



## Semester - 1

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203200101	Research Methodology & IPR	2	2	0	0	20	-	20	60	-	50	-	100
203221101	Computer Graphics and Application in Design	4	3	2	0	20	20	20	60	30	50	25	150
203221102	Finite Element Analysis in Design and Manufacturing	4	3	2	0	20	20	20	60	30	50	25	150
	AUDIT-1 (Complsoy Subjects :1) -	0	2	0	0	-	-	-	-	-	-	-	100
	Elective - 1 (Complsoy Subjects :1) -	4	3	0	1	-	-	-	-	-	-	-	150
	Elective - 2 (Complsoy Subjects :1) -	4	3	0	1	-	-	-	-	-	-	-	150
	<b>Total</b>	<b>18</b>	<b>16</b>	<b>4</b>	<b>2</b>								<b>800</b>

## Semester - 1 AUDIT-1

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203200102	English for Research Paper Writing	0	2	0	0	20	-	20	60	-	50	-	100
203200103	Disaster Management	0	2	0	0	20	-	20	60	-	50	-	100
203200104	Sanskrit for Technical Knowledge	0	2	0	0	20	-	20	60	-	50	-	100
203200105	Value Education	0	2	0	0	20	-	20	60	-	50	-	100



### Semester - 1 Elective - 1

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203217131	Design for Manufacturing and Assembly	4	3	0	1	20	20	20	60	30	50	25	150
203221130	Advanced Metrology and Inspection Techniques	4	3	0	1	20	20	20	60	30	50	25	150
203221131	Robotics and Industrial Automation	4	3	0	1	20	20	20	60	30	50	25	150

### Semester - 1 Elective - 2

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203217135	Analysis and Synthesis of Mechanisms	4	3	0	1	20	20	20	60	30	50	25	150
203221132	Advances in Materials and Manufacturing Technologies	4	3	0	1	20	20	20	60	30	50	25	150
203221133	Advanced Tool Design	4	3	0	1	20	20	20	60	30	50	25	150

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical  
Theory Passing % : 50 Practical Passing % : 50



## Semester - 2 AUDIT-2

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203200151	Constitution of India	0	2	0	0	20	-	20	60	-	50	-	100
203200152	Pedagogy Studies	0	2	0	0	20	-	20	60	-	50	-	100
203200153	Stress Management by Yoga	0	2	0	0	20	-	20	60	-	50	-	100
203200154	Personality Development through Life Enlightenment Skills	0	2	0	0	20	-	20	60	-	50	-	100

## Semester - 2 Elective - 3

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203217180	Tribology in Design	4	3	0	1	20	20	20	60	30	50	25	150
203221180	Computer Aided Process Planning	4	3	0	1	20	20	20	60	30	50	25	150
203221181	Computer Integrated Manufacturing	4	3	0	1	20	20	20	60	30	50	25	150

## Semester - 2 Elective - 4

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203217186	Hydraulics and Pneumatics	4	3	0	1	20	20	20	60	30	50	25	150
203221182	Concurrent Engineering	4	3	0	1	20	20	20	60	30	50	25	150



## Semester - 2

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203221151	Seminar & Mini Project	2	0	4	0	-	20	-	-	30	-	25	50
203221152	Computer Aided Manufacturing	4	3	2	0	20	20	20	60	30	50	25	150
203221153	Rapid Prototyping and Tooling	4	3	2	0	20	20	20	60	30	50	25	150
	AUDIT-2 (Compsory Subjects :1) -	0	2	0	0	-	-	-	-	-	-	-	100
	Elective - 3 (Compsory Subjects :1) -	4	3	0	1	-	-	-	-	-	-	-	150
	Elective - 4 (Compsory Subjects :1) -	4	3	0	1	-	-	-	-	-	-	-	150
	<b>Total</b>	<b>18</b>	<b>14</b>	<b>8</b>	<b>2</b>								<b>750</b>

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical  
Theory Passing % : 50 Practical Passing % : 50



### Semester - 3 Open Elective

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203200201	Business Analytics	3	3	0	0	20	-	20	60	-	50	-	100
203200202	Industrial Safety	3	3	0	0	20	-	20	60	-	50	-	100
203200203	Operation Research	3	3	0	0	20	-	20	60	-	50	-	100
203200204	Cost Management of Engineering Projects	3	3	0	0	20	-	20	60	-	50	-	100
203200205	Composite Materials	3	3	0	0	20	-	20	60	-	50	-	100
203200206	Waste to Energy	3	3	0	0	20	-	20	60	-	50	-	100

### Semester - 3 Elective-5

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203217233	Product Design and Development	3	3	0	0	20	-	20	60	-	50	-	100
203221230	Engineering Optimization	3	3	0	0	20	-	20	60	-	50	-	100
203221231	Artificial Intelligence and Expert Systems in Manufacturing	3	3	0	0	20	-	20	60	-	50	-	100



## Semester - 3

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203221201	Phase - I Dissertation	10	0	20	0	-	100	-	-	100	-	100	200
	Elective-5 (Compsory Subjects :1) -	3	3	0	0	-	-	-	-	-	-	-	100
	Open Elective (Compsory Subjects :1) -	3	3	0	0	-	-	-	-	-	-	-	100
	<b>Total</b>	<b>16</b>	<b>6</b>	<b>20</b>	<b>0</b>								<b>400</b>

**Lect** - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical  
**Theory Passing % : 50 Practical Passing % : 50**



# PARUL UNIVERSITY

WAGHODIA, VADODARA

Subject Teaching & Examination Scheme

Course : MTech | Curriculum : ENGG & TECH - MTECH - ME - CAD-CAM - 2021-22

## Semester - 4

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203221251	Phase - II Dissertation	16	0	32	0	-	100	-	-	100	-	100	200
	<b>Total</b>	<b>16</b>	<b>0</b>	<b>32</b>	<b>0</b>								<b>200</b>

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical  
Theory Passing % : 50 Practical Passing % : 50