

**DEPARTMENT OF MATERIALS AND METALLURGICAL ENGINEERING**  
**INDUS INSTITUTE OF TECHNOLOGY AND ENGINEERING**  
**INDUS UNIVERSITY**

**B. TECH IN METALLURGICAL ENGINEERING, SEMESTER-I TEACHING & EXAMINATION SCHEME**

SR. NO	CODE	SUBJECTS	TEACHING SCHEME			CREDITS	HOURS	EXAMINATION SCHEME				
			L	T	P			THEORY		PRACT		TOTAL
								CIE	ESE	CIE	ESE	
1	MA0111	Calculus	3	1	0	4	4	60	40	0	0	100
2	PH0011	Engineering Physics	3	0	2	4	5	60	40	60	40	200
3	EN0111	Technical Communication	1	2	0	3	3	60	40	60	40	200
4	CV0011	Environmental Science	2	0	0	2	2	60	40	0	0	100
5	ME0117	Workshop	0	0	4	2	4	0	0	60	40	100
6	MME0103	Introduction of Engineering Materials	3	0	0	3	3	60	40	0	0	100
7	MME0102	Materials Science (OE – 1)	3	0	0	3	3	60	40	0	0	100
8	SS0002	Indian Knowledge System	3	0	0	3	3	100	0	0	0	0
<b>TOTAL</b>			<b>18</b>	<b>1</b>	<b>8</b>	<b>24</b>	<b>27</b>	<b>460</b>	<b>240</b>	<b>120</b>	<b>80</b>	<b>900</b>

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<b>B. TECH IN METALLURGICAL ENGINEERING, SEMESTER-II TEACHING &amp; EXAMINATION SCHEME</b>												
<b>SR. NO</b>	<b>CODE</b>	<b>SUBJECTS</b>	<b>TEACHING SCHEME</b>			<b>CREDITS</b>	<b>HOURS</b>	<b>EXAMINATION SCHEME</b>				
			<b>L</b>	<b>T</b>	<b>P</b>			<b>THEORY</b>		<b>PRACT</b>		<b>TOTAL</b>
								<b>CIE</b>	<b>ESE</b>	<b>CIE</b>	<b>ESE</b>	
1	MA0211	Differential Equations and Linear Algebra	3	1	0	4	4	60	40	0	0	100
2	CH0011	Engineering Chemistry	3	0	2	4	5	60	40	60	40	200
3	EN0211	Business Communication and Presentation Skills	1	2	0	3	3	60	40	0	0	100
4	ME0211	Engineering Graphics	1	0	4	3	5	60	40	60	40	200
5	MME0201	Structural Metallurgy and Physics of Materials	3	0	0	3	3	60	40	0	0	100
6	MME0202	Metallurgy for Non-Metallurgists (OE – 2)	3	0	0	3	3	60	40	0	0	100
7	MME0204	Testing of Materials (OE – 3)	3	0	0	3	3	60	40	0	0	100
8	IST0001	Indian Science and Technology	1	0	0	1	1	100	0	0	0	100
<b>TOTAL</b>			<b>18</b>	<b>3</b>	<b>6</b>	<b>24</b>	<b>27</b>	<b>520</b>	<b>240</b>	<b>120</b>	<b>80</b>	<b>1000</b>

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**B. TECH IN METALLURGICAL ENGINEERING, SEMESTER-III TEACHING & EXAMINATION SCHEME**

SR. NO	CODE	SUBJECTS	TEACHING SCHEME			CREDITS	HOURS	EXAMINATION SCHEME				
			L	T	P			THEORY		PRACT		TOTAL
								CIE	ESE	CIE	ESE	
1	MA0311	Probability, Statistics and Numerical Methods	3	1	0	4	4	60	40	0	0	100
2	MME0301	Mineral Processing	3	0	2	4	5	60	40	60	40	200
3	MME0302	Physical Metallurgy	3	0	2	4	5	60	40	60	40	200
4	MME0303	Metallurgical Thermodynamics	3	1	0	4	4	60	40	0	0	100
5	SS0301	Human Values and Professional Ethics	2	0	0	2	2	60	40	0	0	100
6	BB0311	Management for Engineers	2	0	0	2	2	60	40	0	0	100
7	MME0304	Internship – I	0	0	0	2	0	0	0	60	40	100
<b>TOTAL</b>			<b>16</b>	<b>2</b>	<b>4</b>	<b>22</b>	<b>22</b>	<b>360</b>	<b>240</b>	<b>180</b>	<b>120</b>	<b>900</b>

