

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Basic Electronics		
Course Code	ECL0101[T]		
Course Outcomes & Bloom's Level	CO1- To become familiar with various (BL1-Remember) CO2- To understand the operation CO3- To implement the concepts (BL3-Apply) CO4- To analyze the various election Analyze) CO5- To evaluate the performant function generators, and cathode	n of various electro of semiconductors tronic devices and e of electronic devi	nic devices.(BL2-Understand) to various semiconductor devices. their frequency response.(BL4- ices such as diodes, transistors,
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG4(Quality education)

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	2	-	-	-	3	-	-	-	-	1
CO2	3	2	1	-	-	2	-	-	-	3	-	-	2	2	2
CO3	1	1	1	3	-	-	-	-	-	-	-	-	2	3	2
CO4	1	1	1	3	2	-	-	-	-	-	-	-	3	3	2
CO5	1	1	-	2	-	-	-	-	-	-	-	-	2	3	2
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Communication Skills & Colloqui	ommunication Skills & Colloquim											
Course Code	HUL0101[T]												
	Writing using applicative gramma CO3- Examine attitudes, emotion behavior.(BL3-Apply) CO4- Justify approaches to confli	I-Remember) I-Classify and formulate the elementary intricacies of Scientific and Technical ing using applicative grammar construct. □(BL2-Understand) I- Examine attitudes, emotional intelligence and understand its influence on											
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values ✓ Environment X	SDG (Goals)	SDG4(Quality education)										

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	P08	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	-	-	2	2	-	-	-	2	-	-	1	-	1
CO2	2	2	1	2	2	2	-	-	-	2	-	-	1	-	3
CO3	2	1	1	-	1	-	-	-	-	2	-	-	3	2	3
CO4	3	2	-	2	1	-	-	-	-	2	-	-	2	3	3
CO5	3	2	-	2	1	-	-	-	-	2	-	-	2	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Calculus For Engineers	alculus For Engineers											
Course Code	MAL0101[T]												
Course Outcomes & Bloom's Level	CO1- Knowledge about the deriver and evaluation of Maxima and MicO2- Knowledge about the vector divergence and curl with their procCO3- Applying: Partial derivatives and Minima.(BL3-Apply) CO4- Find the area under a giver application to Beta and Gamma FCO5- Evaluating: Find the area a triple integrals., (BL5-Evaluate) CO6- Applications of vector value volume.(BL5-Evaluate)	nima. (BL1-Remer or valued function di operties(BL2-Under is and its application in curve, length of a function.(BL4-Anal and volume by apply	mber) irectional derivative, gradient, rstand) ns apply to evaluate the Maxima n arc through integration as lyze) ying the techniques of double and										
Course Elements	Skill Development X Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG4(Quality education)										

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	1	2	2	-	-	-	-	-	-	-	-	2	3
CO2	2	3	1	2	2	-	-	-	-	-	-	-	-	2	3
CO3	2	2	1	1	1	-	-	-	-	-	-	-	-	1	3
CO4	1	2	-	-	-	-	-	-	-	-	-	-	-	1	2
CO5	-	2	-	-	-	-	-	-	-	-	-	-	-	1	2
CO6	-	_	_	-	-	-	_	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Engineering Mechanics	ngineering Mechanics											
Course Code	MEL0101[T]	L0101[T]											
	CO2- CO2 Understand the bodies in static and kinetic CO3- CO3 Apply system of devices, shafts and beams. CO4- CO4 Analyze the bea (BL4-Analyze) CO5- CO5 Evaluate shear	dies in static and kinetic conditions(BL1-Remember) 2- CO2 Understand the basics of sciences in effects of system of forces on rigid dies in static and kinetic conditions.(BL2-Understand) 3- CO3 Apply system of forces in the belts drive systems as power transmission vices, shafts and beams.(BL3-Apply) 4- CO4 Analyze the beams and trusses with centre of mass and moment of inertia.											
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X		SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	-	-	-	-	1	-	-	1	1	1	1	1	1
CO2	3	3	1	1	-	1	3	-	1	1	1	2	1	1	1
CO3	3	3	3	2	2	2	1	2	1	-	1	2	1	1	1
CO4	3	3	2	3	2	2	1	-	1	1	2	2	2	2	2
CO5	3	3	3	3	2	2	2	2	2	3	3	3	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Material Science		
Course Code	MEL0104[T]		
Course Outcomes & Bloom's Level	CO2- Understating the con- mechanical properties and CO3- To implement the pha CO4- To analyze the heat to and alloy.(BL4-Analyze)	cept of advance their application ase diagram of reatment proce naterials that are	
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X		SDG9(Industry Innovation and Infrastructure)

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	2	2	2	2	1	3	3	1	-	3	3	3
CO3	-	1	3	2	-	2	2	2	-	-	-	3	3	3	2
CO4	-	2	1	3	2	-	-	1	-	-	2	1	2	-	2
CO5	-	-	-	-	-	3	-	-	-	-	2	-	1	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Mechanical Workshop Pra	echanical Workshop Practice											
Course Code	MEP0101[P]												
Course Outcomes & Bloom's Level	CO3- To prepare and manutools and welding process. CO4- To analyze casting a	ol materials and ufacture the val (BL3-Apply) nd welding prod ng process par	d their proper applications.(BL2-Understand) rious joints using carpentry and fitting shop										
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	P08	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	-	-	2	2	1	-	-	2	2	2	1	-	-
CO2	1	2	2	2	2	1	2	2	-	-	-	2	2	3	3
CO3	2	1	2	-	-	-	2	2	-	-	-	2	3	-	3
CO4	1	2	2	-	-	2	1	-	-	2	2	3	3	2	2
CO5	-	2	1	2	2	2	3	2	-	-	-	2	3	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Essentials of Information To	ssentials of Information Technology											
Course Code	CSL0201[T]												
	computer systems (Knowled CO2- Apply the various net (Apply).(BL2-Understand) CO3- Explain various memoral Sub-programs and blocks (CO4- Design the concept of system (Design)(BL4-Analystem)	dge, Understan working concep ory managemer Analysis)(BL3- / f software, oper yze) s algorithm, its	ots, topologies and remove deadlocks. Int techniques and Analyze the concept of Apply) Trating system for better utilization of external solution and other communication										
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG4(Quality education) SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	-	-	-	-	-	-	-	-	-	1	1	2
CO2	1	2	-	-	-	-	-	-	-	-	-	-	3	3	2
CO3	-	-	1	-	-	-	-	-	-	-	-	-	3	2	2
CO4	-	-	-	2	-	-	-	-	-	-	-	-	2	2	2
CO5	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Principles of Electrical Engir	neering	
Course Code	EEL0201[T]		
Course Outcomes & Bloom's Level	circuits.(BL1-Remember) CO2- Predict the behavior of single phase AC circuits.(BL CO3- Predict the behavior of Three phase AC circuits.(BL CO4- Identify the type of electrical CO4- Identify the ty	f any electrical of 2-Understand) f any electrical of 3-Apply) ctrical machine ers in transmiss lyze)	circuits, Formulate and solve complex used for that particular application. Realize sion and distribution of electric power and
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG9(Industry Innovation and Infrastructure)	

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	2	1	1	-	-	-	-	-	-	-	1	1	2
CO2	1	1	2	1	1	3	-	1	-	-	1	-	2	3	1
CO3	2	1	2	1	2	-	2	-	2	2	-	-	1	2	2
CO4	1	3	1	2	3	-	-	-	-	-	-	-	3	1	3
CO5	1	1	1	2	1	_	-	-	-	-	-	-	2	2	1
CO6	1	1	1	1	1	-	-	-	-	-	-	3	1	3	2



