

Curriculum structure semester wise

METALLURGICAL ENGINEERING

SEMESTER-I

S.N	Course no.	Subject	Period			Evaluation scheme					Credit	Hours
			L	T	P	TA	CT	TOT	ESE	Sub Total		
Theory			L	T	P	TA	CT	TOT	ESE	Sub Total		
1	HU 1101	Professional communication in English	3	1	0	20	10	30	70	100	4	4
2	CH 1101	Engineering Chemistry-I	3	1	0	20	10	30	70	100	4	4
3	PH 1101	Engineering Physics-I	3	1	0	20	10	30	70	100	4	4
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
Total										600	24	24
Sessionals												
1	CH 1201 PH 1201	Chemistry Lab / Physics Lab	0	0	3	30	-	30	20	50	2 (1+1)	3
2	ME 1201 EE 1201	Engineering Mechanics Lab/ Electrical Engineering Lab	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	ML 1301	General Proficiency	-	-	-	-	-	-	-	50	1	-
Total										250	9	12

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

Total Credits 24+9=33 Total Marks 600+250=850

Total Hours 24+12=36

(Rest 6 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		
Theory												
1	IT 2101	Programming language (C++)	3	1	0	20	10	30	70	100	4	4
2	CH 2102	Environment and ecology	3	1	0	20	10	30	70	100	4	4
3	PH 2102	Engineering Physics-II	3	1	0	20	10	30	70	100	4	4
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
Total										600	24	24
Sessionals												
1	EC 2201	Basic Electronics Lab	0	0	3	30	-	30	20	50	2	3
2	IT 2201	Computer Programming Lab	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	ML 2302	General Proficiency	-	-	-	-	-	-	-	50	1	-
Total										250	9	12

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

Total Credits 24+9=33

Total Marks 600+250=850

Total Hours 24+12=36

(Rest 6 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		
Theory												
1	MA 3103	Numerical analysis & Programming	3	1	0	20	10	30	70	100	4	4
2	ML 3101	Material Science (A)	3	1	0	20	10	30	70	100	4	4
3	MA 3104	Mathematics-III	3	1	0	20	10	30	70	100	4	4
4	ME 3103	Mechanics of Solids (MD)	3	1	0	20	10	30	70	100	4	4
5	GE 3102	Geo Science	3	1	0	20	10	30	70	100	4	4
6	ML 3102	Metallurgical Analysis	3	1	0	20	10	30	70	100	4	4
Total										600	24	24
Sessionals												
1	MA 3201	Numerical Analysis & Programming Lab	0	0	3	30	-	30	20	50	2	3
2	ME 3208	Mechanics of Solids-I Lab	0	0	3	30	-	30	20	50	2	3
3	GE 3202	Geology Lab	0	0	3	30	-	30	20	50	2	3
4	ML 3201	Met. Analysis	0	0	3	30	-	30	20	50	2	3
5	ML 3303	General Proficiency	-	-	-	-	-	-	-	50	1	-
Total										250	9	12

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

Total Credits 24+9=33 Total Marks 600+250=850

Total Hours 24+12=36

(Rest 6 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		
Theory												
1	MA 4105	Mathematics-IV	3	1	0	20	10	30	70	100	4	4
2	MA 4106	Probability & Statistics	3	1	0	20	10	30	70	100	4	4
3	ML 4103	Mineral Engineering	3	1	0	20	10	30	70	100	4	4
4	ML 4104	Refractories and its application	3	1	0	20	10	30	70	100	4	4
5	ML 4105	Introduction to Metallurgy	3	1	0	20	10	30	70	100	4	4
6	ML 4106	Metallurgical Thermodynamics & Kinetics	3	1	0	20	10	30	70	100	4	4
Total										600	24	24
Sessionals												
1	ML 4202	Ext. Met. Lab	0	0	3	30	-	30	20	50	2	3
2	ML 4203	Mineral Engineering Lab	0	0	3	30	-	30	20	50	2	3
3	ML 4204	Met. Thermodynamics & Kinetic Lab	0	0	3	30	-	30	20	50	2	3
4	ML 4205	Refractory Lab	0	0	3	30	-	30	20	50	2	3
5	ML 4304	General Proficiency	-	-	-	-	-	-	-	50	1	-
Total										250	9	12

