Marathwada Shikshan Prasarak Mandal's
DEOGIRI INSTITUTE OF ENGINEERING AND MANAGEMENT STUDIES
(An Autonomous Institute)
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad | B.Tech. | M.Tech.
Affiliated to Dr. Babasaheb Ambedkar Marathwada University, CSN | MBA
Approved by AICTE/UGC-Govt. of India & DTE-Govt. of Maharashtra
Deogiri College Campus, Railway Station Road, Chhatrapati Sambhajinagar- 431 005 (M.S.)
DTE CODE : 2114 0240-2367567, 2367577 www.dietms.org director@dietms.org

Department of Mechanical Engineering

MTech MECHANICAL ENGINEERING PROGRAM STRUCTURE (2025-27)

Course Category			I	II	III	IV	Total Credits
Program Courses	Program Core Course (PCC)	-	12	04	04		24
		MOOC		04			
	Program Elective Course (PEC)		06	06			12
Vocational and Skill Enhancement Courses (VSE)	Seminar		01				02
	PG Lab		01				
Humanities, Social Science and Management (HSSM)	Indian Knowledge System (IKS)			02			02
Experiential Learning Courses (EL)	Research Methodology			03			34
	Mini Project			01			
	Project				10	20	
Open Elective Courses (OE)	Open Elective (OE)				03		03
Multi-Disciplinary Minor Courses (MDM)	Multi-Disciplinary Minor (MDM)				03		03
Liberal Learning Courses (LLC)	Co-Curricular Courses (CC)					AU	Audit
Total Credits			**20**	**20**	**20**	**20**	**80**

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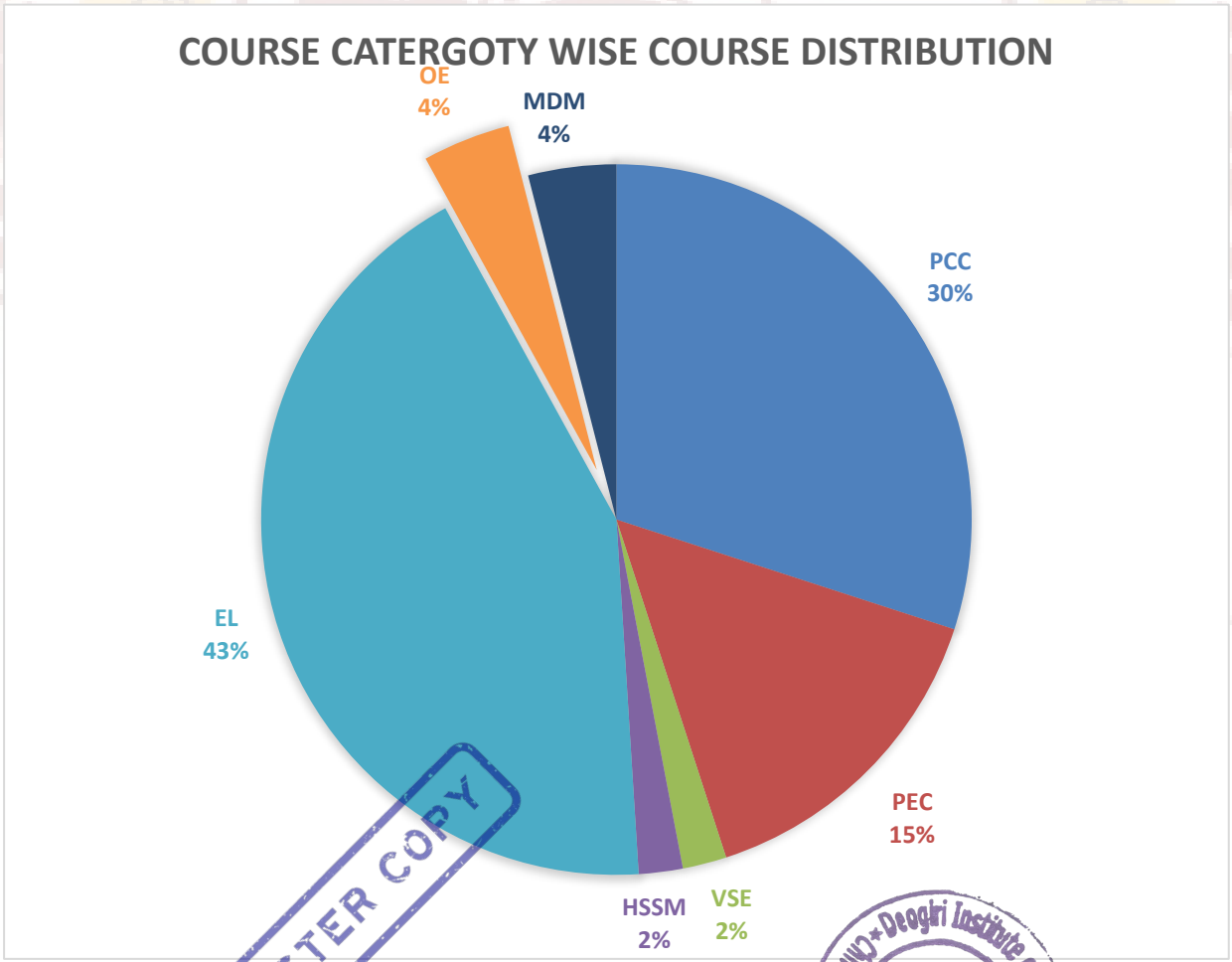
MTech in Mechanical Engineering		
Course Category	**Credits**	**% Credits**
Program Core Courses **(PCC)**	24	30
Program Elective Courses **(PEC)**	12	15
Vocational & Skill Enhancement **(VSE)**	02	2
Humanity, Social Science & Management (AEC, EM, IKS, VEC) **HSSM**	02	2
Experiential Learning **(EL)**	34	43
Open Electives **(OE)**	03	4
Multi-Disciplinary Minor (MDM)	03	4
Total Credits	**80**	