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Statistics for Engineers		
Course Code	MAL0203[T]		
Course Outcomes & Bloom's Level	CO1- To remember basic concept tools of descriptive statistics.(BL1-CO2- To understand the identify reand Interpret a simple correlation. types of continuous distribution wi Understand) CO3- To apply the test and make Z test, goodness of fit.(BL3-Apply CO4- To analyze the concept of sa difference between parameter and CO5- To evaluate and describe the provide an application the null hyp (BL5-Evaluate)	-Remember) elationship betweer To understand the th their properties a hypothesis by Stud y) ampling distribution d statistic.(BL4-Ana e properties of unb	n two variables using scatter plot Knowledge about the different and applications.(BL2- lent's t-test, F-test, chi-square test, of a statistic and its properties, alyze) iasedness. Also identifying and
Course Elements	Skill Development X Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG4(Quality education)

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	-	2	2	-	1	-	-	-	-	1	-	1
CO2	3	3	1	3	3	2	-	1	-	1	-	-	2	-	2
CO3	3	2	-	1	3	-	-	-	-	-	-	-	1	3	2
CO4	3	2	-	2	-	-	-	-	-	-	-	-	-	3	1
CO5	2	2	-	1	-	-	-	-	-	-	-	-	-	2	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Environmental Pollution an	vironmental Pollution and global issues										
Course Code	MCL0201[T]											
	towards environmental issu CO2- CO2. To acquire anal multidisciplinary approach(I CO3- CO3. Ability to disting analysis(BL4-Analyze) CO4- CO4. Acquire expertis Systems and techniques of Analysis, environment instruction of the company of the comp	es.(BL2-Unde ytical skills in a BL3-Apply) juish between v se and skills ne monitoring, Er umentation and on, and mainted re skills for to de	various methods of various pollution reded for the Environmental Management divironment audit, Environmental Impact di control systems and for the projects enance.(BL5-Evaluate) communicate, prepare, plan and implement									
Course Elements	Skill Development X Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values ✓ Environment ✓	SDG (Goals)	SDG5(Gender equality) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)									

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	P08	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	2	2	-	-	-	2	-	-	1	-	1
CO2	1	2	1	2	2	2	-	-	-	2	-	-	1	-	3
CO3	2	1	1	-	1	-	-	-	-	-	-	-	3	2	3
CO4	2	2	-	2	1	-	-	-	-	-	-	-	2	3	3
CO5	2	2	-	2	1	-	-	-	-	-	-	-	2	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	_



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Making of Modern India		
Course Code	MCL0202[T]		
Course Outcomes & Bloom's Level	sense of modern Indian history ar CO2- The students will have an usalient features of modern India.(nd culture. (BL1-Ronderstanding of ma BL2-Understand) velop their persona	
Course Elements	Skill Development X Entrepreneurship X Employability X Professional Ethics X Gender ✓ Human Values ✓ Environment X	SDG (Goals)	SDG1(No poverty) SDG4(Quality education) SDG5(Gender equality) SDG15(Life on land)

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	-	1	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	2	-	-	1	-	-	2	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Engineering Graphics	ngineering Graphics											
Course Code	MEL0202[T]												
	CO2- To understand the batexamples. (BL2-Understa CO3- To implement the difference drawing dataset. (BL3-Appl CO4- To analyze the drawing CO5- To evaluate the drawing CO5-	O2- To understand the basic concept of engineering graphics through real-life camples. (BL2-Understand) O3- To implement the different engineering graphics concepts over appropriate rawing dataset. (BL3-Apply) O4- To analyze the drawing performance of engineering graphics techniques.(BL4-											
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X SDG (Goals) SDG4(Quality education) SDG9(Industry Innovation and Infrastr												

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	-	2	2	-	-	3	3	-	-	3	-	2
CO2	2	-	2	2	1	2	-	-	3	3	-	-	3	2	2
CO3	-	-	2	1	1	-	-	-	2	1	-	-	3	2	2
CO4	-	1	2	3	1	-	-	-	-	-	-	-	3	-	2
CO5	-	1	1	2	1	-	-	-	-	-	-	-	3	-	2
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Manufacturing Technolog	anufacturing Technology-I											
Course Code	MEL0240[T]												
Course Outcomes & Bloom's Level	CO2- To describe the bas Understand) CO3- To implement basic and casting.(BL3-Apply) CO4- To analyze the weld	ic concept of ca knowledge in a ing and casting nmarize the and	es and material science.(BL1-Remember) asting and welding processes.(BL2- nalyzing the forces and processes of welding processes(BL4-Analyze) alysis in optimizing the casting and welding										
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	1	-	-	3	3	1	1	1	3	3	1	1	1
CO2	3	3	3	2	2	3	3	-	1	1	3	3	1	1	1
CO3	3	3	3	2	2	3	3	-	-	-	3	3	2	2	2
CO4	3	3	3	2	2	3	3	3	2	2	2	3	3	3	3
CO5	3	3	3	3	2	3	3	2	2	2	3	3	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Programming logics		
Course Code	CST0201[P]		
	CO1- Remember: Recall the syntemember) CO2- Understand: Explain the memory together (BL2-Understand) CO3- Apply: Apply the various conformation (BL3-Apply) CO4- Analyzing: Analyze and evaluate performance. (BL4-Analyco5- Evaluate: Evaluate the effection of the cost of t	eaning of C progra onditional and loop aluate C programm	mming constructs and how they ing statement and functional
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG4(Quality education)

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	2	-	-	-	-	-	-	-	2	3	1
CO2	1	2	1	2	2	1	-	-	-	-	-	-	1	-	3
CO3	2	-	1	-	-	2	-	-	-	-	-	-	3	2	2
CO4	2	1	-	2	1	-	-	-	-	-	-	-	3	3	2
CO5	2	2	-	2	1	-	-	-	-	-	-	-	2	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Manufacturing Technolo	anufacturing Technology –II											
Course Code	MEL 0341[T]												
	CO2- To understand the CO3- To implement the Apply) CO4- To analyze the diff	mechanism of different metal ferent paramete	us metal forming operations.(BL1-Remember) metal forming.(BL2-Understand) forming operations to deform the parts.(BL3- ers used in metal forming.(BL4-Analyze) n act during the operations.(BL5-Evaluate)										
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	2	2	2	2	2	3	3	3	-	-	3	3	3
CO2	3	-	2	2	-	2	2	-	1	3	-	-	3	3	3
CO3	3	2	2	2	1	2	2	-	-	-	-	-	3	2	3
CO4	3	2	3	2	1	-	-	-	-	-	-	-	2	-	3
CO5	3	1	2	2	1	-	-	-	-	-	-	-	2	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Engineering Mathematics	gineering Mathematics										
Course Code	MAL0308[T]											
Course Outcomes & Bloom's Level												
	Skill Development X Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG4(Quality education)									

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	2	2	-	-	-	2	-	-	1	-	1
CO2	-	-	1	2	2	2	-	-	-	2	-	-	1	-	3
CO3	-	-	1	-	1	-	-	-	-	-	-	-	3	2	3
CO4	-	-	-	2	1	-	-	-	-	-	-	-	2	3	3
CO5	-	-	-	2	1	-	-	-	-	-	-	-	2	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Measurement and Metrology	asurement and Metrology											
Course Code	MEL 0308[T]												
Course Outcomes & Bloom's Level	CO1- To remember and understa measurement, characteristics of i CO2- To understand the concept Understand) CO3- To apply the measurement torque, and strain in equipments(CO4- To analyze the error in mea CO5- To evaluate the measurement Evaluate)	nstruments(BL1-Roof generalized mea of mechanical para BL3-Apply) surement system a	emember) asurement system(BL2- ameter such as pressure, force, and tolerance(BL4-Analyze)										
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG4(Quality education)										

