

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 Design of Mechanical Equipments

SEMESTER / Session of Study (Recommended)	Course Level	Category of course	Course Code	Courses	Mode of delivery & credits <i>L-Lecture; T-Tutorial;P-Practicals</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	THEORY						
		Programme Core (PC)	ME521	Computational Methods in Engineering	3	0	0	3
			ME522	Advanced Mechanics of Solids	3	0	0	3
			ME523	Applied Dynamics and Vibrations	3	0	0	3
		Programme Elective (PE)** <i>Student can choose only one of these)</i>	ME524	Advanced Engineering Materials	3	0	0	3
			ME525	Robotic Manipulator Design	3	0	0	3
			ME526	Fluid Power and Control	3	0	0	3
			ME527	Applied Tribology	3	0	0	3
		Open elective OE		Open Elective (OE) 1	3	0	0	3
		LABORATORIES						
		Programme Core (PC)	ME528	Advanced Solid Mechanics and Vibration Lab	0	0	4	2
			ME529	Computational Methods Laboratory	0	0	4	2
		TOTAL						
SECOND/ Spring	FIFTH	THEORY						
		Programme Core (PC)	ME531	Theory of Elasticity	3	1	0	4
			ME532	Fracture Mechanics	3	1	0	4
			ME533	Automatic Control	3	0	0	3
		Programme Elective (PE)**(* <i>Student can choose only one of these)</i>	ME534	Mechanics of Composite Materials	3	0	0	3
			ME535	Finite Element Analysis	3	0	0	3
			ME536	Nonlinear Vibrations	3	0	0	3
		OPEN ELECTIVE OE		Open Elective(OE) 2	3	0	0	3
		LABORATORIES						
		Programme Core (PC)	ME537	Robotics Laboratory	0	0	4	2
TOTAL							19	
TOTAL FOR FIFTH LEVEL							38	

THIRD / Monsoon	SIXTH	THEORY						
		Programme Core (PC)	ME600	Thesis Part I				8
			ME612	Optimization Techniques	3	0	0	3
		Programme Elective (PE)*(* <i>Student can choose only one of these</i>)	ME613	Vibration of Continuous Systems	3	0	0	3
			ME614	Rotor Dynamics	3	0	0	3
			ME615	Wave Propagation	3	0	0	3
		LABORATORIES						
		Programme Core (PC)	ME616	CAD 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		

DEPARTMENT OF MECHANICAL ENGINEERING
PROGRAMME ELECTIVES (PE) Mtech in Design of Mechanical Elements
OFFERED FOR LEVEL 5-6

PE / LEVEL	Code no.	Name of the PE courses	Prerequisites courses with code	L	T	P	C
5	ME524	Advanced Engineering Materials	NIL	3	0	0	3
	ME525	Robotic Manipulator Design	NIL	3	0	0	3
	ME526	Fluid Power and Control	NIL	3	0	0	3
	ME527	Applied Tribology	NIL	3	0	0	3
	ME534	Mechanics of Composite Materials	NIL	3	0	0	3
	ME535	Finite Element Analysis	NIL	3	0	0	3
	ME536	Nonlinear Vibrations	NIL	3	0	0	3
6	ME613	Vibration of Continuous Systems	NIL	3	0	0	3
	ME614	Rotor Dynamics	NIL	3	0	0	3
	ME615	Wave Propagation	NIL	3	0	0	3

*** 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**