

## Haldia Institute of Technology

(An Autonomous Institution Under Maulana Abul Kalam Azad University of Technology, West Bengal)

**Syllabus for M. Tech in Mechanical Engineering [Specialization in Manufacturing Technology]**

With effect from AY-2026-2027

### Curriculum Structure

#### Semester -I

THEORY							
Sl. No.	Course Code	Subject Name	L	T	P	Total	Credit
1	MMT 101	Operational Management	3	0	0	3	3
2	MMT 102	Advanced Metal Cutting	3	0	0	3	3
3	MMT 103	Elective I	3	0	0	3	3
4	MMT 104	Elective II	3	0	0	3	3
5	MMT 105	Product Design & Life-cycle Management	3	0	0	3	3
6	MMT A1	Audit Course	2	0	0	2	0
<b>Total Theory</b>						<b>16</b>	<b>15</b>
PRACTICAL							
1	MMT 191	Advanced Metal Cutting Lab	0	0	4	4	2
2	MMT 192	CAD/CAM Lab	0	0	4	4	2
<b>Total of Practical</b>						<b>8</b>	<b>4</b>
<b>Total of Semester</b>						<b>24</b>	<b>19</b>

#### Elective I

MMT 103A- Computer Graphics & CAE

MMT 103B- Advanced Manufacturing Systems

MMT 103C- Artificial Intelligence for Manufacturing

#### Elective II

MMT 104A- Hydraulics & Pneumatics

MMT 104B- Ergonomics & Work System Design

MMT 104C- Statistical Process Control

MMT 104D- Industrial and Systems Engineering

#### Semester -II

THEORY							
Sl. No.	Course Code	Subject Name	L	T	P	Total	Credit
1	MMT 201	Reverse Engineering and Rapid Prototyping	3	0	0	3	3
2	MMT 202	Micro Machining & Nano Fabrication	3	0	0	3	3
3	MMT 203	Robotics	3	0	0	3	3
4	MMT 204	Elective III	3	0	0	3	3
5	MMT 205	Elective IV	3	0	0	3	3
6	MMT 206	Research Methodology & IPR	2	0	0	2	2
<b>Total Theory</b>						<b>17</b>	<b>17</b>
PRACTICAL							
1	MMT 291	Robotics & Mechatronics Lab	0	0	4	4	2
2	MMT 281	M. Tech Thesis Part - I (Term Paper)	0	0	4	4	2
3	MMT 282	Term Paper Seminar and Viva-voce	-	-	-	-	1
<b>Total of Practical</b>						<b>8</b>	<b>5</b>
<b>Total of Semester</b>						<b>25</b>	<b>22</b>

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### **Elective III**

MMT 204A-Mechatronics

MMT 204B-Agent Based Systems & Agentic AI

MMT 204C-Industry 4.0 & 5.0

### **Elective IV**

MMT 205A- Reliability and Safety Engineering

MMT 205B- Quality Function Deployment

MMT 205C- Business Process Reengineering

MMT 205D - Product Analysis and Cost Optimisation

### **Audit course (MMT A1)**

1. English for Research Paper Writing
2. Disaster Management
3. Sanskrit for Technical Knowledge
4. Value Education
5. Constitution of India
6. Pedagogy Studies
7. Stress Management by Yoga
8. Personality Development through Life Enlightenment Skills.

### **Semester -III**

<b>Sessional</b>							
1	MMT 381	M. Tech Thesis Part - II (Progress Report)	0	0	24	24	8
2	MMT 382	Progress Report Seminar & Viva-voce	0	0	0	-	3
<b>Total of Semester</b>						<b>24</b>	<b>11</b>

### **Semester -IV**

<b>Sessional</b>							
1	MMT 481	M. Tech Final Thesis	0	0	24	24	12
2	MMT 482	Thesis Seminar and Viva-voce	0	0	0	0	4
<b>Total of Semester</b>						<b>24</b>	<b>16</b>
<b>Total</b>							<b>68</b>



Department of Mechanical Engineering  
Haldia Institute of Technology  
[An Autonomous Institute under MAKAUT]  
BOS Meeting 15/06/2026

Credit Distribution UG Program in Mechanical Engineering		
Semester	Credit	
1	19	41
2	22	
3	26	48.5
4	24.5	
5	22.5	45.5
6	24	
7	11	27
8	13	
Total	162	

Credit Distribution PG Program in Mechanical Engineering		
Semester	Credit	
1	19	41
2	22	
3	11	27
4	16	
Total	68	

• Prof. Dr. T. K. Jana	Principal, Haldia Institute of Technology, Haldia.	<i>T.K. Jana</i> 16.06.2026
• Prof. Dr. S. Mitra	Professor, Department of Production Engineering, JU, Kolkata.	<i>S. Mitra</i> 16.6.26
• Prof. Dr. S. Bhaumik	Professor, Deptt. of Aerospace Engineering & Applied Mechanics, IEST, Shibpur, Howrah.	<i>S. Bhaumik</i> 16/06/2026
• Prof. Dr. S. Ghosh	Professor, Dept. of Mechanical Engineering, IEST, Shibpur, Howrah.	<i>S. Ghosh</i> 16/06/26
• Mr. Susobhan Patra	Vice President, Haldia Energy Ltd.	<i>Susobhan Patra</i> 16/06/26
• Dr. Venkata Naga Vamsi Munagala	Assistant Professor, Mechanical Engineering Department, IIT Kharagpur.	<i>V. Naga Vamsi Munagala</i> 16/06/26
• Dr. Siddharth Tamang	Assistant Professor, Mechanical Engineering Department, IIT Kharagpur.	<i>Siddharth Tamang</i> 16/06/26
• Prof. Dr. G. K. Bose	Professor & Head, ME Department, HIT, Haldia.	<i>G. K. Bose</i> 16.06.26