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	P08	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	2	2	2	2	1	3	3	1	-	3	3	3
CO3	1	2	3	2	1	2	2	2	2	1	-	3	3	3	2
CO4	1	3	3	3	2	-	3	2	-	-	2	2	3	2	2
CO5	-	2	2	2	2	3	3	-	-	-	2	-	3	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Mechanics of Solids		
Course Code	MEL 0310[T]		
	Remember) CO2- To understand the CO3- To apply the conc CO4- To analyze the de	e rigid and defo ept of engineer formation of bo	rmed bodies(BL2-Understand) ing to calculate stress strain value(BL3-Apply) dy under action of force(BL4-Analyze) esting of component/material.(BL5-Evaluate)
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	-	2	-	-	3	3	-	-	3	2	3
CO2	3	1	2	2	2	2	2	1	3	3	1	-	3	3	3
CO3	-	1	2	2	-	2	2	-	-	2	-	3	3	3	3
CO4	1	2	2	2	2	-	2	2	-	-	2	1	3	2	3
CO5	-	-	-	1	1	3	-	-	-	-	2	_	3	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Basic Thermodynamics	sic Thermodynamics											
Course Code	MEL0305[T]												
Course Outcomes	CO2- To understand energy conservation techniques (CO3- To apply the oncept of energy transformation in Apply) CO4- To analyze power producing devices (BL4-Analyze)	O1- To recall the energy and its transformation(BL1-Remember) O2- To understand energy conservation techniques(BL2-Understand) O3- To apply the oncept of energy transformation in heat and work systems(BL3-uply) O4- To analyze power producing devices(BL4-Analyze) O5- To evaluate model for optimal power output(BL5-Evaluate)											
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)											

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	-	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	1	1	2	2	1	2	3	1	-	3	3	3
CO3	-	1	3	2	1	2	2	2	-	1	-	3	3	3	2
CO4	1	2	2	3	2	-	-	2	-	-	2	1	3	2	2
CO5	-	-	-	-	1	2	-	-	-	-	2	-	3	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Evaluation of Industrial Training-	1									
Course Code	MED0301[P]										
Course Outcomes & Bloom's Level	CO1- Understand themselves in rethemselves since of social and cive CO2- Identify the needs and probesolving. (BL2-Understand) CO3- Utilize their knowledge in fire problem. (BL3-Apply) CO4- Develop the confidence require leader ship qualities and CO5- Develop the capacity to menational integration and social har	vic and responsibili lem of the commurating practical solutive for group living democratic attitude et emergencies and	ty. (BL2-Understand) nity and involve them in problem tion to individual and community g and sharing of responsibilities of es. (BL4-Analyze) d natural disasters and practice								
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X SDG (Goals) SDG4(Quality education)									

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	-	1	-	-	-	-	-	-	-	2-	2	2
CO2	1	-	2	-	2	-	-	-	-	-	-	-	1	2	1
CO3	1	2	-	2	1	-	-	-	-	-	-	-	2	2	1
CO4	-	1	-	2	-	-	-	-	01	-	-	-	2	2	1
CO5	-	-	-	-	1	-	-	-	-	01	-	-	2	1	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Machine drawing								
Course Code	MEP0302[P]								
Course Outcomes & Bloom's Level	Remember) CO2- To understand the base (BL2-Understand) CO3- To implement the difference (BL3-Apply) CO4- To analyze the draw Analyze)	asic concept of ferent machine ing performand ving performand	e drawing and its applications.(BL1-machine drawing through real-life examples. drawing concepts over appropriate drawing e of machine drawing techniques.(BL4- ce of machine drawing techniques on a						
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X								

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	-	-	2	2	1	-	-	2	2	2	1	-	-
CO2	1	2	2	2	1	2	2	-	-	-	2	2	3	3	3
CO3	2	1	2	-	-	-	2	2	-	-	-	2	3	-	3
CO4	1	2	2	3	2	-	2	1	-	-	2	2	3	2	2
CO5	-	2	1	2	2	3	2	-	-	-	-	-	3	2	2
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Fluid mechanics	id mechanics											
Course Code	MEL0407[T]												
Course Outcomes & Bloom's Level	Remember) CO2- To describe the app Understand) CO3- To apply the knowle (BL3-Apply) CO4- To analyze the syste	olication of engiredge of fluids in ems in boundar	, , ,										
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X SDG (Goals) SDG11(Sustainable cities and economies)											

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	3	2
CO2	3	1	2	2	2	2	2	1	3	3	1	-	3	3	3
CO3	-	1	3	3	1	2	2	2	-	2	-	3	3	3	2
CO4	1	2	3	3	2	-	3	2	-	-	2	1	3	2	2
CO5	-	1	-	-	2	3	-	-	-	-	2	-	3	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Industrial Engineering		
Course Code	MEL0409[T]		
Course Outcomes & Bloom's Level	CO2- Apply the concepts CO3- Describe the meth	s of work and modes of job evaluable of job evaluable of job evaluable of	and motion study(BL2-Understand) notion study to improve productivity.(BL3-Apply) nation and wage incentive.(BL5-Evaluate) f inspection and quality control.(BL3-Apply) CPM.(BL3-Apply)
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG11(Sustainable cities and economies)

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	P08	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	3	3	3	2	3	2	3	3	3	-	2	3	3
CO2	1	2	3	3	3	2	3	2	3	3	3	-	2	3	3
CO3	1	3	2	3	-	-	-	-	-	3	-	-	2	3	3
CO4	-	3	-	3	2	-	2	-	3	3	3	1	3	3	3
CO5	1	3	2	3	-	-	-	-	-	3	3	-	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Energy Conversion Sys	ergy Conversion Systems											
Course Code	MEL0411[T]												
Course Outcomes & Bloom's Level	CO2- Understating the CO3- Applying the basic CO4- Analyzing the world	concept of Ene c concept of He rking of boilers,	ermodynamics(BL1-Remember) rgy conversion systems(BL2-Understand) eat Transfer(BL3-Apply) turbines, condensers(BL4-Analyze) turbines, condensers(BL5-Evaluate)										
Course Elements	Skill Development X Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment ✓	SDG (Goals)	SDG7(Affordable and clean energy) SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	2	2	2	2	1	3	3	1	-	3	3	3
CO3	-	1	3	3	1	2	2	2	-	2	-	3	3	3	2
CO4	1	2	3	3	2	-	3	2	-	-	2	1	3	2	2
CO5	-	1	-	-	2	3	-	-	-	-	2	-	3	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Kinematics of Machines										
Course Code	MEL0415[T]										
Course Outcomes & Bloom's Level	gears.(BL1-Remember) CO2- To understand velocity (BL2-Understand) CO3- To implement velocity of mechanism.(BL3-Apply CO4- To analyze the difference.	CO2- To understand velocity and acceleration analysis of different types of mechanism. BL2-Understand) CO3- To implement velocity and acceleration analysis to cam, gears and different types									
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)								

