



## Semester - 1

Code	Subject	Credit	Lect	Lab	Tut	Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
						T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203200101	Research Methodology & IPR	2	2	0	0	20	-	20	60	-	50	-	100
203220101	Advanced Separation Processes	4	4	0	0	20	0	20	60	-	50	-	100
203220102	Advanced Transport Phenomena	5	3	0	2	20	0	20	60	0	50	0	100
	AUDIT-1 (Complsoy Subjects :1) -	0	2	0	0	-	-	-	-	-	-	-	100
	Elective - 1 (Complsoy Subjects :1) -	4	3	0	1	-	-	-	-	-	-	-	100
	Elective - 2 (Complsoy Subjects :1) -	3	3	0	0	-	-	-	-	-	-	-	100
	<b>Total</b>	<b>18</b>	<b>17</b>	<b>0</b>	<b>3</b>								<b>600</b>

## Semester - 1 AUDIT-1

Code	Subject	Credit	Lect	Lab	Tut	Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
						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.	
203220130	Fluidization Engineering	4	3	0	1	20	0	20	60	-	50	-	100
203220131	Process Design & Synthesis	4	3	0	1	20	0	20	60	-	50	-	100
203220132	Chemical Reactor Analysis	4	3	0	1	20	0	20	60	-	50	-	100

### 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.	
203220133	Industrial Pollution Control	3	3	0	0	20	0	20	60	-	50	-	100
203220134	Nanotechnology	3	3	0	0	20	0	20	60	-	50	-	100
203220135	Chemoinformatic	3	3	0	0	20	0	20	60	-	50	-	100

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	-	40	60	-	-	-	50	100
203200152	Pedagogy Studies	0	-	-	2	-	40	60	-	-	-	50	100
203200153	Stress Management by Yoga	0	-	-	2	-	40	60	-	-	-	50	100
203200154	Personality Development through Life Enlightenment Skills	0	-	-	2	-	40	60	-	-	-	50	100

## 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.	
203220151	Seminar & Mini Project	2	0	4	0	-	50	-	-	50	-	50	100
203220152	Process Modeling & Simulation	5	4	2	0	20	20	20	60	30	50	25	150
203220153	Advanced Reaction Engineering	5	4	2	0	20	20	20	60	30	50	25	150
	AUDIT-2 (Compulsory Subjects :1) -	0	-	-	2	-	-	-	-	-	-	-	100
	Elective - 3 (Compulsory Subjects :1) -	3	3	0	0	-	-	-	-	-	-	-	100
	Elective - 4 (Compulsory Subjects :1) -	3	3	0	0	-	-	-	-	-	-	-	100
	<b>Total</b>	<b>18</b>	<b>14</b>	<b>8</b>	<b>2</b>								<b>700</b>



### 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.	
203220180	Modern Concepts in Catalysis and Surface Phenomenon	3	3	0	0	20	0	20	60	-	50	-	100
203220181	Advanced Downstream Processes	3	3	0	0	20	0	20	60	-	50	-	100
203220182	Bioprocess Engineering	3	3	0	0	20	0	20	60	-	50	-	100

### 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.	
203220183	Process Intensification	3	3	0	0	20	0	20	60	-	50	-	100
203220184	Process Integration	3	3	0	0	20	0	20	60	-	50	-	100
203220185	Process Plant Design	3	3	0	0	20	0	20	60	-	50	-	100

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

						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.	
203220201	Dissertation Phase-I	10	0	20	0	-	100	-	-	100	-	100	200
	Elective-5 (Compulsory Subjects :1) -	3	3	0	0	-	-	-	-	-	-	-	100
	Open Elective (Compulsory 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>



## Semester - 3 Elective-5

Code	Subject	Credit	Lect	Lab	Tut	Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
						T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
203220230	Computer Aided Design	3	3	0	0	20	-	20	60	-	50	-	100
203220231	Cleaner Production	3	3	0	0	20	-	20	60	-	50	-	100

**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-M.TECH-CH-2018-19

## 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.	
203220251	Dissertation Phase-II	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