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**B. TECH IN METALLURGICAL ENGINEERING, SEMESTER-IV TEACHING & EXAMINATION SCHEME**

SR. NO	CODE	SUBJECTS	TEACHING SCHEME			CREDITS	HOURS	EXAMINATION SCHEME				
			L	T	P			THEORY		PRACT		TOTAL
								CIE	ESE	CIE	ESE	
1	MME0401	Introduction to Process Metallurgy	3	1	0	4	4	60	40	0	0	100
	MME0408	Bio and Smart Materials										
	MME0409	Cryogenic Treatment of Materials										
2	MME0402	Iron Making	3	0	2	4	5	60	40	60	40	200
3	MME0403	Transport Phenomena	3	1	2	5	6	60	40	60	40	200
4	MME0404	Heat Treatment Principles and Practices	3	0	2	4	5	60	40	60	40	200
5	EN0411	Soft skills and Interpersonal Communication	1	0	2	2	3	60	40	60	40	200
6	MME0405	Metal Casting and Solidification (OE – 4)	3	0	0	3	3	60	40	0	0	100
7	MME0406	Recycling of Materials (OE – 5)	3	0	0	3	3	60	40	0	0	100
8	MME0407	Personality Credit – I	0	0	0	2	0	0	0	0	0	100
<b>TOTAL</b>			<b>18</b>	<b>2</b>	<b>8</b>	<b>27</b>	<b>29</b>	<b>420</b>	<b>280</b>	<b>240</b>	<b>160</b>	<b>900</b>

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**B. TECH IN METALLURGICAL ENGINEERING, SEMESTER-V TEACHING & EXAMINATION SCHEME**

SR. NO	CODE	SUBJECTS	TEACHING SCHEME			CREDITS	HOURS	EXAMINATION SCHEME				
			L	T	P			THEORY		PRACT		TOTAL
								CIE	ESE	CIE	ESE	
1	MME0501	Steel Making	3	0	0	3	3	60	40	0	0	100
2	MME0502	Non Ferrous Extractive Metallurgy	3	0	0	3	3	60	40	0	0	100
3	MME0503	Plastic Deformation of Metals	3	1	0	4	4	60	40	0	0	100
4	MME0504	Foundry Technology	3	0	2	4	5	60	40	60	40	200
5	MME0505	Fuels, Furnaces and Refractories (EL – 1)	3	0	0	3	3	60	40	0	0	100
	MME0506	Environmental Pollution and Control in Metallurgical Industries (EL – 1)										
	MME0510	Additive Manufacturing (EL – 1)										
6	BB0521	Organizational Behaviour	2	0	0	2	2	60	40	0	0	100
7	BB0520	Entrepreneurship Development	2	0	0	2	2	60	40	0	0	100
8	MME0508	Energy Economy and Waste Management (OL – 6)	3	0	0	3	3	60	40	0	0	100
9	MME0509	Internship – II	0	0	0	2	0	0	0	60	40	100
<b>TOTAL</b>			<b>22</b>	<b>1</b>	<b>2</b>	<b>26</b>	<b>25</b>	<b>480</b>	<b>320</b>	<b>120</b>	<b>80</b>	<b>1000</b>

