

MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY JAIPUR
DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

Curriculum structure of B.Tech Programme (III Semester onwards)

Semester III

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	III	MTT-201	Introduction to Extractive Metallurgy	PC	Theory	4	3-1-0
2	III	MTT-203	Introduction to Physical Metallurgy	PC	Theory	4	3-1-0
3	III	MTT-205	Thermodynamics of Materials	PC	Theory	4	3-1-0
4	III	MTT-207	Introduction to Engineering Materials	PC	Theory	4	3-1-0
5	III	MTT-209	Fuels, Furnaces & Refractories	PC	Theory	4	3-1-0
6	III			PC	Theory		

1	III	MTP-211	Fuels and Furnaces	PC	Lab	2	0-0-3
2	III	MTP-213	Metallurgical & Instrumental Analysis	PC	Lab	2	0-0-3
3	III	MTP-215	Metallography	PC	Lab	2	0-0-3
4	III			PC	Lab		

SUM should be in the range 22-28

Semester IV

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	IV	MTT-212	Iron Making	PC	Theory	4	3-1-0
2	IV	MTT-214	Transport Phenomenon	PC	Theory	4	3-1-0
3	IV	MTT-216	Introduction to Nano Materials & Technology	PC	Theory	4	3-1-0
4	IV	MTT-218	Mechanical Behaviour & Testing of Materials	PC	Theory	4	3-1-0
5	IV	MTT-220	Mineral Processing	PC	Theory	4	3-1-0
6	IV			PC	Theory		

1	IV	MTP-222	Testing of Materials	PC	Lab	2	0-0-3
2	IV	MTP-224	Mineral Processing	PC	Lab	2	0-0-3
3	IV	MTP-226	Metal Joining	PC	Lab	2	0-0-3
4	IV			PC	Lab		

SUM should be in the range 22-28

Semester V

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	V	MTT-301	Foundry Technology	PC	Theory	4	3-1-0
2	V	MTT-303	Particulate Materials	PC	Theory	4	3-1-0
3	V	MTT-305	Non Ferrous Extractive Metallurgy	PC	Theory	4	3-1-0
4	V	MTT-307	Electrometallurgy & Corrosion	PC	Theory	4	3-1-0
5	V	MTT-309	Solid State Phase Transformations	PC	Theory	4	3-1-0
6	V			PC	Theory		

1	V	MTP-311	Powder Metallurgy	PC	Lab	2	0-0-3
2	V	MTP-313	Foundry	PC	Lab	2	0-0-3
3	V	MTP-315	Electrometallurgy & Corrosion	PC	Lab	2	0-0-3
4	V			PC	Lab		

SUM should be in the range 22-28

Semester VI

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	VI	MTT-312	Mechanical Working of Metals	PC	Theory	4	3-1-0
2	VI	MTT-314	Polymeric & Ceramic Materials	PC	Theory	4	3-1-0
3	VI	MTT-316	Materials in Industry	PC	Theory	4	3-1-0
4	VI	MTT-318	Heat Treatment	PC	Theory	4	3-1-0
5	VI	MTT-320	Steel Making	PC	Theory	4	3-1-0

6	VI						
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1	VI	MTP-322	Mechanical Working of Metals	PC	Lab	1	0-0-2
2	VI	MTP-324	Experimental Techniques	PC	Lab	1	0-0-2
3	VI	MTP-326	Extractive Metallurgy	PC	Lab	1	0-0-2
4	VI	MTP-328	Heat Treatment	PC	Lab	1	0-0-2

SUM should be in the range 22-28

Semester VII

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	VII		Training Seminar	PC	Theory		
2	VII		Management*	PC	Theory		
3	VII		For other Departments (List attached)	OE	Theory	4	3-1-0
4	VII			OE	Theory		
5	VII		From Attached List	PE	Theory	4	3-1-0
6	VII		From Attached List	PE	Theory	4	3-1-0

Semester VIII

S.No.	Semester	Course Code	Course Name	Category	Type	Credit	L-T-P
1	VIII		Management*	PC	Theory		
2	VIII		Major Project	Project	Theory		
3	VIII		From Attached List	AEC	Theory	4	3-1-0
4	VIII		From Attached List	AEC	Theory	4	3-1-0
5	VIII			OE	Theory		
6	VIII			OE	Theory		

Programme Elective for VII Semester

1. MTT-401: Physical Metallurgy of Non Ferrous Metals & Alloys
2. MTT-404: Experimental Techniques
3. MTT-405: Fracture & Failure
4. MTT-407: Composite Materials
5. MTT-409: Pollution & Environmental Management in Metallurgical Industries
6. MTT-411: Industrial Ceramic Materials
7. MTT-413: Rapid Solidification & Mechanical Alloying
8. MTT-415: Automotive Materials
9. MTT-417: Surface Coatings
10. MTT-419: Utilization of Metallurgical Wastes
11. MTT-421: Corrosion Science & Engineering
12. MTT-423: NDT & Quality Control

Open Elective for VII Semester

1. MTT-216: Introduction to Nano Materials & Technology
2. MTT-217: Materials Science & Technology

Advance Elective Courses for VIII Semester

1. MTT-402: Physical Metallurgy of Alloy Steels & Cast Irons
2. MTT-404: Nuclear Materials
3. MTT-406: Physical Metallurgy of special Purpose Alloys
4. MTT-408: Advances in Extraction of Al, Cu and Zn
5. MTT-410: Non Ferrous Metallurgy of V, Ni, Mn, Mg, Mo, Co, Ta, W and Ti
6. MTT-412: Alloy Design

Open Elective for VIII Semester

1. MTT-421: Corrosion Science & Engineering
2. MTT-423: NDT & Quality Control