

## Curriculum structure semester wise Chemical Engineering

### SEMESTER-I

S.N	Course no.	Subject	Period			Evaluation scheme					Credit	Hours
			L	T	P	TA	CT	TOT	ESE	Sub Total		
<b>Theory</b>			L	T	P	TA	CT	TOT	ESE	Sub Total		
1	HU 1101	Professional communication in English	3	1	0	20	10	30	70	100	3	3
2	CH 1101	Engineering Chemistry	3	1	0	20	10	30	70	100	3	3
3	PH 1101	Engineering Physics-I	3	1	0	20	10	30	70	100	3	3
4	MA 1101	Mathematics-I	3	1	0	20	10	30	70	100	4	4
5	ME 1101	Engineering Mechanics	3	1	0	20	10	30	70	100	4	4
6	EE 1101	Basic Electrical Engineering	3	1	0	20	10	30	70	100	4	4
<b>Total</b>										600	24	24
<b>Sessionals</b>												
1	CH 1201 PH 1201	Chemistry / Physics	0	0	3	30	-	30	20	50	2 (1+1)	3
2	ME 1201 EE 1201	Engineering Mechanics / Electrical Engineering	0	0	3	30	-	30	20	50	2 (1+1)	3
3	ME 1202	Engineering Graphics-I	0	0	3	30	-	30	20	50	2	3
4	ME 1203	Work Shop Practice-I	0	0	3	30	-	30	20	50	2	3
5	CL 1301	General Proficiency	-	-	-	-	-	-	-	50	1	-
<b>Total</b>										250	9	12

TA-Teachers assessment, CT- Class test, ESE- End semester examination.

Total Credits 21+9=30

Total Marks 600+250=850

Total Hours 21+12=33

(Rest 9 hours is to be utilized for co-curricular development)

## SEMESTER-II

S.N	Course no.	Subject	Period			Evaluation scheme					Credit	Hours
			L	T	P	TA	CT	TOT	ESE	Sub Total		
<b>Theory</b>			L	T	P	TA	CT	TOT	ESE	Sub Total		
1	IT 2101	Programming language (C++)	3	1	0	20	10	30	70	100	3	3
2	CH 2103	Engineering Chemistry-II	3	1	0	20	10	30	70	100	3	3
3	PH 2102	Engineering Physics-II	3	1	0	20	10	30	70	100	3	3
4	MA 2102	Mathematics-II	3	1	0	20	10	30	70	100	4	4
5	ME 2102	Engineering Thermodynamics	3	1	0	20	10	30	70	100	4	4
6	EC 2101	Basic Electronics	3	1	0	20	10	30	70	100	4	4
<b>Total</b>										600	24	24
<b>Sessionals</b>												
1	EC 2201	Basic Electronics	0	0	3	30	-	30	20	50	2	3
2	IT 2201	Computer Programming	0	0	3	30	-	30	20	50	2	3
3	ME 2204	Engineering Graphics-II	0	0	3	30	-	30	20	50	2	3
4	ME 2205	Work Shop Practice-II	0	0	3	30	-	30	20	50	2	3
5	CL 2302	General Proficiency	-	-	-	-	-	-	-	50	1	-
<b>Total</b>										250	9	12

TA-Teachers assessment, CT- Class test, ESE- End semester examination.

Total Credits 21+9=30

Total Marks 600+250=850

Total Hours 21+12=33

(Rest 9 hours is to be utilized for co-curricular development)

**SEMESTER-III**

S.N	Course no.	Subject	Period			Evaluation scheme					Credit	Hours
			L	T	P	TA	CT	TOT	ESE	Sub Total		
<b>Theory</b>												
1	MA 3103	Numerical analysis & Programming	3	1	0	20	10	30	70	100	3	3
2	ML 3101	Material Science (A)	3	1	0	20	10	30	70	100	3	3
3	MA 3104	Mathematics-III	3	1	0	20	10	30	70	100	4	4
4	CL 3101	Chem. Engg. Thermodynamics-I	3	1	0	20	10	30	70	100	3	3
5	CL 3102	Fluid Mechanics for Chem. Engg.	3	1	0	20	10	30	70	100	4	4
6	CL 3103	Heat Transfer-I	3	1	0	20	10	30	70	100	4	4
Total										600	24	24
<b>Sessionals</b>												
1	MA 3201	Numerical Analysis & Programming	0	0	3	30	-	30	20	50	2	3
2	CL 3201	Chem. Engg. Thermodynamics Lab	0	0	3	30	-	30	20	50	2	3
3	CL 3202	Fluid Mechanics Lab	0	0	3	30	-	30	20	50	2	3
4	CL 3203	Heat transfer Operation Lab	0	0	3	30	-	30	20	50	2	3
5	CL 3303	General Proficiency	-	-	-	-	-	-	-	50	1	-
Total										250	9	12

