<i>Design components subjected to fatigue or fluctuating stresses. Also, will be able to apply principles for determining bending stresses for design of curved beams e.g. crane hook, C-Frame.</i>	Level 1
BEME503T.5	<i>Design clutches, brakes and springs.</i>	Level 1



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Program:- B. Tech in Mechanical Engineering

COURSE	INDUSTRIAL ECONOMICS & MANAGEMENT		
COURSE CODE	BEME504T	COURSE ABBREVIATION	IEM
SEMESTER	FIFTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME504T.1	<i>Understand the concept of demand and supply and its relationship with the price</i>	Level 1,2
BEME504T.2	<i>Relate various factors of production with reference to different economic sectors</i>	Level 1,2
BEME504T.3	<i>Analyse the causes and effects of inflation and understand the market structure</i>	Level 2,3
BEME504T.4	<i>Acquire knowledge of various functions of management and marketing management</i>	Level 1,2
BEME504T.5	<i>Perceive the concept of financial management for the growth of business</i>	Level 1,2



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Program:- B. Tech in Mechanical Engineering

COURSE	Mechanical Measurement and Metrology		
COURSE CODE	BTME505T	COURSE ABBREVIATION	MMM
SEMESTER	FIFTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BTME505T.1	<i>Students will be able to analyze statistical characteristic of systems.</i>	Level 4
BTME505T.2	<i>Students will be able asses the system response.</i>	Level 1,2
BTME505T.3	<i>Students will be able to understand the instrumentation process.</i>	Level 1, 2
BTME505T.4	<i>Students will be able to understand limits fits and tolerance</i>	Level 1, 2
BTME505T.5	<i>Students will learn the basics of various metrology measurement terms and techniques</i>	Level 2



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COURSE OUTCOMES

COURSE	Mechanical Measurement and Metrology Lab		
COURSE CODE	BTME505P	COURSE ABBREVIATION	MMM
SEMESTER	FIFTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	01	EXAMINATION SCHEME	Theory University (TU)

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BTME505P.1	<i>Students will be able to perform the instrumentation.</i>	Level 3
BTME505P.2	<i>Students will be able to use the instrumentation for measurement of thermal properties.</i>	Level 3
BTME505P.3	<i>Students will be able to obtain the response from the instruments also can be able to calibrate the instruments.</i>	Level 3
BTME505P.4	<i>Students will be able to calculate the limits and allowances to obtain the proper fit.</i>	Level 5
BTME505P.5	<i>Students will be able to identify the surface roughness using optical flat.</i>	Level 1,2



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Program:- B. Tech in Mechanical Engineering

COURSE	INDUSTRIAL VISIT (Practise)		
COURSE CODE	BEME506T	COURSE ABBREVIATION	Ind.Visit
SEMESTER	FIFTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	01	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
ME506T.1	<i>Opportunity to interact with Industry Experts</i>	Level 1
ME506T.2	<i>Identify the input and output of the process with Learning experience.</i>	Level 3
ME506T.3	<i>Extend their interpersonal skills and communication techniques.</i>	Level 2
ME506T.4	<i>Examine of industry practices and regulations during industry visits.</i>	Level 4
ME506T.5	<i>Acquire in depth knowledge about industries & innovative technologies employed.</i>	Level 1,2



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Program:- B.E. in Mechanical Engineering

COURSE	PERFORMING ART		
COURSE CODE	BEMTE507P	COURSE ABBREVIATION	PA
SEMESTER	FIFTH	BRANCH	Mechanical Engineering
COURSE CREDITS	0	EXAMINATION SCHEME	Audit

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEMET507P.1	An Arts and Science course helps the students to empower themselves with problem solving skills. The ability to analyze things and communicate them in the right way is taught. These skills are very much essential to get employed in reputed companies and most of the companies prefer candidates with the mentioned skills. The students also have a variety of career options to choose for the future	--



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Program: - B. Tech in Mechanical Engineering

COURSE	AUTOMATION IN PRODUCTION		
COURSE CODE	BEME601T	COURSE ABBREVIATION	AIP
SEMESTER	SIXTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME601T.1	Get Acquainted With Automation, Its Type's ,Strategies , Assembly Line Balancing And Its Analysis, Methods Of Work Part Transport	Level 4
BEME601T.2	Recognize fundamentals and constructional features of N.C, CNC and D.N.C machines and prepares a CNC program for given part.	Level 3
BEME601T.3	Get Acquainted With The Robotic Configuration, Types Of Links, Joints, Grippers, Industrial Robotics And Robot Applications.	Level 3
BEME601T.4	Cultivate Information About Automated Material Handling Systems, Automated Storage And Retrieval System (AGVS,AS/RS) Its Analysis	Level 4
BEME601T.5	Get Acquainted With Automated Inspection (CAPP, CAQC, and CMM) And Group Technology.	Level 5
BEME601T.6	Recognize CAD/CAM,CIM,FMS, Understand The Concepts Of Shop Floor Control	Level 2