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	2	2	2	2	1	3	3	1	-	3	3	3
CO3	1	2	2	2	1	2	2	2	1	1	-	3	2	3	2
CO4	1	3	2	3	2	-	3	2	-	-	2	2	2	2	2
CO5	-	1	1	2	2	3	3	-	-	-	2	-	1	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Machining processes		
Course Code	MEL0442[T]		
Course Outcomes & Bloom's Level	CO2- To understand the CO3- To implement the CO4- To analyze the dif	e basic concept mechanism of ferent paramet	us machining operations.(BL1-Remember) t of metal cutting mechanism.(BL2-Understand) machining in different machines.(BL3-Apply) ers used in machining operations.(BL4-Analyze) h act during the machining.(BL5-Evaluate)
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	2	2	1	2	2	3	3	3	-	-	3	3	3
CO2	3	-	2	2	-	2	2	-	1	3	-	-	3	3	3
CO3	3	2	2	2	1	2	2	-	-	-	-	-	3	2	3
CO4	3	2	3	2	1	-	1	-	-	-	-	-	2	-	3
CO5	3	1	2	2	1	-	1	-	-	-	-	-	2	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Object Oriented Programming M	ethodology (Pythor	٦)									
Course Code	CSP0401[P]											
Course Outcomes & Bloom's Level	and basic concept of python(BL2 CO3- Apply the various condition (BL3-Apply) CO4- Explain various objects nur regular expression.(BL4-Analyze	D2- Understand the basics of Python like python origin downloading and installing d basic concept of python(BL2-Understand) D3- Apply the various conditional and looping statement and functional programming. L3-Apply) D4- Explain various objects numbers and sequence in python Analyze the concept of gular expression.(BL4-Analyze) D5- Evaluate the concept of object-oriented programming for better utilization of aguage.(BL5-Evaluate)										
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG1(No poverty) SDG2(Zero hunger) SDG4(Quality education)									

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	2	2	-	-	-	2	-	-	1	-	1
CO2	1	2	1	2	2	2	-	-	-	2	-	-	1	-	3
CO3	2	2	1	-	1	-	-	-	-	-	-	-	3	2	3
CO4	2	2	-	3	1	-	-	-	-	-	-	-	3	3	3
CO5	2	2	-	2	1	-	-	-	-	-	-	-	2	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Machine Design-I	lachine Design-I										
Course Code	MEL0515[T]	EL0515[T]										
	Engineering Mechanics, a CO2- To understand the components and suitable (CO3- To apply the conceptomponents(BL3-Apply) CO4- To analyze the safe Coupling, Spring and Scree CO5- To evaluate the apple	CO1- To remember the basic principle of Solid mechanics, Machine drawing, Engineering Mechanics, and stress- strain etc.(BL1-Remember) CO2- To understand the concept of design against static loading for mechanical omponents and suitable material for machine components.(BL2-Understand) CO3- To apply the concept of design against static loading for mechanical omponents(BL3-Apply) CO4- To analyze the safe dimensions of Welded Joints, Riveted Joints, Shat, Key, Coupling, Spring and Screw Jack under the static and dynamic load.(BL4-Analyze) CO5- To evaluate the applications of Machine design in various fields such as researched industries(BL5-Evaluate)										
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X Skill Development ✓ SDG8(Decent work and economic gr SDG9(Industry Innovation and Infras SDG12(Responsible consuption and production)											

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	2	2	2	2	1	3	3	1	-	3	3	3
CO3	1	2	3	2	1	2	2	2	2	1	-	3	3	3	2
CO4	1	3	3	3	2	-	3	2	-	-	2	2	3	2	2
CO5	-	2	2	2	2	3	3	-	-	-	2	-	3	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	IC Engines												
Course Code	MEL0516[T]												
Course Outcomes & Bloom's Level	CO2- To understand the bastandard cycles.(BL2-Under CO3- To implement the know parameters.(BL3-Apply) CO4- To analyze the therms systems.(BL4-Analyze)	sic concept of the co	mal sciences.(BL1-Remember) hermodynamics, heat engines and air modynamics in determining the engine various cycles and cooling and lubrication of supercharging, cooling and lubrication ints.(BL5-Evaluate)										
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment ✓	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	1	-	-	3	3	1	-	1	3	3	1	1	1
CO2	3	3	3	1	-	3	3	1	-	1	3	3	1	1	1
CO3	3	3	3	2	2	3	3	1	-	-	3	3	2	2	2
CO4	3	3	2	3	2	3	3	2	2	2	3	3	3	3	3
CO5	3	3	3	3	2	3	3	2	2	2	3	3	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Dynamics of Machines											
Course Code	MEL0518[T]	L0518[T]										
	machines. (BL1-Remember CO2- To understand the back (BL2-Understand) CO3- To implement the backengines, governors and fly CO4- To analyze the force engines. (BL4-Analyze)	asic concept of some sics in analyzing wheels.(BL3-A) analysis in balangs in implemen	ntation of balancing of masses and									
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)									

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	2	2	2	2	1	3	3	1	-	3	3	3
CO3	1	2	3	2	1	2	2	2	2	1	-	3	3	3	2
CO4	1	3	3	3	2	-	3	2	-	-	2	2	3	2	2
CO5	-	2	2	2	2	3	3	-	-	-	2	-	3	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Fluid Machinery											
Course Code	MEL0521[T]	L0521[T]										
Course Outcomes & Bloom's Level	CO1- To recall concept of basic sciences and fluid me CO2- To Understand Components and operation; velounderstand) CO3- To apply fluid mechanics in Components and opwork output(BL3-Apply) CO4- To analyze Main elements and their functions; Valassification(BL4-Analyze) CO5- To evaluate new Components, working principle piston acceleration(BL5-Evaluate)	pocity triangles, work output (BL2- peration, velocity triangles and various types and										
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment ✓	SDG (Goals)										

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	2	2	2	2	1	3	3	1	-	3	3	3
CO3	-	1	3	2	1	2	2	2	-	2	-	3	3	3	2
CO4	1	2	3	3	2	-	3	2	-	-	2	1	3	2	2
CO5	-	2	2	2	2	3	3	-	-	-	2	-	3	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Advanced Manufacturing										
Course Code	MEL0522[T]										
Course Outcomes & Bloom's Level	Engineering Mechanics.(BLCO2- To understating the cown with the complex to the concept to the co	CO4- To analysis of Advanced welding process i.e. EBW, LBM, USW, Plasma arc									
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)								

