

**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	
<b>FIRST / Monsoon</b>	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		
		<b>LABORATORY</b>							
	FIFTH	PC	CE530	Environmental Engineering Laboratory – I	0	0	4	2	
	CE531		Ecology and Microbiology Lab	0	0	4	2		
		<b>TOTAL</b>							<b>19</b>
<b>TOTAL FOR FIRST YEAR</b>								<b>38</b>	
<b>SECOND/ Spring</b>	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		
		<b>LABORATORY</b>							
	FIFTH	PC	CE535	Environmental Engineering Laboratory – II	0	0	4	2	
	CE536		Design of Water and Wastewater System	0	0	4	2		
		<b>TOTAL</b>							<b>19</b>
<b>TOTAL FOR SECOND YEAR</b>								<b>32</b>	
<b>GRAND TOTAL FOR M.TECH PROGRAMME (38 + 32)</b>								<b>70</b>	
<b>THIRD/ Monsoon</b>	FIFTH	PE	CE537	Environmental Impact Assessment and Legislation	3	0	0	3	
				Programme Elective - III	3	0	0	3	
		<b>LABORATORY</b>							
FIFTH	PC	CE538	System Engineering Sessional	0	0	4	2		
		CE539	Thesis Part 1				8		
		<b>TOTAL</b>							<b>16</b>
<b>FOURTH/ Spring</b>	FIFTH	PC	CE540	Thesis Part 2				16	
		<b>TOTAL</b>							<b>16</b>
<b>TOTAL FOR SECOND YEAR</b>								<b>32</b>	
<b>GRAND TOTAL FOR M.TECH PROGRAMME (38 + 32)</b>								<b>70</b>	

**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**

<b>OE / LEVEL</b>	<b>Code no.</b>	<b>Name of the OE subjects</b>	<b>Prerequisites Subjects with code</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
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**