TA-Teachers assessment, CT- Class test, ESE- End semester examination.

Total Credits 21+9=30

Total Marks 600+250=850

Total Hours 21+12=33

(Rest 9 hours is to be utilized for co-curricular development)

SEMESTER-IV

S.N	Course no.	Subject	Period			Evaluation scheme					Credit	Hours
			L	T	P	TA	CT	TOT	ESE	Sub Total		
<b>Theory</b>												
1	MA 4105	Mathematics-IV	3	1	0	20	10	30	70	100	3	3
2	MA 4106	Probability & Statistics	3	1	0	20	10	30	70	100	3	3
3	CL 4104	Industrial Chemical Calculation	3	1	0	20	10	30	70	100	3	3
4	CL 4105	Fluidization Engineering	3	1	0	20	10	30	70	100	4	4
5	CL 4106	Process Engineering-I	3	1	0	20	10	30	70	100	4	4
6	CL 4107	Chemical Engg. Thermodynamics-II	3	1	0	20	10	30	70	100	4	4
<b>Total</b>										600	24	24
<b>Sessionals</b>												
1	CL 4205	Fluidization Engineering	0	0	3	30	-	30	20	50	2	3
2	CL 4206	Process Engineering-I	0	0	3	30	-	30	20	50	2	3
3	CL 4204	Chemical Engineering Drawing	0	0	3	30	-	30	20	50	2	3
4	CL 4207	Chemical Engg. Thermodynamics-II	0	0	3	30	-	30	20	50	2	3
5	CL 4304	General Proficiency	-	-	-	-	-	-	-	50	1	-
<b>Total</b>										250	9	12

TA-Teachers assessment, CT- Class test, ESE- End semester examination.

Total Credits 21+9=30

Total Marks 600+250=850

Total Hours 21+12=33

(Rest 9 hours is to be utilized for co-curricular development)

SEMESTER-V

S.N	Course no.	Subject	Period			Evaluation scheme					Credit	Hours
			L	T	P	TA	CT	TOT	ESE	Sub Total		
<b>Theory</b>												
1	CL 5108	Heat Transfer -II	3	1	0	20	10	30	70	100	4	4
2	CL 5109	Mass Transfer Operation-I	3	1	0	20	10	30	70	100	4	4
3	CL 5110	Physical & Chemical Equilibria	3	1	0	20	10	30	70	100	4	4
4	CL 5111	Fluid & Particle Operations	3	1	0	20	10	30	70	100	4	4
5	CL 5112	Energy Option	3	1	0	20	10	30	70	100	4	4
Total										500	20	20
<b>Sessionals</b>												
1	CL 5208	Heat Transfer Lab-II	0	0	3	30	-	30	20	50	2	3
2	CL 5209	Mass Transfer Operation-I	0	0	3	30	-	30	20	50	2	3
3	CL 5210	Fluid & Particle Operation Lab	0	0	3	30	-	30	20	50	2	3
4	CL 5211	Energy Option	0	0	3	30	-	30	20	50	2	3
5	CL 5305	General Proficiency	-	-	-	-	-	-	-	50	2	-
Total										250	10	12

TA-Teachers assessment, CT- Class test, ESE- End semester examination.

