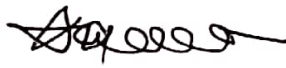# BIRLA INSTITUTE OF TECHNOLOGY- MESRA, RANCHI
NEWCOURSE STRUCTURE - *To be effective from academic session 2018- 19*
Based on CBCS system & OBE model
M.Tech. (Structural Engineering)

SEMESTER / Session of Study (Recomended)	Course Level	Category of course	Course Code		Mode of delivery & credits L-Lecture; T-Tutorial;P-Practical			Total Credits C- Credits
					L (Periods/week)	T (Periods/week)	P (Periods/week)	C
FIRST / Monsoon	FIFTH	PC	CE501	Advanced Solid Mechanics	3	0	0	3
			CE502	Advanced Structural Analysis	3	0	0	3
			CE503	Structural Dynamics	3	0	0	3
		PE		Programme Elective – I	3	0	0	3
		OE		Open Elective – I	3	0	0	3
				LABORATORY				
	FIFTH	PC	CE504	Structural Design Laboratory – I	0	0	4	2
			CE505	Numerical Analysis Laboratory	0	0	4	2
				TOTAL				19
SECOND/ Spring	FIFTH	PC	CE506	Finite Element Method	3	0	0	3
			CE507	Theory of Plates and Shells	3	0	0	3
			CE508	Earthquake Engineering	3	0	0	3
		PE		Programme Elective – II	3	0	0	3
		OE		Open Elective – II	3	0	0	3
				LABORATORY				
	FIFTH	PC	CE509	Structural Design Laboratory – II	0	0	4	2
			CE510	CAD in Structural Engineering	0	0	4	2
				TOTAL				19
				TOTAL FOR FIRST YEAR				38
THIRD/ Monsoon	FIFTH	PE	CE511	Advanced Concrete Technology	3	0	0	3
				Programme Elective – III	3	0	0	3
				LABORATORY				
	FIFTH	PC	CE512	Advanced Concrete Laboratory	0	0	4	2
			CE513	Thesis Part 1				8
				TOTAL				16
FOURTH/ Spring	FIFTH	PC	CE514	Thesis Part 2				16
				TOTAL				16
				TOTAL FOR SECOND YEAR				32
				GRAND TOTAL FOR M.TECH PROGRAMME (38 + 32)				70

23.5.2019

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
PROGRAMME ELECTIVES (PE)
OFFERED FOR M.Tech. (Structural Engineering)

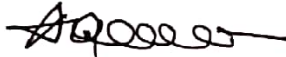| PE / LEVEL	Code no.	Name of the PE subjects	Prerequisites Subjects with code	L	T	P	C
5	CE541	Analytical and Numerical Methods in Structural Engineering		3	0	0	3
5	CE542	Bridge Engineering		3	0	0	3
5	CE543	Design of High Rise Structure		3	0	0	3
5	CE544	Design of Industrial Structure		3	0	0	3
5	CE545	Design of Plates and Shells	CE507:Theory of Plates and Shells	3	0	0	3
5	CE546	Fracture Mechanics	CE 501:Advanced Solid Mechanic	3	0	0	3
5	CE547	Pre-Stressed Concrete		3	0	0	3
5	CE548	Soil Structure Interaction	CE 503:Structural Dynamics	3	0	0	3
5	CE549	Structural Design of Foundation		3	0	0	3
5	CE550	Structural Health Monitoring	CE 503:Structural Dynamics	3	0	0	3
5	CE551	Structural Optimization		3	0	0	3
5	CE552	Theory of Structural Stability		3	0	0	3

* PROGRAMME ELECTIVES TO BE OPTED ONLY BY THE DEPARTMENT STUDENTS

23.5.2019

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

23.5.2019