

METALLURGICAL ENGINEERING

Programme Structure (180S)

Level I- Foundation Level Courses (All Compulsory)

COURSE CODE	COURSE TITLE	PRE - REQUISITE	COMPULSORY / OPTIONAL	TEACHING SCHEME				EXAMINATION SCHEME					Class Declaration	
				L	P	T	C	PA	TH	TW	OR	PR		Total Marks
HU181	English	--	Compulsory	2	2	--	4	20	80	--	25	--	125	No
HU182	Communication Skills	--	Compulsory	2	2	--	4	20	80	--	25	--	125	No
SC181	Applied Maths I	--	Compulsory	3	--	1	4	20	80	--	--	--	100	No
SC182	Applied Maths II	--	Compulsory	3	--	1	4	20	80	--	--	--	100	No
SC183	Engineering Physics	--	Compulsory	3	2	--	5	20	80	--	--	50	150	No
SC184	Engineering Chemistry	--	Compulsory	3	2	--	5	20	80	--	--	50	150	No
6	TOTAL			16	8	2	26	120	480	0	50	100	750	

Level II A- Core Technology Courses (All Compulsory)

COURSE CODE	COURSE TITLE	PRE - REQUISITE	COMPULSORY / OPTIONAL	TEACHING SCHEME				EXAMINATION SCHEME					Class Declaration	
				L	P	T	C	PA	TH	TW	OR	PR		Total Marks
AM281	Engineering Mechanics	--	Compulsory	4	2	--	6	20	80	25	--	--	125	No
CM286	Computer Fundamentals	--	Compulsory	1	2	--	3	--	--	25	--	50	75	No
ME281	Engineering Graphics	--	Compulsory	2	4	--	6	20	80	25	--	--	125	No
SC283	Advanced Physics	--	Compulsory	3	2	--	5	20	80	25	--	--	125	No
WS281	Workshop Practice	--	Compulsory	--	4	--	4	--	--	50	--	--	50	No
EE282	Electrical Technology	--	Compulsory	3	2	--	5	20	80	25	--	--	125	No
ET285	Elements of Electronics Engineering	--	Compulsory	3	2	--	5	20	80	25	--	--	125	No

ME286	Elements of Mechanical Engineering	--	Compulsory	3	2	--	5	20	80	25	--	--	125	No
8	TOTAL			19	20	0	39	120	480	225	0	50	875	
Level II B- Core Technology Courses (Any One)														
SC281	Applied Maths III	--	Optional	2	--	1	3	20	80	--	--	--	100	
MT281	Furnace Technology	--	Optional	3	--	--	3	20	80	--	--	--	100	
1	TOTAL			2	0	1	3	20	80	0	0	0	100	
Level III- Basic Technology Courses (All Compulsory)														
COURSE CODE	COURSE TITLE	PRE - REQUISITE	COMPULSORY	TEACHING SCHEME				EXAMINATION SCHEME					Class Declaration	
			/ OPTIONAL	L	P	T	C	PA	TH	TW	OR	PR		Total Marks
MT381	Mini Project	--	Compulsory	--	2	--	2	--	--	25	25	--	50	C.D.
MT382	Basic Metallurgy	--	Compulsory	4	4	--	8	20	80	25	50	--	175	No
MT383	Material Testing & Quality Assurance	--	Compulsory	4	4	--	8	20	80	25	--	50	175	No
MT384	Metallurgical Analysis	--	Compulsory	4	4	--	8	20	80	25	--	50	175	No
MT385	Extraction of Ferrous Metals	--	Compulsory	4	--	--	4	20	80	--	50	--	150	No
MT386	Extraction of Non Ferrous Metals	--	Compulsory	4	--	--	4	20	80	--	50	--	150	No
6	TOTAL			20	14	0	34	100	400	100	175	100	875	
Level IV A- Applied Technology Courses (Any Two)														
COURSE CODE	COURSE TITLE	PRE - REQUISITE	COMPULSORY	TEACHING SCHEME				EXAMINATION SCHEME					Class Declaration	
			/ OPTIONAL	L	P	T	C	PA	TH	TW	OR	PR		Total Marks
AU481	Environmental Science	--	Compulsory	--	2	--	2	--	--	50	--	--	50	No
AU482	Community Development	Any One	Optional	2	--	--	2	20	80	--	--	--	100	No
AU483	Renewable & Sustainable Energy Management		Optional	2	--	--	2	20	80	--	--	--	100	No