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SEMESTER I												
Category	Course Code	Name of the Course	Teaching Scheme				Evaluation Scheme					Credits
			L	T	PR	Total	CA-I	CA-II	MSE	ESE	Total	
PCC	PM251001	Advanced Thermal Engineering	4			4	10	10	20	60	100	4
PCC	PM251002	Machining and Forming Processes	4			4	10	10	20	60	100	4
PCC	PM251003	Mechanical Design Analysis	4			4	10	10	20	60	100	4
PEC	PM251101-103	Program Elective I	3			3	10	10	20	60	100	3
PEC	PM251104-106	Program Elective II	3			3	10	10	20	60	100	3
SC-SEC	PM251401	Seminar			2	2	15	15		20	50	1
SC-SEC	PM251402	PG Lab			2	2	15	15		20	50	1
Total			**18**		**4**	**22**					**600**	**20**

SEMESTER II												
Category	Course Code	Name of the Course	Teaching Scheme				Evaluation Scheme					Credits
			L	T	PR	Total	CA-I	CA-II	MSE	ESE	Total	
PCC	PM252004	Advanced Fluid Mechanics and Heat Transfer	4			4	10	10	20	60	100	4
PCC	PM252005	MOOC/SWAYAM	4			4	10	10	20	60	100	4
PEC	PM252107-109	Program Elective III	3			3	10	10	20	60	100	3
PEC	PM252110-112	Program Elective IV	3			3	10	10	20	60	100	3
#HSSM-IKS	PG252501	Interdisciplinary Perspective on Indian Science and Technology	2			2	10	10	20	60#	100	2
ELC	PG252601	Research Methodology	3			3	10	10	20	60	100	3
ELC	PM252602	Mini Project			2	2	15	15		20	50	1
Total			**19**		**2**	**21**					**650**	**20**

