

**M.E. MANUFACTURING ENGINEERING**

**REGULATION - 2021**

**CHOICE BASED CREDIT SYSTEM**

**I TO IV SEMESTERS CURRICULA AND SYLLABI**

**TOTAL CREDITS TO BE EARNED FOR THE AWARD OF THE DEGREE - 73  
SEMESTER I**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
1.	2101MF101	Probability and Statistics in Manufacturing	FC	3	2	0	5	4
2.	2102MF102	Modern Manufacturing Processes	PCC	3	0	0	3	3
3.		Program Elective – I	PEC	3	0	0	3	3
4.		Program Elective – II	PEC	3	0	0	3	3
5.	2101RMX01	Research Methodology and IPR	RMC	3	0	0	3	3
6.		Audit Course – I	AC	2	0	0	2	0
<b>PRACTICALS</b>								
7.	2102MF103	Computer Aided Manufacturing Laboratory	PCC	0	0	4	4	2
8.	2102MF104	Metal Forming and Metal Testing Laboratory	PCC	0	0	4	4	2
<b>TOTAL</b>				<b>17</b>	<b>2</b>	<b>8</b>	<b>27</b>	<b>20</b>

**SEMESTER II**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
1.	2102MF201	Industrial Automation and Mechatronics	PCC	3	0	0	3	3
2.	2102MF202	Robot Design and Programming	PCC	3	0	0	3	3
3.	2102MF203	Materials Technology	PCC	3	0	0	3	3
4.		Program Elective – III	PEC	3	0	0	3	3
5.		Program Elective – IV	PEC	3	0	0	3	3
6.		Audit Course – II	AC	2	0	0	2	0
<b>PRACTICALS</b>								
7.	2102MF204	Industrial Automation and Mechatronics Laboratory	PCC	0	0	4	4	2
8.	2102MF205	Modeling and Simulation Laboratory	PCC	0	0	4	4	2
9.	2104MF206	Mini Project with Seminar	EEC	0	0	4	4	2
<b>TOTAL</b>				<b>17</b>	<b>0</b>	<b>12</b>	<b>29</b>	<b>21</b>

ATTESTED

  
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**SEMESTER III**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
1.		Program Elective – V	PEC	3	0	0	3	3
2.		Open Elective	OEC	3	0	0	3	3
<b>PRACTICALS</b>								
3.	2104MF301	Project Work – Phase I	EEC	0	0	20	20	10
<b>TOTAL</b>				<b>6</b>	<b>0</b>	<b>20</b>	<b>26</b>	<b>16</b>

**SEMESTER IV**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
<b>PRACTICALS</b>								
1.	2104MF401	Project Work – Phase II	EEC	0	0	32	32	16
<b>TOTAL</b>				<b>0</b>	<b>0</b>	<b>32</b>	<b>32</b>	<b>16</b>

**PROGRAM ELECTIVE COURSES (PEC)**

**SEMESTER I, ELECTIVE – I**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
1.	2103MF001	Theory of Metal Forming	PEC	3	0	0	3	3
2.	2103MF002	Computer Aided Product Design	PEC	3	0	0	3	3
3.	2103MF003	Material Testing and Characterization	PEC	3	0	0	3	3
4.	2103MF004	Manufacturing Process Planning and Cost Estimation	PEC	3	0	0	3	3

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**SEMESTER I, ELECTIVE – II**


SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
1.	2103MF005	Micro System Technology	PEC	3	0	0	3	3
2.	2103MF006	Design of Manufacturing Tools, Jigs and Fixtures	PEC	3	0	0	3	3
3.	2103MF007	Advanced Welding Technology	PEC	3	0	0	3	3
4.	2103MF008	Quality and Reliability Engineering	PEC	3	0	0	3	3

**SEMESTER II, ELECTIVE – III**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
1.	2103MF009	Finite Element Applications in Manufacturing	PEC	3	0	0	3	3
2.	2103MF010	Metal Cutting Theory and Practice	PEC	3	0	0	3	3
3.	2103MF011	Computer Integrated Manufacturing	PEC	3	0	0	3	3
4.	2103MF012	Production and Operations Management	PEC	3	0	0	3	3

**SEMESTER II, ELECTIVE – IV**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
1.	2103MF013	Processing of Polymers and Composites	PEC	3	0	0	3	3
2.	2103MF014	Green Concepts	PEC	3	0	0	3	3
3.	2103MF015	Industrial Design And Ergonomics	PEC	3	0	0	3	3
4.	2103MF016	Industry 4.0 and Internet of Things	PEC	3	0	0	3	3

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**SEMESTER III, ELECTIVE – V**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
1.	2103MF017	Surface Engineering and Coatings	PEC	3	0	0	3	3
2.	2103MF018	Solid Freeform Manufacturing	PEC	3	0	0	3	3
3.	2103MF019	Advanced Casting Technology	PEC	3	0	0	3	3
4.	2103MF020	Advanced Optimization Techniques	PEC	3	0	0	3	3

**OPEN ELECTIVE COURSES [OEC]**

(Out of 6 Courses one Course must be selected)


SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
1.	2103MF021	Business Data Analytics	OEC	3	0	0	3	3
2.	2103MF022	Industrial Safety	OEC	3	0	0	3	3
3.	2103MF023	Operations Research	OEC	3	0	0	3	3
4.	2103MF024	Cost Management of Engineering Projects	OEC	3	0	0	3	3
5.	2103MF025	Composite Materials	OEC	3	0	0	3	3
6.	2103MF026	Waste to Energy	OEC	3	0	0	3	3

**AUDIT COURSES (AC)**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
1.	2101AU001	English for Research Paper Writing	AC	2	0	0		0
2.	2101AU002	Disaster Management	AC	2	0	0		0
3.	2101AU003	Sanskrit for Technical	AC	2	0	0		0
4.	2101AU004	Value Education	AC	2	0	0		0
5.	2101AU005	Constitution of India	AC	2	0	0		0
6.	2101AU006	Pedagogy Studies	AC	2	0	0		0
7.	2101AU007	Stress Management by Yoga	AC	2	0	0		0
8.	2101AU008	Personality Development Through Life Enlightenment Skills	AC	2	0	0		0
9.	2101AU009	Unnat Bharat Abhiyan	AC	2	0	0		0

**SUMMARY**  
**M.E MANUFACTURING ENGINEERING**

	Subject Area	Credits Per Semester				Credits Total
		I	II	III	IV	
1.	FC	4	0	0	0	4
2.	PCC	7	13	00	00	20
3.	PEC	06	06	03	00	15
4.	RMC	03	00	00	00	03
5.	OEC	00	00	03	00	03
6.	EEC	00	02	10	16	28
7	Non Credit/Audit Courses	✓	✓	00	00	00
	<b>Total Credit</b>	<b>20</b>	<b>21</b>	<b>16</b>	<b>16</b>	<b>73</b>

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