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

Total Credits 24+9=33

Total Marks 600+250=850

Total Hours 24+12=36

(Rest 6 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		
Theory			L	T	P	TA	CT	TOT	ESE	Sub Total		
1	ML 5107	Principles of Physical Metallurgy	3	1	0	20	10	30	70	100	4	4
2	ML 5108	Iron Making-I	3	1	0	20	10	30	70	100	4	4
3	ML 5109	Phase Transformation	3	1	0	20	10	30	70	100	4	4
4	ML 5110	Testing of Materials	3	1	0	20	10	30	70	100	4	4
5	ME 5111	Mechanical Engineering	3	1	0	20	10	30	70	100	4	4
Total										500	20	20
Sessionals												
1	ML 5206	Metallography Lab	0	0	3	30	-	30	20	50	2	3
2	ML 5207	Ext. Met Lab	0	0	3	30	-	30	20	50	2	3
3	ML 5208	Material Testing Lab	0	0	3	30	-	30	20	50	2	3
4	ME 5217	Mechanical Engineering	0	0	3	30	-	30	20	50	2	3
5	ML 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		
Theory												
1	ML 6111	Principles of Ext. Metallurgy	3	1	0	20	10	30	70	100	4	4
2	ML 6112	Steel Making-I	3	1	0	20	10	30	70	100	4	4
3	ML 6113	Nonferrous extractive Metallurgy	3	1	0	20	10	30	70	100	4	4
4	ML 6114	Degradation of Materials	3	1	0	20	10	30	70	100	4	4
5	ML 6115	Fuels and Furnaces	3	1	0	20	10	30	70	100	4	4
Total										500	20	20
Sessionals												
1	ML 6209	Fuels combustion calculation	0	0	3	30	-	30	20	50	2	3
2	ML 6210	Corrosion Testing Lab	0	0	3	30	-	30	20	50	2	3
3	ML 6211	Fuel Lab	0	0	3	30	-	30	20	50	2	3
4	ML 6212	Heat Treatment Lab	0	0	3	30	-	30	20	50	2	3
5	ML 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		
Theory												
1,2		ELECTIVE I &II	3	1	0	20	10	30	70	100	4	4
	ML 7119	Alternative Method of Iron & Steel	3	1	0	20	10	30	70	100	4	4
	ML 7120	Physical chemistry of Iron & Steel Making										
	ML 7121	Nuclear Metallurgy										
	ML 7122	Metal Forming Technology										
3	ML 7116	Physics of Metals	3	1	0	20	10	30	70	100	4	4
4	ML 7117	Foundry Technology	3	1	0	20	10	30	70	100	4	4
5	ML 7118	Heat Treatment of Metals & Alloys	3	1	0	20	10	30	70	100	4	4
Total										500	20	20
Sessionals												
1	ML 7213	Physics of Metals Lab	0	0	3	30	-	30	20	50	2	3
2	ML 7214	Foundry Lab	0	0	3	30	-	30	20	50	2	3
3	ML 7215	Tour, Training & Colloquium	0	0	3	30	-	30	20	50	2	3
4	ML 7216	Project part-I	0	0	3	30	-	30	20	50	2	3
5	ML 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		
Theory			L	T	P	TA	CT	TOT	ESE	Sub Total		
1,2,3		Elective-III, IV & V	3	1	0	20	10	30	70	100	4	4
	ML 8124	Powder Metallurgy										
	ML 8125	Metal Joining Technology										
	ML 8126	Composite Materials										
	ML 8127	Electrochemical Technology in Material processing										
	ML 8128	Engg. Applications of Metallurgical Materials	3	1	0	20	10	30	70	100	4	4
	ML 8129	NDT of Metals & Alloys	3	1	0	20	10	30	70	100	4	4
4	ML 8123	Steel Making-II	3	1	0	20	10	30	70	100	4	4
5	ME 5115	Engg. Economics & Management	3	1	0	20	10	30	70	100	4	4
Total										500	20	20
Sessionals												
1	ML 8217	Project part-II	0	0	12	-	-	120	80	200	8	12
2	ML 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)