Total Credits 20+10=30

Total Marks 500+250=750

Total Hours 20+12=32

(Rest 10 hours is to be utilized for co-curricular development)

SEMESTER-VI

S.N	Course no.	Subject	Period			Evaluation scheme					Credit	Hours
			L	T	P	TA	CT	TOT	ESE	Sub Total		
<b>Theory</b>												
1		ELECTIVE – I	3	1	0	20	10	30	70	100	4	4
	CL 6113	Fertilizer Technology										
	CL 6114	Environmental Engineering										
2	CL 6115	Material of Construction	3	1	0	20	10	30	70	100	4	4
3	CL 6116	Mass Transfer Operation-II	3	1	0	20	10	30	70	100	4	4
4	CL 6117	Process Equipment Design	3	1	0	20	10	30	70	100	4	4
5	CL 6118	Process Engineering-II	3	1	0	20	10	30	70	100	4	4
Total										500	20	20
<b>Sessionals</b>												
1	CL 6212/ CL 6213	Fertilizer Technology /Environmental Engineering Lab	0	0	3	30	-	30	20	50	2	3
2	CL 6214	Mass Transfer Operation Lab -II	0	0	3	30	-	30	20	50	2	3
3	CL 6215	Process Equipment Design	0	0	3	30	-	30	20	50	2	3
4	CL 6216	Process Engineering-II	0	0	3	30	-	30	20	50	2	3
5	CL 6306	General Proficiency	-	-	-	-	-	-	-	50	2	-
Total										250	10	12

TA-Teachers assessment, CT- Class test, ESE- End semester examination.

Total Credits 20+10=30

Total Marks 500+250=750

Total Hours 20+12=32

(Rest 10 hours is to be utilized for co-curricular development)

SEMESTER-VII

S.N	Course no.	Subject	Period			Evaluation scheme					Credit	Hours
			L	T	P	TA	CT	TOT	ESE	Sub Total		
<b>Theory</b>												
1		Elective-II	3	1	0	20	10	30	70	100	4	4
	CL 7119	Energy Conservation Methodology										
	CL 7120	Chemical Plant Operation & Safety										
2		Elective-III	3	1	0	20	10	30	70	100	4	4
	CL 7121	Polymer Science & Engg.										
	CL 7122	Environmental Engg. & Waste Management										
3	CL 7123	Chemical Plant Management	3	1	0	20	10	30	70	100	4	4
4	CL 7124	Computer Aided Design in Chemical Engg.	3	1	0	20	10	30	70	100	4	4
5	CL 7125	Process Control & Instrumentation	3	1	0	20	10	30	70	100	4	4
Total										500	20	20
<b>Sessionals</b>												
1	CL 7217	Computer Aided Design	0	0	3	30	-	30	20	50	2	3
2	CL 7218	Process Control & Instrumentation	0	0	3	30	-	30	20	50	2	3
3	CL 7219	Tour, Training & Colloquium	0	0	3	30	-	30	20	50	2	3
4	CL 7220	Project part-I	0	0	3	30	-	30	20	50	2	3
5	CL 7307	General Proficiency	-	-	-	-	-	-	-	50	2	-
Total										250	10	12

TA-Teachers assessment, CT- Class test, ESE- End semester examination.

Total Credits 20+10=30

Total Marks 500+250=750

Total Hours 20+12=32

(Rest 10 hours is to be utilized for co-curricular development)

SEMESTER-VIII

S.N	Course no.	Subject	Period			Evaluation scheme					Credit	Hours
			L	T	P	TA	CT	TOT	ESE	Sub Total		
<b>Theory</b>												
1		Elective-IV	3	1	0	20	10	30	70	100	4	4
	CL 8126	Bio chemical Engg. Fundamentals										
	CL 8127	Petroleum Refinery Engg.										
2		Elective-V	3	1	0	20	10	30	70	100	4	4
	CL 8128	Petrochemical Technology										
	CL 8129	Chemical Reactor Analysis										
3		Elective-VI	3	1	0	20	10	30	70	100	4	4
	CL 8130	Process Dynamics & Control										
	CL 8131	Mineral Benefication										
4	CL 8132	Chemical Reaction Engineering	3	1	0	20	10	30	70	100	4	4
5	CL 8133	Transport Phenomena	3	1	0	20	10	30	70	100	4	4
Total										500	20	20
<b>Sessionals</b>												
1	CL 8221	Project part-II	0	0	12	-	-	120	80	200	8	12
2	CL 8308	General Proficiency	-	-	-	-	-	-	-	50	2	-
Total										250	10	12

TA-Teachers assessment, CT- Class test, ESE- End semester examination.

Total Credits 20+10=30

Total Marks 500+250=750

Total Hours 20+12=32

(Rest 10 hours is to be utilized for co-curricular development)