



॥ त्वं ज्ञानमयो विद्वानमयोऽसि ॥

2nd year B.Tech. Materials Engineering Program Structure For AY 2020-21

<i>Cat</i>	<i>Course</i>	<i>LTP</i>	<i>C H</i>	<i>N C</i>	<i>GC</i>	<i>Cat</i>	<i>Course</i>	<i>LTP</i>	<i>C H</i>	<i>NC</i>	<i>GC</i>
I Semester						II Semester					
IE	Engineering Mechanics	2-1-0	3	-	3	IE	Introduction to Electrical Engineering	3-0-2	5	-	4
IS	Chemistry	3-0-0	3	-	3	IE	Introduction to Computer Science	3-0-2	5	-	4
IS	Physics	3-0-0	3	-	3	IE	Introduction to Bioengineering	3-0-2	5	-	4
IS	Chemistry Lab	0-0-2	2	-	1						
IS	Physics Lab	0-0-2	2	-	1						
IS	Mathematics I	3-1-0	4	-	4	IS	Mathematics II	3-1-0	4	-	4
IE	Engineering Visualization	0-0-2	2	-	1	IE	Engineering Realization	0-0-2	2	-	1
NE	Engineering Design I	0-0-2	2	1	-	NE	Engineering Design II	0-0-2	2	1	-
N H	Communication Skill I	0-0-2	2	1	-	N H	Communication Skill II	0-0-2	2	1	-
N H	Social Connect and responsibilities I	0-0-1	1	0.5	-	N H	Social Connect and responsibilities II	0-0-1	1	0.5	-
N H	Performing Arts I /Sports I	0-0-1	1	0.5	-	N H	Performing Arts II/Sports II	0-0-1	1	0.5	-
Total		11-2-12	25	3	16	Total		12-1-14	27	3	17
III Semester						IV Semester					
LS	Scientific Computations	3-1-0	4	-	4	IE	Materials Science & Engineering Fractal 1: Physical Metallurgy Fractal 2: Polymers Fractal 3: Corrosion	3 × 1-0-0	3	-	3
IE	Thermodynamics	3-1-0	4	-	4	PC	Data Structure and Algorithm	3-0-2	5		4
PC	Mechanics of Solids	3-1-0	4	-	4	PC	Materials at Equilibrium	3-1-0	4		4
IE	Introduction to Machine Learning	3-0-2	5	-	4	PC	Materials for Energy Conversion and Storage	3-0-0	3		3
LS	Condensed Matter Physics	3-0-0	3	-	3	IE	Signals and Systems	3-1-0	4	-	4
NE	Intro. To Profession	0-0-2	2	1		IH	Humanities I	3-0-0	3	-	3
Total		15-3-4	22	1	19	Total		15-1-4	23	-	21

V Semester						VI Semester					
PC	Electronic Materials	3-0-0	3		3	PC	Computational Modelling of Materials	3-0-0	3		3
PC	Mechanical Behavior of Materials	3-0-0	3		3	PC	Materials Processing and Manufacturing	3-0-0	3		3
PC	Phase Transformations	3-0-0	3		3	PC	Extraction of Nonferrous Metals	3-0-0	3		3
PC	Materials Characterization	3-0-0	3		3	PC	Iron and Steel Making	3-0-0	3		3
PC	Electronic Materials Lab	0-0-3	3		1.5	PC	Smart Materials	3-0-0	3		3
PC	Physical Metallurgy Lab	0-0-3	3		1.5	PC	Computational Modelling of Materials Lab	0-0-2	2		1
PC	Energy Materials Lab	0-0-3	3		1.5	PC	Materials Processing and Manufacturing Lab	0-0-3	3		1.5
PC	Materials Characterization Lab	0-0-2	2		1						
IH	Humanities II	3-0-0	3	-	3	PE	Programme/Open Elective	3-0-0	3		3
NH	Professional Ethics I	0-1-0		1	-	NH	Professional Ethics II	0-1-0		1	-
Total		15-1-11	26	1	20.5	Total		18-1-5	24	1	20.5
VII Semester						VIII Semester					
PP	B. Tech. Project	0-0-6	6	-	3	IH	Humanities IV	3-0-0	3	-	3
PE / OE	Programme/Open Electives	10-0-0	10	-	10	PE / OE	Programme/Open Electives	15-0-0	15	-	15
IH	Humanities III	3-0-0	3	-	3						
IS	Environmental Science	2-0-0	2	-	2						
Total		15-0-6	21	-	18	Total		18-0-0	18	-	18
Total of graded and Non-Graded Credit									9	150	
Non-Graded Design Credits									6	-	
Grand Total									15	165	