

**M.Tech. Advanced Manufacturing Technology (AMT) 2020 Batch**

**COURSE COMPONENTS AND CURRICULUM**

S.No	Category / Component	Credits
1	Professional Core Courses	25
2	Professional Elective Courses	15
3	Open Courses – Electives from other technical and /or emerging courses	3
4	Mini Project / Industrial Training	2
5	Part & Full Semester Projects	23
6	Audit Courses I & II	(Non-Credit)
	Total	<b>68</b>
7	Online Courses	2*
	<b>Total Credits</b>	<b>68+2*</b>

*\*The students shall earn 2 credits through online courses between 1<sup>st</sup> and 3<sup>rd</sup> semester (both inclusive)*

PROFESSIONAL CORE COURSES						
S. No	Code No.	Course Title	Hours per week			Credits
			L	T	P	
1	20ME3001	Additive Manufacturing Technologies	3	0	0	3
2	20ME3002	Intelligent Robotics systems in Manufacturing	3	0	0	3
3	20ME3004	3D Printing Laboratory	0	0	4	2
4	18ME3007	Analysis and Simulation Lab.	0	0	4	2
5	18MS3107	Research Methodology and Intellectual Property Rights	2	0	0	2
6	20ME3005	Advanced Product Life Cycle Management and Automation	3	0	0	3
7	20ME3006	Computer Integrated Manufacturing and FMS	3	0	0	3
8	18ME3015	Advanced Computer Aided Manufacturing Lab.	0	0	4	2
9	18ME3016	Mechatronics and Robotics Laboratory	0	0	4	2
10	20ME3009	New-Age Materials	3	0	0	3
		Total Credits				25

PROFESSIONAL ELECTIVE COURSES						
S. No	Code No.	Course Title	Hours per Week			Credits
			L	T	P	
1	18ME3018	Finite Element Methods in Engineering	3	0	0	3
2	18ME3042	Total Quality Management	3	0	0	3
3	18ME3012	Design for Manufacturing and Assembly	3	0	0	3
4	18ME3037	Manufacturing System and Simulation	3	0	0	3
5	20ME3003	Internet of Things in Manufacturing	3	0	0	3
6	18ME3040	Computer Applications in Design	3	0	0	3
7	18ME3041	Design of Fluid Power Systems	3	0	0	3
8	20ME3008	Non-Destructive Testing and Inspection	3	0	0	3
9	18ME3011	Advanced Metal Cutting Theory	3	0	0	3
10	20CS3006	Application of Cyber Physical systems	3	0	0	3

11	18ME3036	Quality Concepts in Design	3	0	0	3
12	18MA3001	Advanced Mathematical Methods in Engineering	3	0	0	3
Total Credits						15
<b>OPEN ELECTIVE COURSE</b>						
S. No	Code No.	Course Title	Hours per week			Credits
			L	T	P	
1	18ME3038	Flexible Manufacturing System	3	0	0	3
2	19ME3003	3D Printing Technology	3	0	0	
3	18ME3046	Advanced Tool Design	3	0	0	
4	19ME3002	Robotics and Automation	3	0	0	
Total Credits						3
<b>AUDIT COURSE</b>						
S. No	Code No.	Course Title	Hours per week			Credits
			L	T	P	
1		Audit Course – I	2	0	0	0
2		Audit Course - II	2	0	0	0
Total Credits						0
<b>MINI PROJECT / INDUSTRIAL TRAINING</b>						
S.No	Code No.	Course Title	Hours per week			Credits
			L	T	P	
1	ME3951 /ITP3901	Mini Project / Industrial Training	0	0	4	2
Total Credits						2
<b>PROJECT</b>						
S. No	Code No.	Course Title	Hours per week			Credits
			L	T	P	
1	20ME3998	Dissertation Phase – I	0	0	16	8
2	20ME3999	Dissertation Phase - II	0	0	30	15
Total Credits						23
<b>ONLINE COURSES</b>						
<i>*The students shall earn 2 credits through online courses between 1<sup>st</sup> and 3<sup>rd</sup> semester (both inclusive)</i>						

### SEMESTER-WISE CURRICULUM

Semester- I						
S. No	Course Code	Course Title	Hours per Week			Credits
			L	T	P	
1	20ME3001	Additive Manufacturing Technologies	3	0	0	3
2	20ME3002	Intelligent Robotics systems in Manufacturing	3	0	0	3
3	18ME3018	Finite Element Methods in Engineering	3	0	0	3
	18ME3042	Total Quality Management	3	0	0	

	18ME3012	Design for Manufacturing and Assembly	3	0	0	
4	18ME3037	Manufacturing System and Simulation	3	0	0	3
	20ME3003	Internet of Things in Manufacturing	3	0	0	
	18ME3040	Computer Applications in Design	3	0	0	
5	20ME3004	3D Printing Laboratory	0	0	4	2
6	18ME3007	Analysis and Simulation Lab.	0	0	4	2
7	18MS3107	Research Methodology and Intellectual Property Rights	2	0	0	2
8		Audit Course - I	2	0	0	0
<b>Total Credits</b>						<b>19</b>

### Semester- II

S. No	Course Code	Course Title	Hours per Week			Credits
			L	T	P	
1	20ME3005	Automation in Product Life Cycle Management	3	0	0	3
2	20ME3006	Computer Integrated Manufacturing and FMS	3	0	0	3
3	18ME3041	Design of Fluid Power Systems	3	0	0	3
	20CS3006	Application of Cyber Physical systems	3	0	0	
	18ME3044	Control of CNC Machine tools	3	0	0	
4	18ME3011	Advanced Metal Cutting Theory	3	0	0	3
	20ME3007	Automated Inspection Systems	3	0	0	
	18ME3036	Quality Concepts in Design	3	0	0	
5	18ME3015	Advanced Computer Aided Manufacturing Lab.	0	0	4	2
6	18ME3016	Mechatronics and Robotics Laboratory	0	0	4	2
7	ME3951 /ITP3901	Mini Project / Industrial Training	0	0	4	2
8		Audit Course - II	2	0	0	0
<b>Total Credits</b>						<b>19</b>

### Semester- III

S. No	Course Code	Course Title	Hours per Week			Credits
			L	T	P	
1	20ME3009	New-Age Materials	3	0	0	3
2	20ME3008	Non-Destructive Testing and Inspection	3	0	0	3
	18MA3001	Advanced Mathematical Methods in Engineering	3	0	0	
3		Open Elective Course-1	3	0	0	3
4	20ME3998	Dissertation Phase - I	0	0	16	8
<b>Total Credits</b>						<b>17</b>

### Semester- IV

S. No.	Course Code	Course Title	Hours per Week	Credits
--------	-------------	--------------	----------------	---------

			<b>L</b>	<b>T</b>	<b>P</b>	
1	20ME3999	Dissertation Phase - II	0	0	30	15
<b>Total Credits</b>						<b>15</b>