BIRLA INSTITUTE OF TECHNOLOGY- MESRA, RANCHI
NEWCOURSE STRUCTURE - *To be effective from academic session 2018- 19*
Based on CBCS & OBE model
Recommended scheme of study for all M.Tech in Computer Aided Analysis and Design

SEMESTER / Session of Study (Recomended)	Course Level	Category of course	Course Code	Courses	Mode of delivery & credits *L-Lecture; T-Tutorial;P-Practicals*			Total Credits *C- Credits*
					L *(Periods/ week)*	**T** *(Periods/ week)*	**P** *(Periods/ week)*	**C**
FIRST / Monsoon	**FIFTH**			**THEORY**				
		Programme Core (PC)	ME501	Computational Methods in Engineering	3	0	0	3
			ME502	Advanced Computer Aided Design	3	0	0	3
			ME503	Advanced Stress Analysis	3	0	0	3
		Programme Elective (PE)*(* Student can choose only one of these)	ME504	Computational Fluid Dynamics	3	0	0	3
			ME505	Mechatronics	3	0	0	3
			ME506	Applied Tribology	3	0	0	3
		Open elective OE		Open Elective (OE) 1	3	0	0	3
				LABORATORIES				
		Programme Core (PC)	ME508	Computer Programming and Simulation Lab	0	0	4	2
			ME509	Computer aided Analysis Lab	0	0	4	2
				TOTAL				**19**
SECOND/ Spring	**FIFTH**			**THEORY**				
		Programme Core (PC)	ME510	Advanced Vibration & Simulation	3	0	0	3
			ME511	Finite Element Analysis	3	0	0	3
			ME512	Reverse Engineering and Rapid Prototyping	3	0	0	3
		Programme Elective (PE)*(* Student can choose only one of these)	ME513	Continuum Mechanics	3	0	0	3
			ME514	Design Against Fatigue and Failure	3	0	0	3
			ME515	Computer Integrated Manufacturing	3	0	0	3
		Open elective OE		Open Elective (OE) 2	3	0	0	3
				LABORATORIES				
		Programme Core (PC)	ME516	Advanced CAD & RE Lab	0	0	4	2
			ME517	Finite Element Analysis Lab	0	0	4	2
								19
				TOTAL FOR FIFTH LEVEL				**38**
				THEORY				

THIRD / Monsoon	**SIXTH**	Programme Core (PC)	ME600	Thesis Part I				8
			ME602	Optimization Techniques	3	0	0	3
		Programme Elective (PE)*(* *Student can choose only one of these)*	ME603	Soft Computational Techniques in Design	3	0	0	3
			ME604	Computer Graphics	3	0	0	3
			ME605	Additive Manufacturing	3	0	0	3
		LABORATORIES						
		Programme Core (PC)	ME606	Optimization Techniques Lab	0	0	4	2
		TOTAL						**16**
FOURTH/ Spring	**SIXTH**	**THEORY**						
		Programme Core (PC)	ME650	Thesis Part II				16
		TOTAL						**16**
TOTAL FOR SIXTH LEVEL								**32**
GRAND TOTAL FOR M.TECH PROGRAMME (38 + 32)								**70**

PE / LEVEL	Code no.	Name of the PE courses	Prerequisites courses with code	L	T	P	C
5	ME504	Computational Fluid Dynamics	NIL	3	0	0	3
	ME505	Mechatronics	NIL	3	0	0	3
	ME506	Applied Tribology	NIL	3	0	0	3
	ME513	Continuum Mechanics	NIL	3	0	0	3
	ME514	Design Against Fatigue and Failure	NIL	3	0	0	3
	ME515	Computer Integrated Manufacturing	NIL	3	0	0	3
6	ME603	Soft Computational Techniques in Design	NIL	3	0	0	3
	ME604	Computer Graphics	NIL	3	0	0	3
	ME605	Additive Manufacturing	NIL	3	0	0	3

DEPARTMENT OF MECHANICAL ENGINEERING
PROGRAMME ELECTIVES (PE) CAAD
OFFERED FOR LEVEL 5-6

* PROGRAMME ELECTIVES TO BE OPTED ONLY BY THE DEPARTMENT STUDENTS

DEPARTMENT OF MECHANICAL ENGINEERING
OPEN ELECTIVES (OE)*
OFFERED FOR LEVEL 5-6

OE / LEVEL	Code no.	Name of the PE courses	Prerequisites courses with code	L	T	P	C
5	ME582	Design Methodology	NIL	3	0	0	3
	ME583	Renewable Source of Energy	NIL	3	0	0	3
	ME584	Energy Management & Auditing	NIL	3	0	0	3
	ME585	Industrial Robotics	NIL	3	0	0	3
	ME586	Reliability in Design	NIL	3	0	0	3

* OPEN ELECTIVES TO BE OPTED ONLY BY OTHER DEPARTMENT STUDENTS