

Nano Technology

Semester III

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
	Advanced Engineering Mathematics	3	2	0	5	70	30	30	20	150	39
	Mechanics of Solids	4	0	2	6	70	30	30	20	150	39
	Fundamentals of Solid State Technology	3	0	0	3	70	30	0	0	100	39
	Elements of Nanoscience and Nanotechnology-I	3	0	0	3	70	30	0	0	100	39
	Synthesis of Nanomaterials-I	2	0	4	6	70	30	30	20	150	39
	Characterization of Nanomaterials-I	2	0	4	6	70	30	30	20	150	39
	Total	17	2	10	29						

Semester IV

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
	Maths - 4	3	2	0	5	70	30	30	20	150	39
	Engineering Economics and Management	3	0	0	3	70	30	0	0	100	39
	Physics of Nanomaterials	3	0	0	3	70	30	0	0	100	39
	Elements of Material Science	3	0	2	5	70	30	30	20	150	39
	Synthesis of Nanomaterials-II	2	0	6	8	70	30	30	20	150	39
	Characterization of Nanomaterials-II	2	0	4	6	70	30	30	20	150	39
	Total	16	2	12	30						

Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
	Nano-Biotechnology (Interdis.)	3	0	2	5	70	30	30	20	150	39
	Fabrication of Nano- devices	3	0	2	5	70	30	30	20	150	39
	Nano Ceramic and Applications	4	0	0	4	70	30	0	0	100	39
	Application of Nanotechnology	4	0	0	4	70	30	0	0	100	39
	Elements of Nanoscience and Technology-II	4	0	2	6	70	30	30	20	150	39
	Nanotechnology and Environment	3	0	2	5	70	30	30	20	150	39
	Total	21	0	8	29						

Semester VI

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
	Nanomagnetism and NanoFluids (Dept. Elective-I)	4	0	2	6	70	30	30	20	150	39
	Coating technology	4	0	2	6	70	30	30	20	150	39
	Nanopolymers and Nano-composites	3	0	2	5	70	30	30	20	150	39
	Nanotechnology and Medicine	3	0	0	3	70	30	0	0	100	39
	Non-conventional energy sources	3	0	0	3	70	30	0	0	100	39
	Microelectronics and VLSI	3	0	2	5	70	30	30	20	150	39
	Total	20	0	8	28						

Semester VII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
	Electrical and Optical properties of Nanomaterials (Dept. Elective-II)	4	0	2	6	70	30	30	20	150	39

	Application of CNT and Metallic Nanoparticles	3	0	0	3	70	30	0	0	100	39
	Spintronics	3	0	0	3	70	30	0	0	100	39
	Thin Film Technology	3	0	4	7	70	30	30	20	150	39
	Photonics	3	0	0	3	70	30	0	0	100	39
	Project-1(Synthesis of Nanomaterials)	0	0	6	6	0	0	100	50	150	39
	Total	16	0	12	28						

Semester VIII

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
	Department Elective -III	4	2	0	6	70	30	30	20	150	39
	Nanolithography	3	0	2	5	70	30	30	20	150	39
	Nanotechnology for Advanced Drug Delivery Systems	3	0	0	3	70	30	0	0	100	39
	Simulation Techniques for Nano particle Characterization	0	0	6	6	0	0	100	50	150	39
	Nanosensors and Transducers	2	0	2	4	70	30	30	20	150	39
	Project-2(Synthesis of Nanomaterials)	0	0	6	6	0	0	100	50	150	39
	Total	12	2	16	30						

Departmental Elective III:

Industrial Nanotechnology

Chemical Principles of Self Assembly Systems

Nanotechnology in Health Care

Note: ALA Component, OEP Component and Design Module I, II and III (to be offered in 2nd Year , 3rd year and 4th year respectively) shall be displayed in the final teaching scheme