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<b>B. TECH IN METALLURGICAL ENGINEERING, SEMESTER-VI TEACHING &amp; EXAMINATION SCHEME</b>												
<b>SR. NO</b>	<b>CODE</b>	<b>SUBJECTS</b>	<b>TEACHING SCHEME</b>			<b>CREDITS</b>	<b>HOURS</b>	<b>EXAMINATION SCHEME</b>				
			<b>L</b>	<b>T</b>	<b>P</b>			<b>THEORY</b>		<b>PRACT</b>		<b>TOTAL</b>
								<b>CIE</b>	<b>ESE</b>	<b>CIE</b>	<b>ESE</b>	
1	MME0601	Metal Forming	3	1	0	4	4	60	40	0	0	100
2	MME0608	Powder Metallurgy	3	0	0	3	3	60	40	0	0	100
3	MME0603	Electrometallurgy and Corrosion	3	0	2	4	5	60	40	60	40	200
4	MME0604	Metal Joining Processes	3	0	2	4	5	60	40	60	40	200
5	MME0605	Composite Materials (EL – 2)	3	0	0	3	3	60	40	0	0	100
	MME0609	Modelling of Metallurgical Processes (EL-2)										
	MME0607	Nano Technology (EL – 2)										
6	MME0602	Phase Transformations (EL –3)	3	0	0	3	3	60	40	0	0	100
	MME0606	Industrial Ceramics and Polymers (EL – 3)										
	MME0610	Advanced Materials and Applications (EL – 3)										
8	MME0613	Introduction to Nano Materials (OE – 7)	3	0	0	3	3	60	40	0	0	100
9	MME0612	Personality Credit – II	0	0	0	2	0	0	0	0	0	100
<b>TOTAL</b>			<b>22</b>	<b>1</b>	<b>4</b>	<b>26</b>	<b>26</b>	<b>420</b>	<b>280</b>	<b>120</b>	<b>80</b>	<b>1000</b>

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<b>SR. NO</b>	<b>CODE</b>	<b>SUBJECTS</b>	<b>TEACHING SCHEME</b>			<b>CREDITS</b>	<b>HOURS</b>	<b>EXAMINATION SCHEME</b>				
			<b>L</b>	<b>T</b>	<b>P</b>			<b>THEORY</b>		<b>PRACT</b>		<b>TOTAL</b>
								<b>CIE</b>	<b>ESE</b>	<b>CIE</b>	<b>ESE</b>	
1	MME0701	Material Testing and Characterization	3	0	2	4	5	60	40	60	40	200
2	MME0702	Alloy Design (EL – 4)	3	0	0	3	3	60	40	0	0	100
	MME0703	Surface Engineering (EL – 4)										
	MME0704	Nuclear Metallurgy (EL – 4)										
3	MME0705	Advanced Ferrous Metallurgy (EL – 5)	3	0	0	3	3	60	40	0	0	100
	MME0706	Selection of Materials and Failure Analysis (EL – 5)										
	MME0707	Computational Materials Science (EL – 5)										
4	MME0708	Non-Destructive Testing (EL – 6)	3	0	0	3	3	60	40	0	0	100
	MME0709	Advanced Foundry Technology (EL – 6)										
	MME0710	Industrial Welding Codes and Standards (EL – 6)										
5	MME0715	Minor Project	0	0	6	3	6	0	0	60	40	100
6	MME0716	Failure Analysis (OE – 8)	3	0	0	3	3	60	40	0	0	100
7	MME0717	Introduction to Non-Destructive Evaluation (OE – 9)	3	0	0	3	3	60	40	0	0	100
8	MME0714	Internship – III	0	0	0	2	0	0	0	60	40	100
<b>TOTAL</b>			<b>18</b>	<b>0</b>	<b>8</b>	<b>24</b>	<b>26</b>	<b>360</b>	<b>240</b>	<b>180</b>	<b>120</b>	<b>900</b>

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<b>SR. NO</b>	<b>CODE</b>	<b>SUBJECTS</b>	<b>TEACHING SCHEME</b>			<b>CREDITS</b>	<b>HOURS</b>	<b>EXAMINATION SCHEME</b>				
			<b>L</b>	<b>T</b>	<b>P</b>			<b>THEORY</b>		<b>PRACT</b>		<b>TOTAL</b>
								<b>CIE</b>	<b>ESE</b>	<b>CIE</b>	<b>ESE</b>	
1	MME0801	Research Project	0	0	24	12	24	0	0	60	40	100
<b>TOTAL</b>			0	0	24	12	24	0	0	60	40	100