

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 Energy Technology Engineering

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 C- Credits		
					L (Periods/ week)	T (Periods/ week)	P (Periods/ week)	C		
FIRST / Monsoon	FIFTH	THEORY								
		Programme Core (PC)	ME541	Renewable Sources of Energy	3	0	0	3		
			ME542	Fuel Technology	3	0	0	3		
			ME543	Energy Conversion System	3	0	0	3		
		Programme Elective (PE)*(* <i>Student can choose only one of these</i>)	ME544	Wind Energy	3	0	0	3		
			ME545	Solar Passive Architecture	3	0	0	3		
			ME546	Hydrogen Energy System	3	0	0	3		
		Open elective OE		Open Elective (OE) 1	3	0	0	3		
		LABORATORIES								
		Programme Core (PC)	ME547	Energy Laboratory I	0	0	4	2		
			ME548	Computational Lab	0	0	4	2		
		TOTAL							19	
		SECOND/ Spring	FIFTH	THEORY						
				Programme Core (PC)	EE597	Power Generation, Transmission and Distribution	3	0	0	3
ME553	Economics and Planning of Energy Systems				3	1	0	4		
ME554	Energy Management and Auditing				3	1	0	4		
Programme Elective (PE)*(* <i>Student can choose only one of these</i>)	ME555			Energy Storage Technology	3	0	0	3		
	ME556			Convection Heat & Mass Transfer	3	0	0	3		
	ME557			Integrated Energy System	3	0	0	3		
OPEN ELECTIVE OE				Open Elective (OE) 2	3	0	0	3		
LABORATORIES										
Programme Core (PC)	ME558			Energy Laboratory II	0	0	4	2		
TOTAL							19			
TOTAL FOR FIFTH LEVEL							38			

THIRD / Monsoon	SIXTH	THEORY						
		Programme Core (PC)	ME 600	Thesis Part I				8
			ME 639	Energy Simulation and Modelling	3	0	0	3
		Programme Elective (PE)*(* <i>Student can choose only one of these</i>)	ME622	Bioconversion and Processing of Waste	3	0	0	3
			ME623	Solar Photovoltaic System	3	0	0	3
			ME624	Nuclear Energy	3	0	0	3
			ME625	Energy, Ecology and Environment	3	0	0	3
		LABORATORIES						
		Programme Core (PC)	ME627	Simulation 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 Energy Technology
OFFERED FOR LEVEL 5-6**

PE / LEVEL	Code no.	Name of the PE courses	Prerequisites courses with code	L	T	P	C
5	ME544	Wind Energy	NIL	3	0	0	3
	ME545	Solar Passive Architecture	NIL	3	0	0	3
	ME546	Hydrogen Energy System	NIL	3	0	0	3
	ME555	Energy Storage Technology	NIL	3	0	0	3
	ME556	Convection Heat & Mass Transfer	NIL	3	0	0	3
	ME557	Integrated Energy System	NIL	3	0	0	3
6	ME622	Bioconversion and Processing of Waste	NIL	3	0	0	3
	ME623	Solar Photovoltaic System	NIL	3	0	0	3
	ME624	Nuclear Energy	NIL	3	0	0	3
	ME625	Energy, Ecology and Environment	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**