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	1	-	-	-	-	-	-	-	-	2	-	3
CO2	3	3	-	3	-	-	-	-	-	3	2	-	3	3	3
CO3	2	2	-	3	-	-	-	-	-	3	2	-	3	3	3
CO4	3	3	-	3	-	-	-	-	-	3	2	-	3	3	3
CO5	3	3	-	3	-	-	-	-	-	3	3	-	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Industrial Automation ar	dustrial Automation and Control											
Course Code	MEL0523[T]	L0523[T]											
Course Outcomes & Bloom's Level	Remember) CO2- Understating the c CO3- Applying the basic CO4- Determine the opti	O2- Understating the concept of joints and links.(BL2-Understand) O3- Applying the basic degree of freedom concept.(BL3-Apply) O4- Determine the options of fixed or flexible automation.(BL4-Analyze) O5- Determine the safe conditions of optimizing human and robots role.(BL5-											
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	1	-	-	-	-	-	-	-	-	2	3	2
CO2	3	3	2	1	-	-	-	-	-	-	-	-	2	3	2
CO3	1	3	2	3	-	-	-	-	-	3	-	-	2	3	3
CO4	1	3	2	3	1	-	3	-	-	3	3	-	3	3	3
CO5	-	3	2	3	-	-	-	-	-	3	3	-	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Evaluation of Industrial Training-2	
Course Code	MED0502[P]	
	CO1- Understand themselves in relation to their commented themselves since of social and civic and responsibility. CO2- Identify the needs and problem of the community solving. (BL2-Understand) CO3- Utilize their knowledge in finding practical solution problem. (BL3-Apply) CO4- Develop the confidence require for group living a acquire leader ship qualities and democratic attitudes. CO5- Develop the capacity to meet emergencies and renational integration and social harmony(BL5-Evaluate	(BL2-Understand) y and involve them in problem on to individual and community and sharing of responsibilities of (BL4-Analyze) natural disasters and practice
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	-	1	-	-	-	-	-	-	-	2	2	2
CO2	1	-	2	-	2	-	-	-	-	-	-	-	1	2	1
CO3	1	2	-	2	1	-	-	-	-	-	-	-	2	2	1
CO4	1	1	-	2	-	-	-	-	01	-	-	-	2	2	1
CO5	-	-	-	-	1	-	-	-	-	01	-	-	2	1	1
CO6	-	_	-	-	_	-	-	-	-	-	-	_	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Additive Manufacturing	dditive Manufacturing											
Course Code	MEL 0627[T]	EL 0627[T]											
Course Outcomes & Bloom's Level	CO2- To understand the fu Understand) CO3- To apply appropriate manufacturing applications CO4- To compare and cor their strengths and weakne CO5- To evaluate strategic	O1- To recall the fundamental principles of additive manufacturing.(BL1-Remember) O2- To understand the fundamental principles of additive manufacturing.(BL2- Inderstand) O3- To apply appropriate material selection criteria for different additive nanufacturing applications.(BL3-Apply) O4- To compare and contrast different additive manufacturing processes based on neir strengths and weaknesses(BL4-Analyze) O5- To evaluate strategies for integrating additive manufacturing into existing nanufacturing systems for improved efficiency and productivity.(BL5-Evaluate)											
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	intrepreneurship ✓ Imployability ✓ Imployabil											

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	2	-	2	-	-	-	-	-	-	2	3	3	3
CO2	3	3	3	3	3	2	-	-	-	1	3	1	3	3	3
CO3	-	1	-	3	2	2	-	1	-	1	3	3	2	3	3
CO4	3	3	3	3	3	-	-	1	-	2	2	-	3	-	3
CO5	-	3	3	3	3	-	-	-	-	3	3	2	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Machine Design-II	achine Design-II											
Course Code	MEL0617[T]	EL0617[T]											
	drawing, Engineering Med CO2- To understand the components and suitable (CO3- To implement the components(BL3-Apply) CO4- To analyse the safe under the static and dynar	CO4- To analyse the safe dimensions of Gear, Clutch, IC Engine, Bearing and Br under the static and dynamic load.(BL4-Analyze) CO5- To evaluate the applications of Machine design in various fields such as res											
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X SDG (Goals) SDG3(Decent work and economic groups of the standard production) SDG12(Responsible consuption and production)												

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	2	2	2	2	1	3	3	1	-	3	3	3
CO3	1	2	3	2	1	2	2	2	2	1	-	3	3	3	2
CO4	1	3	3	3	2	-	3	2	-	-	2	2	3	2	2
CO5	-	2	2	2	2	3	3	-	-	-	2	-	3	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Heat and Mass Transfer	eat and Mass Transfer											
Course Code	MEL0619[T]	L0619[T]											
	Radiation, General Different CO3- To apply the Laws of I CO4- To Analyse of Diffusio Molecular Diffusion, Convec	inism of Heat Tr tial equation of Radiation, Stefa n Mass Transfe ctive Mass Tran theory of conde	L1-Remember) ransfer, Conduction, Convection and Heat Conduction(BL2-Understand) an Boltzman Law, Kirchoff Law(BL3-Apply) er, Fick's Law of Diffusion, Steady state sfer, Momentum(BL4-Analyze) ensation, pool boiling, flow boiling,										
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X		SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	_	3	2	2
CO2	3	1	2	2	2	2	2	1	3	3	1	-	3	3	3
CO3	1	2	3	2	1	2	2	2	2	1	-	3	3	3	2
CO4	1	3	3	3	2	-	3	2	-	-	2	2	3	2	2
CO5	-	2	2	2	2	3	3	-	-	-	2	-	3	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Operations Research	erations Research										
Course Code	MEL0626[T]											
Course Outcomes & Bloom's Level	CO2- To understand the CO3- To apply the que CO4- To measures how	CO1- To recall the industrial engineering(BL1-Remember) CO2- To understand the Performance of queue, line balancing(BL2-Understand) CO3- To apply the queuing theory and game theory(BL3-Apply) CO4- To measures how effective production system (supply system)(BL4-Analyze) CO5- To evaluate the production system (supply system). (BL5-Evaluate)										
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production)									

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	2	2	-	-	-	3	3	1	-	3	3	3
CO3	1	2	2	2	1	-	-	-	-	1	-	3	2	3	2
CO4	1	3	2	3	2	-	3	2	-	-	2	2	2	2	2
CO5	-	1	1	2	2	-	-	-	-	-	2	-	1	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Minor Project	
Course Code	MED0603[P]	
Course Outcomes	CO1- To enhance writing skills and knowledge.(BL2-UCO2- To increase their mental ability.(BL3-Apply) CO3- To inculcate the ability to express innovative op CO4- To have Dissertation works as skills developme	inion and thoughts(BL4-Analyze)
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2-	2	-	1	-	-	-	-	-	-	-	2	2	2
CO2	1	-	2	-	2	-	-	-	-	-	-	-	1	2	1
CO3	1	2	-	2	1	-	-	-	-	-	-	-	2	2	1
CO4	-	1	-	2	-	-	-	-	01	-	-	-	2	2	1
CO5	-	-	-	-	1	-	-	-	-	01	-	-	2	1	1
CO6	-	-	-	-	-	_	-	-	-	-	_	_	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Robotic Process Automat	ion	
Course Code	MEE0621		
	CO2- To introduce differer CO3- To identify and apply CO4- To analyze- how to strategies(BL4-Analyze)	nt platforms for y Image, Text a handle the Use	botic process Automation(BL1-Remember) RPA(BL2-Understand) nd Data Tables Automation(BL3-Apply) r Events and various types of Exceptions and Robotic automation.(BL5-Evaluate)
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	1	-	-	-	-	-	1	1	1	1
CO2	1	1	1	-	-	1	-	-	-	-	-	1	1	1	1
CO3	1	2	2	-	-	1	-	-	-	-	1	1	2	2	2
CO4	2	3	3	2	2	1	-	-	-	-	1	1	3	3	3
CO5	2	3	3	2	2	1	-	-	-	-	1	1	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Electric Vehicle Engineeri	ng								
Course Code	MEE0622									
Course Outcomes & Bloom's Level	Remember) CO2- To understand funda Understand) CO3- To implement advan and performance.(BL3-Ap CO4- To analyze the perfo Analyze)	mental concep ced control stra p ly) rmance charac	lectric and automobile engineering(BL1- ts of electric vehicle propulsion systems(BL2- attegies for optimizing electric vehicle efficiency teristics of electric vehicle components(BL4- ehicles on sustainability and the							
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X	Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X SDG (Goals) SDG9(Industry Innovation and Infrastru								