SEMESTER III												
Category	Course Code	Name of the Course	Teaching Scheme				Evaluation Scheme					Credits
			L	T	PR	Total	CA-I	CA-II	MSE	ESE	Total	
PCC	PM253006	Automation in Manufacturing	4			4	10	10	20	60	100	4
*OE	PM253351	Open Elective	3			3	10	10	20	60	100	3
*MDM	PM253201	Multi-Disciplinary Minor	3			3	10	10	20	60	100	3
ELC	PM253603	Dissertation Part I			10	10	25	25		50	100	10
Total			**10**		**10**	**20**					**400**	**20**

SEMESTER IV												
Category	Course Code	Name of the Course	Teaching Scheme				Evaluation Scheme					Credits
			L	T	PR	Total	CA-I	CA-II	MSE	ESE	Total	
ELC	PM254604	Dissertation Part II			20	20	50	50		100	200	20
CC	PG254701	Communication Skills and Technical Writing	2			2	25	25			AU	AU
Total			**2**		**20**	**22**					**200**	**20**

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Program Elective Courses (PEC)

Semester	Course Category	No. of Credits		Design Engineering	Thermal Engineering	Manufacturing Engineering
SEM I	Program Elective I	3	**Course Code**	PM251101	PM251102	PM251103
			Course	Advanced Machine Design	Advanced I.C. Engines	Additive Manufacturing
	Program Elective II	3	**Course Code**	PM251104	PM251105	PM251106
			Course	Finite Element Analysis	Sustainable Power Generation Systems	Manufacturing Planning and Control
SEM II	Program Elective III	3	**Course Code**	PM252107	PM252108	PM252109
			Course	CAD-CAE	Alternative Fuels for I.C. Engines	Process Control Automation
	Program Elective IV	3	**Course Code**	PM252110	PM252111	PM252112
			Course	Product Design and Development	Computational Fluid Dynamics	Advanced Machine Tool Design

*Courses offered by the Mechanical Engineering department for other department students.

#End semester Evaluation will be done at department level.

Note: OE and MDM Minor courses shall be offered through the SWAYAM/NPTEL online learning platform. The Board of Studies (BoS) shall identify, approve, and recommend the course based on its relevance to the program curriculum, academic quality, and prevailing industry standards.

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Course Title: Automation in Manufacturing **Course Code: PM253006**		**Course Category: PCC**
Teaching Scheme	**Examination Scheme**	
Lectures: 04 hrs / week	CA-1	10 Marks
Tutorial: -	CA-2	10 Marks
Credits: 04	MSE	20 Marks
Semester: Second Year (Semester III)	ESE	60 Marks

Course Prerequisite: Basic Manufacturing Processes, Fundamentals of Electrical and Electronics Engineering, Basics of Sensors and Control Systems, Hydraulic and Pneumatic Systems, and CNC Machining Fundamentals.

Course Description: This course introduces the principles and applications of automation in modern manufacturing systems. It covers the design and operation of automated manufacturing systems using mechanical, electrical, electronic, hydraulic, pneumatic, and computer-based technologies. The course includes study of sensors, actuators, drives, microprocessors, CNC systems, and automated transfer mechanisms used in manufacturing industries. Emphasis is given to the integration of mechatronics and industrial automation for improving productivity, accuracy, flexibility, and quality in manufacturing processes.

Course Objectives:

1. To introduce students to the fundamentals, need, and types of automation used in modern manufacturing industries and to develop understanding of mechatronics-based manufacturing systems.
2. To enable students to understand the design and working principles of automated manufacturing systems, including sensors, actuators, drives, and control elements used in industrial automation.
3. To guide students in analyzing and applying hydraulic, pneumatic, and mechanical systems such as transfer mechanisms, indexing devices, ball screws, and automated material handling systems used in manufacturing automation.
4. To provide knowledge of microprocessors, microcontrollers, CNC technology, and industrial control systems for manufacturing applications.