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Program: - B. Tech in Mechanical Engineering

COURSE	AUTOMATION IN PRODUCTION		
COURSE CODE	BEME601P	COURSE ABBREVIATION	AIP
SEMESTER	SIXTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	01	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME601P.1	Recognize automation, corroborating this knowledge with case studies on automation systems. study and analyse the material handling systems, robots and GT	Level 4
BEME601P.2	Demonstrate NC programming (manual/apt)	Level 3
BEME601P.3	Simulate program on CNC milling/ lathe	Level 3
BEME601P.4	Work on CNC milling/ lathe	Level 4



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Program:- B. Tech in Mechanical Engineering

COURSE	Energy Conversion II		
COURSE CODE	BEETE602T	COURSE ABBREVIATION	EC- II
SEMESTER	SIXTH	BRANCH	Energy Conversion-II
COURSE CREDITS	04	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME602T.1	Classify various types of I.C. Engines and explain the working of its various components and systems.	Level 2, 4, 6
BEME602T.2	Analyze the effect of various operating variables on engine performance	Level 2, 4, 6
BEME602T.3	Understand the working of Gas Turbine and Jet propulsion system	Level 4,6
BEME602T.4	Analyze the vapour compression refrigeration system and psychometric process.	Level 2, 4,6
BEME602T.5	Understand the working of various types of compressors	Level 1, 2, 4



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Program:- B. Tech in Mechanical Engineering

COURSE	Energy Conversion II		
COURSE CODE	BEETE602P	COURSE ABBREVIATION	EC- II
SEMESTER	SIXTH	BRANCH	Energy Conversion-II
COURSE CREDITS	01	EXAMINATION SCHEME	Practical University (PU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME602P.1	<i>Identify</i> different components of IC engine, type of compressor , VCR system	Level 2, 4, 6
BEME602P.2	<i>Demonstrate and Determine</i> performance of I,C, engine ,compressor and VCR system	Level 2, 4, 6
BEME602P.3	<i>Construct</i> Heat balance sheet for single/multi cylinder CI and SI engine.	Level 4,6
BEME602P.4	<i>Apply</i> Mores Test on Multi cylinder S.I. Engine	Level 2, 4,6
BEME602P.5	<i>Analyze</i> the thermodynamic performance of Gas turbine	Level 1, 2, 4
BEME602P.6	Develop an ability to optimize future engine designs for specific sets of constraints (fuel economy, performance, emissions)	Level 4,6



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Program:- B. Tech in Mechanical Engineering

COURSE	Dynamics of Machines		
COURSE CODE	BTME603T	COURSE ABBREVIATION	DOM
SEMESTER	SIXTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BTME603T.1	<i>Comprehend</i> the machine dynamics through basic principles to interpret their application and <i>examine</i> near to life problems due gyroscopic effects and determine the conditions for stability of ships, airplanes and automobile	Level 1, 2
BTME603T.2	<i>Analyze</i> dynamic force conditions in planer linkages and cams to determine required driving torque condition (graphically/analytically)	Level 4
BTME603T.3	<i>Estimate</i> the unbalanced forces due to rotating and reciprocating masses in a mechanical system and calculate (graphically/analytically) the balancing masses required for safe/ smooth operation of these mechanical systems	Level
BTME603T.4	<i>Identify</i> the requirement of flywheel, brakes, and dynamometers in a mechanical system and calculate inertia of flywheel and braking condition to be incorporated in engines and machines	Level 2
BTME603T.5	<i>Recognize</i> and <i>interpret</i> the concept of vibration in various mechanical systems and distinguish vibration characteristics for 1 & 2 DOF systems to evaluate the conditions for its control/ use.	Level 1,2



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Program:- B. Tech in Mechanical Engineering

COURSE	Dynamics of Machines		
COURSE CODE	BTME603P	COURSE ABBREVIATION	DOM
SEMESTER	SIXTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	01	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