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	P08	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	1	-	-	-	-	-	-	1	1	1
CO2	1	-	-	-	-	1	-	-	-	-	-	-	1	1	2
CO3	1	1	1	2	1	1	3	-	-	-	1	-	2	2	2
CO4	1	2	2	2	2	1	3	1	-	-	2	1	3	3	3
CO5	1	2	3	3	3	1	3	1	-	-	3	1	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Tribology Engineering	pology Engineering											
Course Code	MEE0623												
Course Outcomes & Bloom's Level	Remember) CO2- To understat the conc CO3- To apply the tribo des CO4- To design the compor mechanism(BL4-Analyze) CO5- To evaluate the result	ept of tribology ign in various m nents through tri s of designing v	Mechanics and machine design(BL1- engineering(BL2-Understand) nachine elements(BL3-Apply) ibology in lubrication and wear which leads to reduction of power contacting parts of machinery(BL5-										
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	P08	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	1	-	-	1	-	-	-	-	-	1	1	1	1
CO2	1	1	1	-	-	1	-	-	-	-	-	1	1	1	1
CO3	1	2	3	2	1	1	-	-	-	-	1	1	2	2	2
CO4	1	3	3	3	2	2	1	-	-	-	1	1	3	3	3
CO5	1	3	3	3	3	2	1	-	-	-	2	1	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Computer Aided Design		
Course Code	MEL0722[T]		
Course Outcomes & Bloom's Level	Method, and computer gra CO2- To Understating the CO3- To implement the ef Apply) CO4- To analyse the diffe Analyze)	aphics (BL1-R econcept of conficient way to concept types of manual displayments and conficients of conficient	mputer graphics(BL2-Understand) drawing geometry in graphics software.(BL3- nethod to draw the 2D and 3D geometry(BL4- mputer graphics in various fields such as
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG8(Decent work and economic growth) SDG12(Responsible consuption and production)

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	-	2	2	-	-	3	3	-	-	3	-	2
CO2	3	-	1	2	2	2	-	-	3	3	-	-	3	2	2
CO3	2	-	2	1	2	-	2	-	2	1	-	1	3	3	2
CO4	3	2	2	3	2	-	2	2	-	-	2	2	3	-	2
CO5	2	2	1	2	2	-	-	3	-	-	3	2	3	-	2
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Refrigeration and Air Conditioning	
Course Code	MEL0723[T]	
Course Outcomes & Bloom's Level	CO1- To recall the concepts of Basic Thermodynamic CO2- To understating the concept of Energy conversions. To applying the basic concept of Heat Transfer. CO4- To determine the options of Refrigerants (BL4-ACO5- To evaluate the safe conditions of emission levels.)	on systems.(BL2-Understand) (BL3-Apply) analyze)
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment ✓	SDG (Goals)

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	1	1	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	2	2	2	2	1	3	3	1	-	3	3	3
CO3	3	2	2	2	1	2	2	2	2	1	-	3	3	3	3
CO4	1	3	3	3	2	-	3	2	-	-	3	2	3	2	2
CO5	-	2	2	2	2	3	3	-	-	-	2	-	3	-	3
CO6	-	-	-	-	-	_	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Total Quality Managen	nent										
Course Code	MEL0727[T]	EL0727[T]										
Course Outcomes & Bloom's Level	CO1- To recall industrial engineering and operation research(BL1-Remember) CO2- To understand the history of TQM(BL2-Understand) CO3- To apply the theories of TQM in real life industrial problems(BL3-Apply) CO4- To analyze the change in productivity through principles of TQM.(BL4-Ar CO5- To evaluate the different ways and theories of TQM(BL5-Evaluate)											
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability X Professional Ethics X Gender X Human Values ✓ Environment X	SDG (Goals)	SDG8(Decent work and economic growth) SDG12(Responsible consuption and production)									

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	2	3	-	-	2	1	-	2	2	-	3	-	3
CO2	3	2	2	3	-	2	3	1	3	3	3	-	3	3	3
CO3	3	3	2	3	-	2	3	1	3	3	3	-	3	3	3
CO4	3	3	3	3	2	2	3	1	3	3	3	1	3	3	3
CO5	3	3	3	3	2	2	3	1	3	3	3	1	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Training Report	
Course Code	MEC0701[P}	
	CO1- Understand themselves in relation to their commented themselves since of social and civic and responsibility. CO2- Identify the needs and problem of the community solving. (BL2-Understand) CO3- Utilize their knowledge in finding practical solution problem. (BL3-Apply) CO4- Develop the confidence require for group living a acquire leader ship qualities and democratic attitudes. CO5- Develop the capacity to meet emergencies and renational integration and social harmony(BL5-Evaluate	(BL2-Understand) y and involve them in problem on to individual and community and sharing of responsibilities of (BL4-Analyze) natural disasters and practice
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	P08	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	-	1	-	-	-	-	-	-	-	2	2	2
CO2	1	-	2	-	2	-	-	-	-	-	-	-	1	2	1
CO3	1	2	-	2	1	-	-	-	-	-	-	-	2	2	1
CO4	1	1	-	2	-	-	-	-	1	-	-	-	2	2	1
CO5	-	-	-	-	1	-	-	-	-	1	-	-	2	1	1
CO6	-	-	_	_	-	_	-	-	_	-	_	_	-	-	_



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Major Project	
Course Code	MED0702[P]	
Course Outcomes & Bloom's Level	CO1- To enhance writing skills and knowledge.(BL2-UCO2- To increase their mental ability.(BL3-Apply) CO3- To inculcate the ability to express innovative op CO4- To have Dissertation works as skills developme	, inion and thoughts.(BL4-Analyze)
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	-	1	-	-	-	-	-	-	-	2	2	2
CO2	1	-	2	-	2	-	-	-	-	-	-	-	1	2	1
CO3	1	2	-	2	1	-	-	-	-	-	-	-	2	2	1
CO4	1	1	-	2	-	-	-	-	1	-	-	-	2	2	1
CO5	-	-	-	-	1	-	-	-	-	1	-	-	2	1	1
CO6	_	_	_	_	-	_	-	-	_	-	-	-	-	-	_



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Non-Conventional Energy	resources											
Course Code	MEE0705	EE0705											
Course Outcomes & Bloom's Level	CO4- To analyze the energ various fields (BL4-Analyz	e solar thermal prelated to none by conversion in e) ormance and eff											
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability X Professional Ethics X Gender X Human Values X Environment ✓	SDG (Goals)	SDG7(Affordable and clean energy) SDG8(Decent work and economic growth)										

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	1	1	2	2	3	-	3	3	-	1	3	-	3
CO2	3	-	2	2	1	2	2	-	3	3	2	-	3	3	3
CO3	2	-	2	1	3	-	3	1	2	1	-	2	3	3	3
CO4	1	2	2	3	2	2	2	1	-	-	1	2	3	-	3
CO5	1	2	1	3	2	-	2	-	-	-	-	1	3	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Optimization Methods		
Course Code	MEE0706		
Course Outcomes & Bloom's Level	Remember) CO2- Understand the princip methods, Lagrange multiplie CO3- Apply optimization tecl considering both unconstrair CO4- Evaluate the effectiver scenarios.(BL3-Apply) CO5- Critically evaluate the world problems.(BL5-Evaluate)	oles behind opting sets and Kuhn-Tuhniques to single and constrainess of different performance of ate)	principles of optimization.(BL1- mization techniques such as direct search ucker conditions.(BL2-Understand) e-variable and multi-variable functions, ined scenarios.(BL3-Apply) optimization techniques in various optimization algorithms in solving real- or modify existing ones to address specific
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG8(Decent work and economic growth)