Course Outcomes:

COs	**After completion of the course Students will be able to:**	**Bloom's Level**
CO1	**Identify** the need, types, elements, and applications of automation and mechatronics systems used in manufacturing industries	Remember (Level 1)
CO2	**Explain** the design principles, fabrication methods, specifications, and working of automated manufacturing systems and their components.	Understand (Level 2)
CO3	**Demonstrate** the working and selection of electrical drives, ball screws, linear motion systems, indexing mechanisms, and transfer systems, sensors, signal conditioning, data acquisition, microprocessors, and microcontrollers in manufacturing automation systems.	Apply (Level 3)
CO4	**Interpret** hydraulic and pneumatic systems, including pumps, valves, compressors, conditioning units, and circuit designs used in industrial automation.	Analyze (Level 4)
CO5	**Assess** CNC systems, interpolators, programming methods, and integrated automation solutions for improving manufacturing productivity and flexibility.	Evaluate (Level 5)

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CO-PO Mapping

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

Assessment	
CA-1 (a)	Subjective Test / Assignment/ MCQ Test etc.
CA-2 (b)	Subjective Test / Assignment/ MCQ Test etc.
MSE (c)	Subjective Test
ESE (d)	End semester exam

Course Contents		
Unit 1	**Introduction to Automation and Mechatronics** Introduction to Automation in Manufacturing Industries: Need; Advantages and Limitations of Automation, Types of Automation: Fixed; Programmable and Flexible Automation, Role and Applications of Mechatronics in Manufacturing Systems, Elements and Requirements of an Automated System, Overview of Automated Manufacturing Systems with Industrial Examples	6 Hours
Unit 2	**Design and Fabrication of Automated Systems** Building blocks of an Automated System, Working Principles and Architecture of Automated Systems, Design Considerations for Automation, Selection and Fabrication of Various Components used in Automation Systems, Specifications and Performance Characteristics of Component: Use of Design Data Books; Catalogues and Industrial Standards.	7 Hours
Unit 3	**Sensors, Signal Conditioning and Microprocessor Technology** Introduction to Sensors and Transducers used in Manufacturing Automation: Construction; Working Principles and Applications of Sensors, Signal Conditioning Techniques, Data Acquisition Systems, Introduction to Microprocessors and Microcontrollers: Configurations; Interfacing and Applications in Industrial Automation Systems.	6 Hours
Unit 4	**Drives and Mechanical Systems in Automation** Electrical Drives used in Automation: Types; Selection Criteria, Construction and Working Principles: Servo Motors; Stepper Motors; Ball screws and Linear Motion Bearings, Cam Mechanisms and Camshaft-Controlled Systems, Electronic Cams, Indexing Mechanisms, Tool Magazines and Transfer Systems.	7 Hours
Unit 5	**Hydraulic and Pneumatic Automation Systems** Hydraulic Systems: Hydraulic Power Packs; Pumps; Valves and Actuators; Design of Hydraulic Circuits for Industrial Applications, Pneumatic Systems: Configurations; Compressor; Valves; Air Distribution and Conditioning Systems, Comparison of Hydraulic and Pneumatic Systems, Applications in Automated Manufacturing.	7 Hours
Unit 6	**CNC Technology and Industrial Automation Applications** Introduction to CNC Technology: Basic Elements of CNC Machines; Interpolators and Motion Control; Fundamentals of CNC Programming, Integration of CNC with Automation Systems, Industrial Applications of Automated Manufacturing Systems, Overview of Modern Trends in Manufacturing Automation.	7 Hours

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Sr. No.	Textbooks
1.	Mikell P. Groover, "Automation, Production Systems and Computer-Integrated Manufacturing", Pearson Education
2.	A.K. Gupta and S.K. Arora, "Industrial Automation and Robotics", Laxmi Publications
3.	Yoram Koren, "Computer Control of Manufacturing Systems", McGraw Hill Education
	Reference Books
1.	Tien-Chien Chang, Richard A. Wysk and Hsu-Pin Wang, "Computer Integrated Manufacturing", Pearson Education
2.	Devdas Shetty and Richard Kolk," Mechatronics System Design", Cengage Learning
3.	Peter G. Martin and Gregory Hale, "Automation Made Easy", ISA Publications
	Web Resources
1.	A course on Manufacturing Automation, NPTEL, Course: Automation in Manufacturing | SWAYAM
2.	MIT Open Course Ware – Manufacturing Systems, Free Online Course Materials
3.	Rockwell Automation Learning Resources, https://www.rockwellautomation.com
4.	Siemens Learning Portal – PLC & Automation, https://www.siemens.com/global/en/company/services/digital-enterprise-services/training-services.html

