

BIRLA INSTITUTE OF TECHNOLOGY- MESRA, RANCHI
NEWCOURSE STRUCTURE - To be effective from academic session 2018- 19
Based on CBCS system & OBE model
M.Tech. (Environmental Science and Engineering)

SEMESTER / Session of Study (Recommended)	Course Level	Category of course	Course Code		Mode of delivery & credits <i>L-Lecture; T-Tutorial; P-Practical</i>			Total Credits <i>C- Credits</i>	
					L <i>(Periods/week)</i>	T <i>(Periods/week)</i>	P <i>(Periods/week)</i>	C	
FIRST / Monsoon	FIFTH	PC	CE527	Ecology and Environment	3	0	0	3	
			CE528	Environmental Chemistry and Microbiology	3	0	0	3	
			CE529	Water Supply Engineering	3	0	0	3	
		PE	Programme Elective – I	3	0	0	3		
		OE	Open Elective – I	3	0	0	3		
		LABORATORY							
	FIFTH	PC	CE530	Environmental Engineering Laboratory – I	0	0	4	2	
	CE531		Ecology and Microbiology Lab	0	0	4	2		
		TOTAL							19
TOTAL FOR FIRST YEAR								38	
SECOND/ Spring	FIFTH	PC	CE532	Wastewater Engineering	3	0	0	3	
			CE533	Air Pollution and Control Technology	3	0	0	3	
			CE534	Solid Waste Management	3	0	0	3	
		PE	Programme Elective – II	3	0	0	3		
		OE	Open Elective – II	3	0	0	3		
		LABORATORY							
	FIFTH	PC	CE535	Environmental Engineering Laboratory – II	0	0	4	2	
	CE536		Design of Water and Wastewater System	0	0	4	2		
		TOTAL							19
TOTAL FOR FIRST YEAR								38	
THIRD/ Monsoon	FIFTH	PE	CE537	Environmental Impact Assessment and Legislation	3	0	0	3	
				Programme Elective - III	3	0	0	3	
		LABORATORY							
	FIFTH	PC	CE538	System Engineering Sessional	0	0	4	2	
			CE539	Thesis Part 1				8	
	TOTAL							16	
FOURTH/ Spring	FIFTH	PC	CE540	Thesis Part 2				16	
		TOTAL							16
TOTAL FOR SECOND YEAR								32	
GRAND TOTAL FOR M.TECH PROGRAMME (38 + 32)								70	

**DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
PROGRAMME ELECTIVES (PE)
OFFERED FOR M.Tech. (Environmental Science and Engineering)**

PE / LEVEL	Code no.	Name of the PE subjects	Prerequisites Subjects with code	L	T	P	C
5	CE563	Climate Change and Adaptation		3	0	0	3
5	CE564	Instruments for Environmental Engineering		3	0	0	3
5	CE565	Earth Sciences		3	0	0	3
5	CE566	Environmental Economics		3	0	0	3
5	CE567	Environmental Statistics		3	0	0	3
5	CE568	Environmental Toxicology		3	0	0	3
5	CE569	Environmental Biotechnology		3	0	0	3
5	CE570	Environment and Energy Management		3	0	0	3
5	CE571	Advanced Wastewater Engineering		3	0	0	3
5	CE572	Occupational health and Industrial Safety		3	0	0	3
5	CE573	Ecosystem Health and Eco-restoration		3	0	0	3
5	CE574	Renewable Energy Resources		3	0	0	3

*** PROGRAMME ELECTIVES TO BE OPTED ONLY BY THE DEPARTMENT STUDENTS**

**DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
OPEN ELECTIVES (OE)*
OFFERED FOR LEVEL 5-6**

OE / LEVEL	Code no.	Name of the OE subjects	Prerequisites Subjects with code	L	T	P	C
5	CE575	Environmental and Natural Resource Management		3	0	0	3
5	CE576	Environmental Science and Management		3	0	0	3
5	CE577	Industrial Pollution Control		3	0	0	3
5	CE578	Waste Management		3	0	0	3

*** OPEN ELECTIVES TO BE OPTED ONLY BY OTHER DEPARTMENT STUDENTS**