

BIRLA INSTITUTE OF TECHNOLOGY- MESRA, RANCHI
NEWCOURSE STRUCTURE - To be effective from academic session 2018- 19
Based on CBCS system & OBE model
M.Tech. (Soil Mechanics and Foundation 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	CE501	Advanced Solid Mechanics	3	0	0	3
			CE515	Advanced Soil Mechanics	3	0	0	3
			CE516	Advanced Foundation Engineering	3	0	0	3
		PE	Programme Elective – I	3	0	0	3	
		OE	Open Elective – I	3	0	0	3	
		LABORATORY						
	FIFTH	PC	CE517	Soil Mechanics Laboratory – I	0	0	4	2
		CE505	Numerical Analysis Laboratory	0	0	4	2	
		TOTAL						19
SECOND/ Spring	FIFTH	PC	CE518	Dynamics of Soils and Foundations	3	0	0	3
			CE519	Sub-surface Investigation	3	0	0	3
			CE520	Earth & Earth Retaining Structures	3	0	0	3
		PE	Programme Elective – II	3	0	0	3	
		OE	Open Elective – II	3	0	0	3	
		LABORATORY						
	FIFTH	PC	CE521	Soil Mechanics Laboratory – II	0	0	4	2
		CE522	Advanced Instrumentation Laboratory	0	0	4	2	
		TOTAL						19
TOTAL FOR FIRST YEAR								38
THIRD/ Monsoon	FIFTH	PE	CE523	Rock Mechanics & Tunneling	3	0	0	3
				Programme Elective - III	3	0	0	3
		LABORATORY						
	FIFTH	PC	CE524	Remote Sensing & GIS Laboratory	0	0	4	2
			CE525	Thesis Part 1				8
	TOTAL						16	
FOURTH/ Spring	FIFTH	PC	CE526	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. (Soil Mechanics and Foundation Engineering)**

PE / LEVEL	Code no.	Name of the PE subjects	Prerequisites Subjects with code	L	T	P	C
5	CE553	Earth & Rock-fill Dam		3	0	0	3
5	CE554	Environmental Geotechnics		3	0	0	3
5	CE555	Environmental Impact Assessment & Sustainability Development		3	0	0	3
5	CE506	Finite Element Method	CE501 Advanced Solid Mechanics	3	0	0	3
5	CE556	Flows through Porous Media		3	0	0	3
5	CE557	Geotechnical Earthquake Engineering		3	0	0	3
5	CE558	Ground Improvement		3	0	0	3
5	CE559	Mining Engineering		3	0	0	3
5	CE560	Remote Sensing, GIS & GPS		3	0	0	3
5	CE561	Sediment Transport		3	0	0	3
5	CE548	Soil Structure Interaction	CE518 Dynamics of Soils & Foundations	3	0	0	3
5	CE562	Stability Analysis of Slopes		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