

**M.Tech**  
**Production Engineering and System Technology**  
**(2021-23)**

**Scheme of Teaching and Examination**  
**&**  
**Syllabus**



**Department of**  
**Industrial & Production Engineering**

**THE NATIONAL INSTITUTE OF ENGINEERING**

**I SEMESTER****M.Tech-PRODUCTION ENGINEERING AND SYSTEM TECHNOLOGY (PEST)****Department of Industrial and Production Engineering****Scheme of Teaching (Autonomous Scheme)**

Sl. No.	Course Code	Course	Contact Hrs. / Week			No. of Credits
			L	T	P	
1	AMP1C01	Applied Mathematics	4	0	0	4
2	MPT1C04	Material Removal Processes	4	2	0	5
3	MPT1C02	Automated Manufacturing Systems	4	2	0	5
4	MPT1C03	Corporate Finance	4	0	0	4
5	MPT1E1XX	Elective – I	3	0	0	3
6	MPT1E2XX	Elective – II	3	0	0	3
7	MPT1CRM	Research Methodology	2	0	0	2
8	MPT1L01	Manufacturing system Laboratory-1	0	0	2	1
<b>Total number of credits</b>						<b>27</b>
<b>Contact hours per week</b>						<b>30</b>
<b>Elective-I</b>						
Sl. No	Course Code	Course	Contact Hrs. / Week			No. of Credits
			L	T	P	
1	MPT1E101	Industrial Design and Ergonomics	3	0	0	3
2	MPT1E102	Robotics for Industrial Automation	3	0	0	3
3	MPT1E103	Design for Manufacturing	3	0	0	3
4	MPT1E105	Dimensional Metrology and Quality Engineering	3	0	0	3
<b>Elective-II</b>						
Sl. No	Course Code	Course	Contact Hrs. / Week			No. of Credits
			L	T	P	
1	MPT1E201	Theory of Metal Forming	3	0	0	3
2	MPT1E202	Tool Design	3	0	0	3
4	MPT1E204	Surface Treatment and Finishing	3	0	0	3
5	MPT1E205	Additive Manufacturing	3	0	0	3

## II Semester

Sl. No	Course Code	Course	Contact Hrs. / Week			No. of Credits
			L	T	P	
1	MPT2C02	Finite Element Analysis	4	2	0	5
2	MPT2C05	Fluid Power Automation	4	2	0	5
3	MPT2C06	Micro Machining	4	0	0	4
4	MPT2C07	Joining of Materials	4	0	0	4
5	MPT2E3XX	Elective – III	3	0	0	3
6	MPT2E4XX	Elective – IV	3	0	0	3
7	MPT2I01	Industry Driven Elective	2	0	0	2
8	MPT2L01	Manufacturing system Laboratory-2	0	0	2	1
<b>Total number of credits</b>						<b>27</b>
<b>Contact hours per week</b>						<b>30</b>
<b>Elective-III</b>						
Sl. No	Course Code	Course	Contact Hrs./Week			No. of Credits
			L	T	P	
1	MPT2E301	JIT and Lean Manufacturing	3	0	0	3
2	MPT2E302	Flexible Manufacturing Systems	3	0	0	3
3	MPT2E303	Product Lifecycle Management	3	0	0	3
4	MPT2E304	Quantitative Techniques in Decision Making	3	0	0	3
<b>Elective-IV</b>						
Sl. No	Course Code	Course	Contact Hrs. / Week			No. of Credits
			L	T	P	
1	MPT2E402	Modelling and Simulation of Manufacturing systems	3	0	0	3
2	MPT2E403	Non Destructive Testing	3	0	0	3
3	MPT2E404	Principles of Reliability Engineering	3	0	0	3
4	MPT2E405	Operations Research	3	0	0	3

### III Semester

Sl.No	Course Code	Course	Contact Hrs. / Week			No. of Credits
			L	T	P	
1	MPT3MXX	MOOC Elective (12 weeks)Management Department	3	0	0	3
2	MPT3OXX	Open Elective – (MOOC) (8 weeks)	2	0	0	2
3	MPT3C02	Industrial Training/ Internship	-	-	-	5
4	MPT3C03	Project work-Phase-I	-	-	-	8
5	MPT3C04	Seminar	-	-	-	1
<b>Total number of credits</b>						<b>19</b>

### IV Semester

Sl.No	Course Code	Course	Contact Hrs./Week			No. of Credits
			L	T	P	
1	MPT4C01	Project work -Phase-II	-	-	-	15
<b>Total number of credits</b>						<b>15</b>