	Course Outcomes	Blooms Level
BTME603P.1	<i>Demonstrate the concept of gyroscopic effect through the working model</i>	Level 3
BTME603P.2	<i>Analyze the performance of mechanisms and Perform dynamic force analysis of linkages and cams.</i>	Level 4
BTME603P.3	<i>Demonstrate record and interpret data of vibration characteristics of mechanical vibratory systems.</i>	Level 1, 2
BTME603P.4	<i>Perform analysis of brakes, dynamometers and flywheels.</i>	Level 4
BTME603P.5	<i>Identify the importance of safety, team work and effective communication for conduction of activity.</i>	Level 1, 2



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Program:- B. Tech in Mechanical Engineering

COURSE	Operations Research		
COURSE CODE	BTME604T	COURSE ABBREVIATION	OR
SEMESTER	SIXTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BTME604T.1	<i>Recognize the importance and value of Operations Research and mathematical modeling in solving practical problems in industry</i>	Level 1, 2
BTME604T.2	<i>convert given situation to mathematical form and determine optimal settings</i>	Level 5
BTME604T.3	<i>understand Operations Research models and apply them to real-life problems</i>	Level 1, 2
BTME604T.4	<i>manage projects for minimum total cost and smooth level of resources.</i>	Level 3
BTME604T.5	<i>make decisions related to age of replacement of equipment.</i>	Level 3
BTME604T.6	<i>develop simulation of real life system to analyze and optimize system concerned</i>	Level 4, 6



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Program:- B. Tech in Mechanical Engineering

COURSE	Advance Manufacturing Technique		
COURSE CODE	BEME605T	COURSE ABBREVIATION	AMT
SEMESTER	SIXTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME605T.1	<i>Define</i> and describe the fundamentals and principals of advanced manufacturing processes.	Level 1
BEME605T.2	<i>Apply</i> relevant theories to solve manufacturing problems.	Level 3
BEME605T.3	<i>Explain</i> manufacturing processes via experimental and theoretical analyses.	Level 2
BEME605T.4	<i>Relate</i> manufacturing theory to practice through laboratory experiments.	Level 2
BEME605T.5	<i>Improve</i> a manufacturing process either working in a team or individually.	Level 6



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Program:- B. Tech in Mechanical Engineering

COURSE	Project evaluation and Management		
COURSE CODE	BEME606T	COURSE ABBREVIATION	PEM
SEMESTER	SIXTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME606T.1	<i>Utilize the use of a structured approach for each and every unique project undertaken including utilizing project management concepts, tools, and techniques.</i>	Level 1, 2, 3
BEME606T.2	<i>Apply participatory methods to project management</i>	Level 1, 2, 3
BEME606T.3	<i>Do network scheduling and network planning</i>	Level 1, 2, 4
BEME606T.4	<i>Manage lifecycle on the various phases from project initiation through closure.</i>	Level 1, 2
BEME606T.5	<i>Do estimation of project Costs, E V Analysis, Monitoring Project Progress, Project Appraisal.</i>	Level 2, 4,



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Program:- B. Tech in Mechanical Engineering

COURSE	Environment Science		
COURSE CODE	BTME607T	COURSE ABBREVIATION	ES
SEMESTER	SIXTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	00	EXAMINATION SCHEME	

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BTME607T.1	<i>This course provides an integrated and interdisciplinary approach to the study of environment and solutions to environmental problems. This course will spread awareness among the students about environmental issues and shall alert them to find solutions for sustainable development.</i>	Level 1, 2



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Program: - B. Tech in Mechanical Engineering

COURSE	COMPUTER AIDED DESIGN		
COURSE CODE	BEME701T	COURSE ABBREVIATION	CAD
SEMESTER	SEVENTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME701T.1	<i>To design graphic system by selecting appropriate input output devices for any graphical applications. Also, develop logic for various geometrical entities used in modelling software by giving appropriate mathematical treatment, put it into an algorithm and convert an algorithm into a computer program.</i>	Level 2
BEME701T.2	<i>To develop a logic for various transformations on any 2D & 3D geometric objects giving appropriate mathematical treatment, put it into an algorithm and convert an algorithm into a computer program</i>	Level 3
BEME701T.3	<i>To Explain the different geometric modelling techniques, synthetic curves & methods of assembly modelling. Also understand parametric representation of space curves and surfaces.</i>	Level 4
BEME701T.4	<i>To understand numerical analysis technique called finite element method and apply it on one dimensional problem to determine various field variances.</i>	Level 5
BEME701T	<i>Apply finite element method on truss and beams to determine various fields variances such as nodal displacement, reaction force, element stress etc.</i>	Level 5



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Program:- B. Tech in Mechanical Engineering

