GANPAT UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

Programme	**Master of Technology**				Branch/Spec.	Mechanical Engineering (Specialization in Additive Manufacturing)		
Semester	**III**				Version	1.0.0.0		
Effective from Academic Year	**2026-27**				Effective from the batch Admitted in			**July 2026**
Subject code	**3ME3121**		Subject Name		**Seminar**			
Teaching scheme					Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)	Total		CE	SEE	Total
	L	TU	P	TW				
Credit	0	0	2	0	2	Theory	0	0	0
Hours	0	0	4	0	4	Practical	50	50	100
Pre-requisites:								

Course Objectives:

After completion of this course, the student will be able to:

- Develop independent learning capability through in-depth literature review in Additive Manufacturing.
- Identify, analyze, and discuss current research, industrial practices, and technological advancements in Additive Manufacturing.
- Integrate multidisciplinary knowledge related to materials, processes, design, and simulation in AM.

Theory syllabus:

Unit	Content	Hrs.
1	Students shall select a seminar topic related to advanced and emerging areas of Additive Manufacturing in consultation with the guide. The seminar work shall include comprehensive literature review, technical analysis, and presentation. Suggested topic areas include, but are not limited to: ● Advanced metal additive manufacturing processes (SLM, EBM, DED) ● High-performance polymers and composites in AM ● Design for Additive Manufacturing (DfAM) and topology optimization ● Process simulation, FEM, and multi-physics modeling in AM ● Process monitoring, control, and in-situ sensing in AM ● Post-processing, quality assurance, and certification of AM parts ● Biomedical, aerospace, and automotive applications of AM ● Sustainability, life-cycle assessment, and economics of AM ● Standards, qualification, and industrial implementation of AM Each student is required to: ● Prepare a detailed seminar report following standard technical writing format ● Deliver a seminar presentation before internal faculty members and external examiners ● Defend the technical content during question–answer sessions	**56**

Course Outcome:

CO1. Conduct an in-depth literature survey on advanced topics in Additive Manufacturing using journals, standards, and technical reports.

CO2. Analyze and critically evaluate recent research trends, industrial case studies, and emerging technologies in Additive Manufacturing.

CO3. Prepare a structured technical report and deliver an effective seminar presentation demonstrating domain knowledge, clarity of thought, and professional communication skills.

Mapping of CO and PO:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	2	0	0	0	0	0	0	0	1	2	0	2

CO2	3	2	1	1	0	0	0	0	2	0	0	0	3	0	0
CO3	0	0	0	2	0	0	0	1	2	3	0	0	2	1	2