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	P08	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	-	2
CO2	3	-	2	1	1	3	-	-	3	3	-	-	2	2	2
CO3	2	-2	2	-	2	2	2	-	2	1	1	2	2	2	1
CO4	2	2	2	2	2	-	-	-	-	1	2	3	-	2	2
CO5	1	2	1	1	1	2	-	-	1	-	2	1	2	-	2
CO6	_	-	_	-	_	_	-	-	-	-	-	_	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Introduction to Computation	nal Fluid Dyna	mics
Course Code	MEE0707		
	parabolic, and hyperbolic e governing fluid motion.(BL:CO2- Understand the differ (BL2-Understand) CO3- Apply solution algorit elliptic equations.(BL3-Apply CO4- Analyze the computations for incompressib CO5- Synthesize theoretica for enhancing stability and CO6- Evaluate the practical	quations. Mem 1-Remember) rence between hms like Jacob oly) Itional challeng le fluid flow(BL al concepts wit accuracy in nu il applicability a	lifferential equations (PDEs) including elliptic, norize the fundamental conservation laws initial value and boundary value problems. In iterative and Gauss-Seidel methods to solve the associated with solving Navier-Stokes 4-Analyze) the computational methods to devise strategies merical simulations. (BL5-Evaluate) and effectiveness of computational simulations atted to fluid mechanics and heat transfer
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG1(No poverty) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production)

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	2	2	2	2	1	3	2	2	1	-	2	2
CO3	1	2	2	2	1	2	2	2	1	1	-	2	2	2	2
CO4	1	2	2	2	-	2	2	-	-	2	2	2	2	2	2
CO5	-	1	1	2	2	2	2	-	-	-	-	2	1	-	2
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Sensors, Actuators and Sig	ensors, Actuators and Signal Conditioning											
Course Code	MEE0711												
Course Outcomes & Bloom's Level	Understand) CO3- To implement the data applications.(BL3-Apply) CO4- To conduct experiment experience on real components.	classify the behand a acquisition systemats and measure ents, sensors and te the trends in	blogy(BL1-Remember) avior of different types of sensors(BL2- stems with different sensors for real-time ements in laboratory and realize hands-on and actuators.(BL4-Analyze) sensor technology, industrial network and										
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	2	2	3	3	-	-	3	2	2
CO2	3	1	2	2	2	2	2	1	3	3	1	-	3	3	3
CO3	1	2	3	-	1	2	2	2	2	1	-	3	3	3	2
CO4	1	3	3	3	2	2	2	2	2	1	2	2	3	2	2
CO5	2	2	2	2	2	3	3	2	3	1	2	2	3	1	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Product Design and De	duct Design and Development											
Course Code	MEE0703												
Course Outcomes & Bloom's Level	CO2- Apply the concep CO3- Describe the met	ts of design pri hods of conduc of Prototyping	duct development process. (BL1-Remember) nciples. (BL2-Understand) sting market research and analysis.(BL3-Apply) and testing. (BL4-Analyze) nethods(BL5-Evaluate)										
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	2	-	-	-	2	1	-	2	2	-	3	-	3
CO2	1	2	2	-	-	2	3	1	3	3	3	-	3	3	3
CO3	2	2	2	-	-	2	3	1	3	3	3	-	3	3	3
CO4	1	3	2	-	2	2	3	1	3	3	3	-	3	3	3
CO5	1	2	2	-	2	2	3	1	3	3	3	-	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	_



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Industrial Robotics	dustrial Robotics											
Course Code	MEE0709	E0709											
Course Outcomes & Bloom's Level	Remember) CO2- 2. Analyze the inve CO3- 3. Gain the knowle Apply)	erse manipulate edge about the	lyze the fundamentals of robotics.(BL1- or kinematics and dynamics.(BL2-Understand) manipulator design and mechanism.(BL3- drive systems and sensors in robotics.(BL4-										
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	2	2	2	2	-	2	3	1	-	3	3	3
CO3	1	2	3	2	1	-	2	2	2	1	-	3	3	3	2
CO4	1	3	3	3	2	-	2	2	-	-	2	2	3	2	2
CO5	-	2	2	2	2	3	3	-	-	-	2	-	3	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Alternative fuels and emis	Iternative fuels and emission control											
Course Code	MEE0710	E0710											
	CO2- Describe the significe Understand) CO3- Test the fuels in various CO4- Analyze the performalternative fuel(BL4-Analyze)	cance of alterna ous engines(Bl nance of an eng (ze) s alternative fue	hermodynamics(BL1-Remember) tive fuels over conventional fuels(BL2- L3-Apply) ine under standard conditions with a specific els and their suitability with a specific engine										
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment ✓	SDG (Goals)	SDG7(Affordable and clean energy) SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	3	1	3	3	2	1	1	1	1	3	2	2
CO2	2	2	1	2	2	3	3	2	1	2	1	2	3	2	2
CO3	3	3	3	3	3	3	3	2	2	2	3	3	3	3	3
CO4	3	3	3	3	2	2	3	2	1	2	2	2	3	3	3
CO5	3	3	3	3	2	3	3	2	2	3	2	3	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Theory of Production pr	ocess	
Course Code	MEE0717		
Course Outcomes & Bloom's Level	CO2- To understand the CO3- To implement the Apply) CO4- To analyze the diff	mechanism of different metal ferent parameto	processes.(BL1-Remember) production processes.(BL2-Understand) forming operations to deform the parts.(BL3- ers used in production processes.(BL4-Analyze) a act during the operations.(BL5-Evaluate)
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	2	2	1	2	2	3	3	3	-	-	3	3	3
CO2	3	-	2	2	-	2	2	-	1	3	-	-	3	3	-
CO3	3	2	2	2	1	-	1	-	-	-	-	-	3	2	3
CO4	3	2	3	2	1	-	1	-	-	-	-	-	2	-	3
CO5	3	1	2	2	1	-	1	-	-	-	-	-	2	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Automobile Engineering	utomobile Engineering										
Course Code	MEL0825[T]											
& Bloom's Level	CO2- To Understand Trans CO3- To Apply the knowled automobile(BL3-Apply) CO4- To analyze the brakin CO5- To evaluated and sur	O1- To remember basic parts of I C Engines(BL1-Remember) O2- To Understand Transmission and Braking system(BL2-Understand) O3- To Apply the knowledge of Braking System & Electrical System. in tomobile(BL3-Apply) O4- To analyze the braking and suspension system in automobile. (BL4-Analyze) O5- To evaluated and summarize the braking, suspension, power transmission and tomobile Air Conditioning(BL5-Evaluate)										
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment ✓	SDG (Goals)	SDG7(Affordable and clean energy) SDG9(Industry Innovation and Infrastructure)									

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	-	2	2	-	-	3	3	-	-	3	-	2
CO2	2	-	1	2	1	2	-	-	3	3	-	-	3	2	2
CO3	1	-	2	1	1	-	-	-	2	1	-	-	3	2	2
CO4	-	1	2	3	1	-	-	-	-	-	-	-	3	-	2
CO5	-	1	1	2	1	-	-	-	-	-	-	_	3	-	2
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	CNC and Flexible Manufa	NC and Flexible Manufacturing Systems									
Course Code	MEL0827[T]	L0827[T]									
	systems.(BL1-Remembe CO2- To understand the E Understand) CO3- To implement G coo CO4- To analyze the CNC	r) Basic concept o Hes, M codes in C program.(BL4	types of CNC operations and production f G codes, M codes for programming.(BL2- programming.(BL3-Apply) -Analyze) IC program.(BL5-Evaluate)								
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)								