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Course Title: Open Elective **Course Code: PM253351**		**Course Category: OE**
Teaching Scheme	**Examination Scheme**	
Lectures: 03 hrs/ week	CA-1	10 Marks
Tutorial: -----	CA-2	10 Marks
Credits: 03	MSE	20 Marks
Semester: Second Year (Semester III)	ESE	60 Marks
Course Description: This course shall be offered through the MOOC/SWAYAM/NPTEL online learning platform. The Board of Studies (BoS) shall identify, approve, and recommend the course based on its relevance to the program curriculum, academic quality, and prevailing industry standards.		

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Course Title: Multi-Disciplinary Minor **Course Code: PM253201**		**Course Category: MDM**
Teaching Scheme	**Examination Scheme**	
Lectures: 03 hrs/ week	CA-1	10 Marks
Tutorial: -----	CA-2	10 Marks
Credits: 03	MSE	20 Marks
Semester: Second Year (Semester III)	ESE	60 Marks
Course Description: This course shall be offered through the MOOC/SWAYAM/NPTEL online learning platform. The Board of Studies (BoS) shall identify, approve, and recommend the course based on its relevance to the program curriculum, academic quality, and prevailing industry standards.		

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Course Title: Dissertation Part I **Course Code: PM253603**		**Course Category: EL**
Teaching Scheme	**Examination Scheme (As Applicable)**	
Practicals/Sessions: 10 Hours/Week	CA-I	25 Marks
Credits: 10	CA-II	25 Marks
Semester: Second Year (Semester III)	ESE	50 Marks

Course Prerequisite:

- Advanced understanding of core domain subjects within the specific engineering specialization.
- Competency in scientific literature review, technical documentation, and basic research methodologies.

Course Description:

Dissertation Part I initiates the final M.Tech dissertation, transitioning students into independent, advanced engineering research. Applicable across all engineering disciplines, this course requires students to identify a substantial technical, industrial, or scientific problem. Students will progress through an exhaustive literature survey, formulate a robust methodology, and execute the initial stages of their research—such as pilot experiments, baseline simulations, algorithm development, or software proofs-of-concept. The course emphasizes professional research practices, culminating in the drafting of a formal review article and a scalable project plan to be fully executed in Dissertation Part II.

Course Objectives:

1. To develop the ability to identify and formulate a complex, real-world engineering problem relevant to the student's specialization.
2. To conduct an exhaustive literature survey to establish a clear research gap and synthesize findings into a comprehensive review article.
3. To design a preliminary methodology to validate the feasibility of the proposed solution through pilot experiments, baseline simulations, or architectural proof-of-concepts.
4. To strengthen professional project management skills, emphasizing ethical research practices and structured milestone planning.
5. To enhance high-level technical communication through the defence of a project proposal, documented validation results, and formal report writing.

Course Outcomes:

COs	**After completion of the course:** **Students will be able to**	**Bloom's Level**
CO1	**Summarize** the current state-of-the-art and contextualize the specific engineering research problem using relevant scientific literature.	L2
CO2	**Implement** professional project management principles and ethical standards to construct a structured, actionable research execution plan.	L3
CO3	**Investigate** synthesized literature to pinpoint precise research gaps and systematically structure a comprehensive review article.	L4
CO4	**Validate** the feasibility of the proposed methodology by conducting and assessing initial pilot experiments, baseline numerical simulations, or algorithmic proof-of-concepts.	L5
CO5	**Design** a detailed research methodology and engineer the experimental, computational, or software architecture required for full-scale execution.	L6
CO6	**Compile** a formal technical report and logically defend the research proposal and preliminary validation data before an expert review committee.	L6