COURSE	Energy Conversion III		
COURSE CODE	BEETE702T	COURSE ABBREVIATION	EC- III
SEMESTER	SEVENTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME703T.1	<i>Analyze the gas turbine and jet propulsion system on operating conditions.</i>	Level 2, 4, 5
BEME703T.2	<i>Recognize the hydraulic pumps and valves and can able to logically design the hydraulic circuit.</i>	Level 2, 4, 5
BEME703T.3	<i>recognize the air compressors and pneumatic control valves and can able to logically design the pneumatic circuit.</i>	Level 4,5
BEME703T.4	<i>Understand solar power and future opportunities in solar power systems.</i>	Level 2, 4,5
BEME703T.5	<i>Learn the basics of various non-conventional energy sources <u>and</u> their applications.</i>	Level 1, 2, 4



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Program:- B. Tech in Mechanical Engineering

COURSE	FINANCE & COST MANAGEMENT		
COURSE CODE	BEETE703T	COURSE ABBREVIATION	FCM
SEMESTER	SEVENTH	BRANCH	Mechanical engineering
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME703T.1	<i>Apply the knowledge of basics of Financial Management concepts and Time Value of Money</i>	Level 2, 4, 5
BEME703T.2	<i>Select, classify, analyze and plan the sources of finance, types of capital, various elements of costs, cost control and evaluate equipment replacement policy, make or buy decisions.</i>	Level 2, 4, 5
BEME703T.3	<i>Develop and interpret books of Accounts, Trial Balance, balance Sheet, P&L account, cash flow statement in business</i>	Level 4,5
BEME703T.4	<i>Evaluate and examine various Cost of Capital, opportunity cost of capital, Cost of different sources of finance</i>	Level 2, 4,5
BEME703T.5	<i>Evaluate, select and determine various techniques of capital budgeting, profitability index.</i>	Level 1, 2, 4



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Program:- B. Tech in Mechanical Engineering

COURSE	DESIGN OF TRANSMISSION SYSTEM		
COURSE CODE	BTME704T	COURSE ABBREVIATION	DTS
SEMESTER	SEVENTH	BRANCH	Mechanical engineering
COURSE CREDITS	04	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BTME704T.1	<i>Design journal and thrust bearings and selection of standard rolling contact bearings</i>	Level 2,3
BTME704T.2	<i>Design flexible transmission drives like belts, chains and rope.</i>	Level 2,3
BTME704T.3	<i>Design the positive transmission drives like gears as spur and Helical Gear.</i>	Level 2,3
BTME704T.4	<i>Design the positive transmission drives like gears as worm and Bevel Gears</i>	Level 4,5
BTME704T.5	<i>Design the energy storing components like Flywheels for various applications.</i>	Level 2, 4,5



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Program:- B. Tech in Mechanical Engineering

COURSE	SUMMER INTERNSHIP		
COURSE CODE	BTME705P	COURSE ABBREVIATION	SI
SEMESTER	SEVENTH	BRANCH	Mechanical engineering
COURSE CREDITS	02	EXAMINATION SCHEME	Practical University (PU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BTME705T.1	<i>Internships provide exposure to the real world</i>	Level 2,3
BTME705T.2	<i>Internships give a platform to establish critical networking connections</i>	Level 2,3
BTME705T.3	<i>Internships allow to learn more about yourself</i>	Level 2,3
BTME705T.4	<i>Internships equip with more than just technical skills</i>	Level 2,3
BTME705T.5	<i>Internships allow to gain a competitive edge</i>	Level 2,3,4



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Program:- B.E. in Mechanical Engineering

COURSE	Industrial Engineering		
COURSE CODE	BTME801T	COURSE ABBREVIATION	IE
SEMESTER	EIGHTH	BRANCH	Mechanical Engineering.
COURSE CREDITS	03	EXAMINATION SCHEME	Theory University (TU)

COURSE OUTCOMES

After the completion of Course, Students will be able to.....

Course Outcomes		Blooms Level
BEME801T.1	<i>Understand the concept of Management & Principles</i>	Level 1, 2
BEME801T.2	<i>Understanding Human Behavior, Laws , Training & Development</i>	Level 1, 2
BEME801T.3	<i>Understanding Markets, its Behavior, Product & its promotion & its life cycle</i>	Level 1, 2
BEME801T.4	<i>Understanding Finance, Cost, importance of Balance sheet, P & L statement</i>	Level 1,2
BEME801T.5	<i>Understanding Industries and importance of layouts, equipment , tools & Techniques</i>	Level 1, 2
BEME801T.6	<i>Understanding Production Quality tools & Techniques</i>	Level 1, 2



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