AU484	Engineering Economics		Optional	2	--	--	2	20	80	--	--	--	100	No
2	TOTAL			2	2	0	4	20	80	50	0	0	150	
Level IV B- Applied Technology Courses (Any One)														
COURSE CODE	COURSE TITLE	PRE - REQUISITE	COMPULSORY / OPTIONAL	TEACHING SCHEME				EXAMINATION SCHEME					Class Declaration	
				L	P	T	C	PA	TH	TW	OR	PR		Total Marks
MA481	Construction Management	--	Optional	3	--	--	3	20	80	--	--	--	100	No
MA482	Industrial Organisation & Management	--	Optional	3	--	--	3	20	80	--	--	--	100	No
MA483	Entrepreneurship Development	--	Optional	3	--	--	3	20	80	--	--	--	100	No
MA484	Materials Management	--	Optional	3	--	--	3	20	80	--	--	--	100	No
MA485	Supervisory Management	--	Optional	3	--	--	3	20	80	--	--	--	100	No
MA486	Total Quality Management	--	Optional	3	--	--	3	20	80	--	--	--	100	No
MA487	Management Information System	--	Optional	3	--	--	3	20	80	--	--	--	100	No
MA488	Apparel Management	--	Optional	3	--	--	3	20	80	--	--	--	100	No
1	TOTAL			3	0	0	3	20	80	--	--	--	100	
Level IV C- Applied Technology Courses (All Compulsory)														
MT481	Project and Seminar (In-house / Industry)	90 Credits	Compulsory	--	8	--	8	50	--	50	50	--	150	C.D.
MT482	Elements of Physical Metallurgy	--	Compulsory	4	3	--	7	20	80	--	--	50	150	
MT483	Foundry Engineering	--	Compulsory	4	3	--	7	20	80	25	50	--	175	C.D.

MT484	Powder Metallurgy	--	Compulsory	4	3	--	7	20	80	25	50	--	175	C.D.
MT485	Metal Working Processes	--	Compulsory	4	3	--	7	20	80	25	50	--	175	C.D.
MT486	Heat Treatment of Metals & Alloys	--	Compulsory	4	3	--	7	20	80	25	--	50	175	C.D.
6	TOTAL			20	23	0	43	150	400	150	200	100	1000	
Level IV D- Non Credit Non Exam Courses														
NC481	Development of Soft Skills I	--	Optional	--	2	--	2	--	--	25	--	--	25	No
NC482	Development of Soft Skills II	--	Optional	--	2	--	2	--	--	25	--	--	25	No
2	TOTAL			0	4	0	4	0	0	50	0	0	50	
Level V A- Diversified Courses (Any Two)														
COURSE CODE	COURSE TITLE	PRE-REQUISITE	COMPULSORY / OPTIONAL	TEACHING SCHEME				EXAMINATION SCHEME					Class Declaration	
				L	P	T	C	PA	TH	TW	OR	PR		Total Marks
MT581	Metallurgical Drawing & Design	--	Optional	4	3	--	7	20	80	--	50	--	150	C.D.
MT582	Selection of Materials & Failure Analysis	--	Optional	4	3	--	7	20	80	--	50	--	150	C.D.
MT583	Welding & Modern Forming Processes	--	Optional	4	3	--	7	20	80	--	50	--	150	C.D.
MT584	Computer Applications in Metallurgy	--	Optional	4	3	--	7	20	80	--	50	--	150	C.D.
Level V B- Diversified Courses (Any Two)														
MT585	Advanced Physical Metallurgy	--	Optional	4	3	--	7	20	80	--	50	--	150	C.D.
MT586	Modern Foundry Engineering	--	Optional	4	3	--	7	20	80	--	50	--	150	C.D.
MT587	Surface Protection Methods	--	Optional	4	3	--	7	20	80	--	50	--	150	C.D.

MT588	Non Metallic Materials	--	Optional	4	3	--	7	20	80	--	50	--	150	C.D.	
4	TOTAL			16	12	0	28	80	320	0	200	0	600		
				Total Credits				98	79	3	180	Marks		4500	1500
				Theory to Practical ratio				56	44						

L - Lecture, P-Practical, C- Credits, PA- Progressive Assessment, PR- Practical, TW- Term Work, OR- Oral, SEMI- Seminar Presentation
C.D. - Class Declaration, T.M.- Total Marks, Each Lecture / Practical period is of one clock hour

Total Credits	180
Total No. Courses	30+2+2
No. of Courses with Theory Examination	29
No. of Courses with Practical Examination	8
No. of Courses without Theory Examination	7
Total Marks	4500
Marks for Class Declaration	1500
Theory Paper Marks for Class Declaration	800
Theory : Practical Ratio	56:44:00
Class Declaration Courses	C.D.

Level	Credits
I	26
II	42
III	34
IV-A	4
IV-B	3
IV-C	43
IV-D	4 (Extra)
V	28
Total	180

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