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CO-PO Mapping

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

Course Contents
Dissertation Part I is dedicated to rigorous problem formulation, literature synthesis, and the critical initial stages of methodology validation. Students must select a research topic with significant academic or industrial relevance within their branch of engineering. During this phase, students are required to: 1. Finalize their problem statement and complete a thorough literature review. 2. Write and submit at least one review article based on their literature survey, intended for publication in a peer-reviewed journal or presentation at a conference. 3. Advance their research to the initial stages of experimentation, computational modeling, or system development. This includes completing pilot experiments, proof-of-concept software testing, baseline model setups, algorithm optimization checks, or preliminary analytical validation to prove their proposed solution is viable. By the end of Semester-III, each student must submit a formal Dissertation Part I Report (inclusive of the review article draft and preliminary validation data) to the Head of the Department, authenticated by their designated faculty guide.

Assessment	
The Dissertation Part I course is worth a total of 100 marks, distributed as 50 marks for continuous internal assessment and 50 marks for the semester-end examination. Evaluation will be conducted by a committee consisting of the project guide and relevant faculty/industry experts.	
CA-I (a)	Review-I: 25 Marks (Problem Identification (05), Literature Survey (10), & Proposed Methodology & Execution Plan (10))
CA-II (b)	Review-II: 25 Marks (Pilot Experiments / Baseline Validation for Numerical Work (25))
ESE (c)	50 Marks (Final Dissertation Part I Report (15), Review Article Draft (15), & Technical Presentation/Defense (20))
Total	100 Marks

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Course Title: Dissertation Part II **Course Code: PM253603**		**Course Category: ELC**
Teaching Scheme	**Examination Scheme (As Applicable)**	
Practicals/Sessions: 10 Hours/Week	CA-I	50 Marks
Credits: 10	CA-II	50 Marks
Semester: Second Year (Semester III)	ESE	100 Marks

Course Prerequisite: Successful completion of Dissertation Part II

Academic Clearance: To appear for the End Semester Examination (ESE), a student must be "all-clear." No active backlogs from previous semesters are permitted.

Course Description:

Dissertation Part II represents the culmination of the M.Tech dissertation, focusing on the full-scale execution, comprehensive analysis, and dissemination of the independent engineering research initiated in Dissertation Part II. This course requires students to fully implement their validated methodology, whether experimental, computational, analytical, algorithmic, or architectural. The primary focus is on the rigorous extraction of data, statistical or error validation, logical interpretation of results, and the synthesis of these findings into a substantial master's thesis. Furthermore, students must navigate the academic publication process and defend their work before departmental committees to ensure their research meets established industrial and academic standards.

Course Objectives:

1. To guide the complete execution of the proposed research methodology to gather extensive, high-quality data.
2. To ensure rigorous analytical processing and interpretation of the collected experimental, computational, or algorithmic results.
3. To foster the ability to benchmark and validate final findings against existing literature or theoretical models.
4. To develop advanced technical writing skills for the synthesis of a comprehensive master's dissertation.
5. To emphasize the academic publication process by requiring the formulation of complete research manuscripts for journals or conferences.
6. To enhance professional oral defense capabilities through presentations to the departmental committee and external reviewers.

Course Outcomes:

COs	**After completion of the course:** **Students will be able to**	**Bloom's Level**
CO1	**Execute** the comprehensive experimental, analytical, or computational plan while adhering strictly to ethical and safety protocols.	Apply (Level 3)
CO2	**Analyze** the raw research data systematically to extract meaningful trends, correlations, and engineering conclusions.	Analyze (Level 4)
CO3	**Validate** the overall research outcomes by benchmarking the findings against standard theoretical models, contemporary literature, or baseline systems.	Evaluate (Level 5)
CO4	**Compose** a rigorously formatted final master's dissertation detailing the complete research methodology, findings, and conclusions.	Create (Level 6)
CO5	**Defend** the entirety of the research methodology, data analysis, and final conclusions confidently before the expert evaluation panel.	Create (Level 6)
CO6	**Author and publish** a review article and at least one original research paper in a department-approved peer-reviewed journal or high-impact conference.	Create (Level 6)