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	2	2	2	2	1	3	1	-	-	3	3	3
CO2	2	-	-	2	1	2	-	-	1	1	-	-	3	2	3
CO3	2	1	2	2	2	2	-	-	-	-	-	-	3	2	3
CO4	2	2	2	2	1	-	-	-	-	-	-	-	2	-	3
CO5	2	1	1	2	2	-	-	-	-	-	-	_	2	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Major Project	
Course Code	MED0803[P]	
Course Outcomes	CO1- To enhance writing skills and knowledge.(BL1-ICO2- To increase their mental ability.(BL2-Understar CO3- To inculcate the ability to express innovative op CO4- To have Dissertation works as skills developme	nd) inion and thoughts.(BL3-Apply)
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	-	1	-	-	-	-	-	-	-	2	2	2
CO2	1	-	2	-	2	-	-	-	-	-	-	-	1	2	1
CO3	1	2	-	2	1	-	-	-	-	-	-	-	2	2	1
CO4	1	1	-	2	-	-	-	-	1	-	-	-	2	2	1
CO5	-	-	-	-	1	-	-	-	-	1	-	-	2	1	1
CO6	-	-	-	-	-	_	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Computer Integrated Manu	facturing										
Course Code	MEE0813	E0813										
	(BL2-Understand) CO3- To apply the basics of (BL3-Apply) CO4- To analyze the PPC a CO5- To evaluate the maste	 2- To describe the significance of group technology and cellular manufacturing. 2-Understand) 3- To apply the basics of CAD and CAM in the methodology of CAPP and FMS. 										
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X		SDG9(Industry Innovation and Infrastructure)									

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	-	-	-	1	1	-	2	1	3	3	1	1	1
CO2	3	3	1	1	-	1	3	-	1	1	2	1	1	1	1
CO3	3	3	3	2	2	2	1	2	1	-	1	2	2	2	2
CO4	3	3	2	3	2	2	1	-	1	1	2	2	3	3	3
CO5	3	3	3	3	2	2	2	2	2	3	3	3	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Finite Element Method	nite Element Method											
Course Code	MEE0816												
Course Outcomes & Bloom's Level	CO2- Identify the application plane and iso-parametric ele CO3- Able to apply suitable beams, circular shafts, heat tand solve them displacemen CO4- Analyse element chara Analyze)	and characterisments. (BL2-Uncoundary conditeransfer, fluid floots, stress and stacteristic equation	ions to a global equation for bars, trusses, w, axi symmetric and dynamic problems										
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X		SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	2	2
CO2	3	1	2	2	2	1	1	1	1	1	3	2	3	3	3
CO3	1	2	3	2	1	2	2	2	2	1	2	3	3	3	2
CO4	1	3	3	3	2	-	3	2	-	-	2	2	3	2	2
CO5	3	2	3	3	2	3	3	-	-	-	2	-	3	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Production and Operation	roduction and Operation Management											
Course Code	MEE0819	EE0819											
	Remember) CO2- 2. To describe the process of the pr	roduction plann anning of resou ancial aspects ze)	ing and management concepts.(BL1- ing and control.(BL2-Understand) rces and operations.(BL3-Apply) of the material procurement and maintenance ing and master scheduling.(BL5-Evaluate)										
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	1	2	-	2	2	2	2	3	2	2	2	3
CO2	1	1	1	1	2	2	2	2	2	2	3	-	2	2	3
CO3	2	2	2	3	1	1	1	1	1	2	3	-	3	2	3
CO4	3	3	2	3	2	-	-	-	2	2	3	-	3	2	3
CO5	3	3	2	3	2	-	2	-	2	2	3	_	3	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Machine learning for Robo	achine learning for Robotics											
Course Code	MEE0820												
Course Outcomes & Bloom's Level	Remember) CO2- 2. To understand the real-life examples.(BL2-Ur CO3- 3. Apply all learning CO4- 4. Evaluate the algoranalyze) CO5- 5. Analyze the requires	O2- 2. To understand the context of supervised and unsupervised learning through al-life examples.(BL2-Understand) O3- 3. Apply all learning algorithms over appropriate real-time dataset.(BL3-Apply) O4- 4. Evaluate the algorithms based on corresponding metrics identified.(BL4-											
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X												

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	1	-	1	1	1	1	-	1	1	1	1	1	1
CO2	3	3	1	1	2	2	1	3	1	1	1	2	2	2	2
CO3	3	3	3	2	2	2	-	-	1	2	1	2	1	1	2
CO4	3	2	3	2	3	3	-	1	1	2	3	2	2	2	3
CO5	3	3	3	2	-	-	-	3	2	2	2	1	2	2	2
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Vibration and Noise- Measureme	ibration and Noise- Measurement and Control												
Course Code	MEE0809													
	CO1- To remember the basic of m CO2- To Understand the mathem frequency of mechanical system(I CO3- To implement measurement damping(BL3-Apply) CO4- To analyze the theoretical c CO5- To evaluate the applications such as research, structure health	atical model and de BL2-Understand) to fine free, Noise oncept of vibration of mechanical vib	etermine the natural and forced and forced vibration with in shock absorber(BL4-Analyze) ration and noise in various fields											
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment ✓	SDG (Goals)	SDG4(Quality education)											

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	2	2	-	-	3	3	-	-	3	-	2
CO2	3	-	2	1	1	3	-	-	3	3	-	-	3	2	2
CO3	2	-2	2	-	2	2	2	-	2	1	1	2	3	2	2
CO4	2	2	2	2	2	-	-	-	-	1	3	3	-	2	2
CO5	1	2	1	1	2	2	-	-	-	-	2	1	3	-	2
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Non Destructive testing	n Destructive testing											
Course Code	MEE0814	E0814											
Course Outcomes & Bloom's Level	Remember) CO2- Understand the ba Understand) CO3- Apply system of te CO4- Analyze the system	isics fests of desting. (BL3-Ap) n of testing def											
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	1	1	-	-	-	1	2	1	1	1	-1	2	1
CO2	3	1	1	1	2	2	-	-	-	-	2	2	1	1	1
CO3	3	3	2	-	-	2	2	-	-	-	-	2	2	1	4
CO4	3	3	2	-	-	2	-	-	-	1	2	1	2	1	1
CO5	1	2	-	3	3	-	-	-	2	3	-	2	2	3	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Simulation and Modeling	nulation and Modeling											
Course Code	MEE0817												
	Remember) CO2- 2. To understand the CO3- 3. To develop the rCO4- 4. To analyze the r	he computer sy model consideri esults of model	gn of mechanical engineering systems(BL1-stem simulation(BL2-Understand) ing system and environment(BL3-Apply) s.(BL4-Analyze) various software(BL5-Evaluate)										
Course Elements	Skill Development ✓ Entrepreneurship X Employability X Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
CO2	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
CO3	1	1	-	-	1	1	-	-	-	-	1	1	2	2	2
CO4	2	2	1	-	2	2	1	-	1	-	2	1	3	3	3
CO5	3	3	1	1	3	2	1	-	1	-	3	1	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Project Management	oject Management											
Course Code	MEE0818												
Course Outcomes	CO3- 3. To develop the b	project organized plueprint of the inancial aspect	ation and cost estimation.(BL2-Understand)										
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG9(Industry Innovation and Infrastructure)										

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	1	2	-	2	2	2	2	3	2	2	2	3
CO2	1	1	1	1	2	2	2	2	2	2	3	-	2	2	3
CO3	2	2	2	3	1	1	1	1	2	3	3	-	3	2	3
CO4	3	3	2	3	2	-	-	-	2	2	3	-	3	2	3
CO5	3	3	2	3	2	-	2	-	2	2	3	-	3	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-