

**13.Courses of Study and Scheme of Assessment  
M.Tech Nanoscience and Technology**

**(2021 REGULATIONS)  
(Minimum No. of credits to be earned: 70\*)**

Course Code	Course Title	Hours/Week			Credits	Maximum Marks			CAT
		Lecture	Tutorial	Practical		CA	FE	Total	
<b>I SEMESTER</b>									
21LN01	Applied Numerical Methods	3	1	0	4	50	50	100	PC
21LN02	Fundamentals of Nanoscience and Technology	3	1	0	4	50	50	100	PC
21LN03	Synthesis of Nanomaterials	3	0	0	3	50	50	100	PC
21LN04	Materials Science	3	1	0	4	50	50	100	PC
21LN05	Nanoelectronics	3	1	0	4	50	50	100	PC
21LN06	Research Methodology and IPR	2	0	0	2	50	50	100	RMC
21LN72	Audit Course – I	2	0	0	Grade	100	0	100	MC
21LN51	Synthesis of Nanomaterials Laboratory	0	0	4	2	50	50	100	PC
21LN52	Nanofabrication Laboratory	0	0	4	2	50	50	100	PC
<b>Total 28 hrs</b>		<b>17</b>	<b>4</b>	<b>8</b>	<b>25</b>	<b>500</b>	<b>400</b>	<b>900</b>	
<b>II SEMESTER</b>									
21LN07	Characterization of Nanomaterials	3	0	0	3	50	50	100	PC
21LN08	MEMS and Nanofabrication	3	0	0	3	50	50	100	PC
21LN__	Professional Elective - I	3	0	0	3	50	50	100	PE
21LN__	Professional Elective - II	3	0	0	3	50	50	100	PE
21LN__	Professional Elective – III	3	0	0	3	50	50	100	PE
21LN82	Audit Course – II	2	0	0	Grade	100	0	100	MC
21LN61	Micro/Nanodevice Design Laboratory	0	0	4	2	50	50	100	PC
21LN62	Characterization of Nanomaterials Laboratory	0	0	4	2	50	50	100	PC
21LN63	Industrial visit and Technical Seminar	0	0	4	2	50	50	100	EEC
<b>Total 28 hrs</b>		<b>15</b>	<b>0</b>	<b>12</b>	<b>21</b>	<b>500</b>	<b>400</b>	<b>900</b>	
<b>III SEMESTER</b>									
21LN__	Professional Elective – IV	3	0	0	3	50	50	100	PE
21LN__	Open Elective	3	0	0	3	50	50	100	OE
21LN71	Project Work I	0	0	12	6	50	50	100	EEC
<b>Total 18 hrs</b>		<b>6</b>	<b>0</b>	<b>12</b>	<b>12</b>	<b>150</b>	<b>150</b>	<b>300</b>	
<b>IV SEMESTER</b>									
21LN81	Project Work II	0	0	24	12	50	50	100	EEC
<b>Total 24 hrs</b>		<b>0</b>	<b>0</b>	<b>24</b>	<b>12</b>	<b>50</b>	<b>50</b>	<b>100</b>	
<b>PROFESSIONAL ELECTIVE THEORY COURSES (Four to be opted)</b>									
21LN21	Nanostructures in Medicine	3	0	0	3	50	50	100	PE
21LN22	Nanotherapeutics	3	0	0	3	50	50	100	PE
21LN23	Regenerative Medicine	3	0	0	3	50	50	100	PE
21LN24	Photovoltaic Technology	3	0	0	3	50	50	100	PE
21LN25	Biomolecular Nanotechnology	3	0	0	3	50	50	100	PE
21LN26	Polymer Nanocomposites	3	0	0	3	50	50	100	PE
21LN27	Nanophotonics	3	0	0	3	50	50	100	PE
21LN28	Biomaterials and Tissue Engineering	3	0	0	3	50	50	100	PE
21LN29	Polymer Electronics	3	0	0	3	50	50	100	PE
21LN30	Nanobiomaterials	3	0	0	3	50	50	100	PE

21LN31	Nanotoxicology	3	0	0	3	50	50	100	PE
21LN32	Nanotechnology for Energy systems	3	0	0	3	50	50	100	PE
21LN33	Nanocomputing	3	0	0	3	50	50	100	PE
21LN34	Product Design, Management Techniques and Entrepreneurship	3	0	0	3	50	50	100	PE
21LN35	Nanosensors and Devices	3	0	0	3	50	50	100	PE
21LN36	Data Structures and Algorithms	3	0	0	3	50	50	100	PE
21LN37	Nanobiotechnology	3	0	0	3	50	50	100	PE
21LN38	Quantum Mechanics	3	0	0	3	50	50	100	PE
<b>Open Electives</b>									
21LV91	Smart Cities	3	0	0	3	50	50	100	OE
21LV92	Radiation Hazards	3	0	0	3	50	50	100	OE

\* Indicated is the minimum number of credits to be earned by a student.

**CAT – Category; PC – Professional Core; PE - Professional Elective; RMC - Research Methodology and IPR; EEC – Employability Enhancement Course; MC - Mandatory Course; Grade – Completed / Not completed; OE – Open elective**

**NOTE: We can add tutorial 1 hr (1 credit) for the courses with no lab if necessary**