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 Heat Power Engineering

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)	ME561	Classical and Statistical Thermodynamics	3	1	0	4
			ME562	Advanced Incompressible Fluid Flow	3	1	0	4
			ME563	Conduction and Radiation Heat Transfer	3	0	0	3
		Programme Elective (PE)*(* Student can choose only one of these)	ME564	Renewable Source of Energy	3	0	0	3
			ME565	Theory and Design of I.C. Engines	3	0	0	3
			ME566	Computational Methods in Thermal Engineering	3	0	0	3
			ME567	Safety Aspects of Nuclear Power Plants	3	0	0	3
		Open elective OE		Open Elective (OE) 1	3	0	0	3
				LABORATORIES				
		Programe Core (PC)	ME568	Advanced Fluid Mechanics Lab	0	0	4	2
				TOTAL				**19**
SECOND/ Spring	**FIFTH**			**THEORY**				
		Programme Core (PC)	ME571	Convective Heat and Mass Transfer	3	0	0	3
			ME572	Modern Power Plant Engineering	3	0	0	3
			ME573	Design of Thermal Systems	3	0	0	3
		Programme Elective (PE)*(* Student can choose only one of these)	ME574	Advanced Turbo-Machines	3	0	0	3
			ME575	Computational Fluid Dynamics	3	0	0	3
			ME576	Advanced Energy Technology	3	0	0	3
		OPEN ELECTIVE OE		(OE) SUBJECT 2	3	0	0	3
				LABORATORIES				
		Programme Core (PC)	ME577	Advanced Heat Transfer Lab	0	0	4	2
			ME578	CFD Lab	0	0	4	2
				TOTAL				**19**
				TOTAL FOR FIFTH LEVEL				**38**

					THEORY				
THIRD / Monsoon	**SIXTH**	Programme Core (PC)	ME600	Thesis Part I					8
			ME642	Advanced Refrigeration & Air Conditioning	3	0	0		3
		Programme Elective (PE)*(* *Student can choose only one of these*)	ME643	Dynamics of Compressible Fluid Flow	3	0	0		3
			ME644	Design and Analysis of Heat Exchangers	3	0	0		3
			ME645	Steam Engineering	3	0	0		3
				LABORATORIES					
		Programme Core (PC)	ME646	Thermal Engineering 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 Heat Power Engineering
OFFERED FOR LEVEL 5-6

PE / LEVEL	Code no.	Name of the PE courses	Prerequisites courses with code	L	T	P	C
5	ME 564	Renewable Source of Energy	NIL	3	0	0	3
	ME 565	Theory and Design of I.C. Engines	NIL	3	0	0	3
	ME 566	Computational Methods in Thermal Engineering	NIL	3	0	0	3
	ME 567	Safety Aspects of Nuclear Power Plant	NIL	3	0	0	3
	ME 574	Advanced Turbo-Machines	NIL	3	0	0	3
	ME 575	Computational Fluid Dynamics	ME 562	3	0	0	3
	ME 576	Advanced Energy Technology	NIL	3	0	0	3
6	ME 643	Dynamics of Compressible Fluid Flow	ME 562	3	0	0	3
	ME 644	Design and Analysis of Heat Exchangers	NIL	3	0	0	3
	ME 645	Steam Engineering	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