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CO-PO Mapping

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

Course Contents
Dissertation Part II is entirely dedicated to data generation, final analysis, formal academic documentation, and dissemination. During this final phase, students are required to: • Full-Scale Execution: Complete the entirety of the physical experiments, field studies, numerical simulations, or system/software developments outlined in Dissertation Part II. • Results & Discussion: Perform a rigorous scientific analysis of the acquired data, including necessary error analyses, optimization, and comparative studies. • Publication Mandate: It is compulsory to publish a review article (originating from Dissertation Part II) and at least one original research paper based on Dissertation Part II findings in a department-approved peer-reviewed journal or high-impact conference. Note: If a student fails to publish the review article during Dissertation Part II, the publication of two original research papers based on their dissertation work is compulsory to fulfill this requirement. Dissertation Compilation: Draft the final M.Tech thesis document, adhering to the institutional formatting guidelines, covering all aspects from the introduction and literature review to the methodology, results, and final conclusions.

Assessment	
The Dissertation Part II course is worth a Total of 200 Marks. The evaluation incorporates continuous assessment by the guide, a mandatory departmental screening, and a rigorous final defence. **Pre-ESE Requirement (DPAC Approval):** Before appearing for the End Semester Examination (final defence), students must deliver a comprehensive presentation before the Departmental Postgraduate Academic Committee (DPAC). Approval from the DPAC is mandatory to be eligible for the ESE.	
CA-I (a)	Review-I: 50 Marks (Execution of Full-Scale Methodology (25) & Initial Data Collection/Simulation Runs (25))
CA-II (b)	Review-II: 50 Marks (Comprehensive Data Analysis & Validation (25) & Draft of Dissertation/Manuscripts (25))
ESE (c)	100 Marks (Final Plagiarism-Free Dissertation (30), Proof of Required Publications (30), & Final Oral Defense/Presentation (40))
Total	200 Marks

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Course Title: Communication Skills and Technical Writing **Course Code: PG254701**		**Course Category: CC**
Teaching Scheme	**Examination Scheme**	
Lectures: 02 hrs/week	CA-1	25 Marks
Tutorial: -	CA-2	25 Marks
Credits: Audit	MSE	-
Semester: Second Year (Semester IV)	ESE	-
Course Prerequisite: Basic English Communication		
Course Description: This course equips students with the advanced communication and technical writing skills essential for both academic research and professional industry roles. The curriculum spans fundamental communication principles, professional business correspondence, and strategic job-seeking methods. Emphasizing rigorous scholarly standards, the course provides focused training in drafting research proposals, authoring journal papers, structuring theses, and compiling technical reports. Furthermore, students will develop practical proficiency in delivering formal academic presentations, utilizing visual aids, and participating in professional group discussions, ensuring a seamless transition from the academic environment into high-level engineering workplaces.		
Course Objectives: 1. To introduce foundational business correspondence and interpersonal communication methods, establishing a baseline for effective workplace dynamics and professional collaboration. 2. To explain the principles of academic and technical writing, focusing on the structured composition of research proposals, theses, and industry-standard reports. 3. To impart practical techniques for technical presentations and job-seeking processes, preparing postgraduates for advanced engineering roles and seamless industry integration.		

Course Outcomes:		
COs	**After completion of the course:** **Students will be able to**	**Bloom's Level**
CO1	**Identify** the fundamental principles, standard formats, and structural components of interpersonal communication, business correspondence, employment documentation, academic research papers, and technical presentations.	Remember (Level 1)
CO2	**Discuss** the audience expectations, contextual barriers, and theoretical frameworks necessary for effective general workplace communication, business correspondence, career development, academic research, and technical presentations.	Understand (Level 2)
CO3	**Demonstrate** professional linguistic styles, drafting conventions, and delivery techniques to execute effective general workplace communication, business correspondence, career development, academic research, and technical presentations.	Apply (Level 3)
CO4	**Examine** diverse contextual scenarios, target audiences, and objective requirements to determine the most appropriate strategies for general workplace communication, business correspondence, career development, academic research, and technical presentations.	Analyze (Level 4)

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Mechanical Engg.

CO-PO Mapping

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1									3				
CO2									3				
CO3					1		1		3		1		
CO4					1		1		3		1		

Assessment	
CA-1 (a)	Résumé Writiing/Subjective Test / Assignment/ MCQ Test, etc.
CA-2 (b)	Literature Review/ Subjective Test / Assignment/ MCQ Test, etc.
MSE (c)	-
ESE (d)	-
Practical (e)	-

Course Contents		
Unit 1	**General Communication** Basics of Communication, Process of Communication: Levels of Communication; Flow of Communication, Barriers to Communication: Physical Barriers; Psychological Barriers; Cultural Barriers, Non-Verbal Communication: Kinesics; Proxemics, Listening and Speaking: Active Listening; Effective Speaking	4 Hours
Unit 2	**Business Communication** Formats of Written Correspondence: Formal Letters; Memos; Email, Business Letters: Credit Letters; Collection Letters; Sales Letters, Business Memos: Structure; Layout; Writing Strategies, Electronic Mail: Style; Structure; Email Etiquette	4 Hours
Unit 3	**Job Getting Processes** Employment Communication: Importance; Interview Preparation Techniques, Interview Stages: Face-To-Face Interviews; Online/Telephonic Interviews, Interview Conduct: Answering Strategies; Projecting A Positive Image, Résumé Design: Structure; Types of Résumés, Cover Letters: Structure; Writing Effective Job Application Letters	4 Hours
Unit 4	**Research Communication I (Proposals & Papers)** Research Proposals: Structure of Formal Proposals; Body of The Proposal, Research Papers: Characteristics; Components of A Journal Paper, Drafting The Manuscript: Developing Productive Drafting Habits; Integrating Quotations Into Your Text; Interpreting Complex Or Detailed Evidence, Elements of Effective Writing: Using Concrete And Specific Words; Avoiding Excessive Use of Jargons, Revising And Finalizing: Checking For Blind Spots In Your Argument; Revising Sentences; Proofreading	4 Hours
Unit 5	**Research Communication II (Thesis, Reports, & Citations)** Thesis Structuring: The Core Chapter; Writing A Literature Review, Technical Reports: Informative Reports; Analytical Reports, Drafting Reports: Writing the Draft; Guarding Against Inadvertent Plagiarism, Referencing Methods: Notes-Bibliography Style; Author-Date Style, Visual Evidence: Designing Tables; Designing Figures	4 Hours
Unit 6	**Presentation Skills** Formal Presentations: Planning; Outlining; Structuring, Delivery Techniques: Controlling Nervousness; Using Visual Aids Like Ms PowerPoint, Group Discussions: Promoting Optimal Participation; Handling Conflict, Alternative Forums: Poster Presentations; Conference Proposals, Seminars: Seminar Presentation; Conference Presentation	4 Hours

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Sr. No.	Textbooks
1.	Meenakshi Raman and Sangeeta Sharma, Technical Communication: Principles and Practice, Oxford University Press.
2.	M. Ashraf Rizvi, Effective Technical Communication, McGraw-Hill Education.
3.	Heather Silyn-Roberts, Writing for Science and Engineering: Papers, Presentations and Reports, Elsevier.
	Reference Books
1.	Kate L. Turabian, A Manual for Writers of Research Papers, Theses, and Dissertations, University of Chicago Press.
2.	Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams, The Craft of Research, University of Chicago Press.
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	Web Resources
1.	Purdue Online Writing Lab (OWL) (https://owl.purdue.edu/owl/index.html)

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