BIRLA INSTITUTE OF TECHNOLOGY- MESRA, RANCHI
NEWCOURSE STRUCTURE - *To be effective from academic session 2018- 19*
Based on CBCS system & OBE model
Recommended scheme of study for M.Tech (Aerodynamics)

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
				THEORY				
		Programme Core (PC)	SR 501	Elements of Rocket Propulsion	3	0	0	3
			SR 502	Elements of Aerodynamics	3	0	0	3
	FIFTH		SR 503	Space Engineering & Space Dynamics	3	0	0	3
FIRST / Monsoon		Programme Elective (PE)	SR 508 SR 509	(One Course to be selected) Aerodynamic Stability and Control Aeroacoustics	3	0	0	3
		Open elective OE		Open Elective (OE) 1	3	0	0	3
				LABORATORIES				
		Programme Core (PC)	SR 506	Rocket Propulsion Lab	0	0	4	2
			SR 507	Aerodynamics Lab	0	0	4	2
TOTAL								**19**

					THEORY				
SECOND/ Spring	**FIFTH**	Programme Core (PC)	SR 576	Compressible Flows	3	0	0	3
			SR 577	Boundary Layer Theory	3	0	0	3
			SR 578	Computational Fluid Dynamics	3	0	0	3
			SR 579 SR 580 SR 581	(One Course to be selected) Experimental Aerodynamics Elements of Hypersonic Flight Missile Aerodynamics	3	0	0	3
		OPEN ELECTIVE OE		Open Elective (OE) 2	3	0	0	3
				LABORATORIES				
		Programme Core (PC)	SR 582	Low Speed Aerodynamics Lab	0	0	4	2
			SR 583	High Speed Aerodynamics Lab	0	0	4	2
TOTAL								**19**
TOTAL FOR FIFTH LEVEL								**38**
				THEORY				
THIRD /Monsoon	**SIXTH**	Programme Core (PC)	SR 621	Thesis Part - I				8
			SR 611	Fundamentals of Turbulence	3	0	0	3
		Programme Elective (PE)	SR 612 SR 613 SR 614	(One Course to be selected) Aerodynamics of Internal Flows Basics of Measurement Turbulence Modelling in CFD	3	0	0	3
				LABORATORIES				
		Programme Core (PC)	SR 615	Data Acquisition and Processing Lab	0	0	4	2
		TOTAL						**16**
FOURTH/ Spring	**SIXTH**	Programme Core (PC)	SR 621	Thesis Part - II				16
		TOTAL						**16**
TOTAL FOR SIXTH LEVEL								**32**
GRAND TOTAL FOR M.TECH PROGRAMME (38 + 32)								**70**

DEPARTMENT OF SPACE ENGINEERING & ROCKETRY
PROGRAMME ELECTIVES (PE)
OFFERED FOR M. TECH (AERODYNAMICS)

PE / LEVEL	Code no.	Name of the PE subjects	Prerequisites Subjects with code	L	T	P	C
FIFTH	SR 508	Aerodynamic Stability and Control		3	0	0	3
	SR 509	Aeroacoustics		3	0	0	3
	SR 579	Experimental Aerodynamics		3	0	0	3
	SR 580	Elements of Hypersonic Flight		3	0	0	3
	SR 581	Missile Aerodynamics		3	0	0	3
SIXTH	SR 612	Aerodynamics of Internal Flows		3	0	0	3
	SR 613	Basics of Measurement		3	0	0	3
	SR 614	Turbulence Modelling in CFD		3	0	0	3
* PROGRAMME ELECTIVES TO BE OPTED ONLY BY THE DEPARTMENT STUDENTS							

DEPARTMENT OF SPACE ENGINEERING & ROCKETRY
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
FIFTH	SR 509	Aero acoustics	NIL	3	0	0	3
	SR 505	Flame Propagation & Stability	NIL	3	0	0	3
	SR 553	Ignition and Extinction in Chemical Rockets	NIL	3	0	0	3
	SR 555	Heat Transfer in Space Applications	NIL	3	0	0	3
	SR 579	Experimental Aerodynamics	NIL	3	0	0	3
SIXTH	SR 603	Computational Combustion	NIL	3	0	0	3
* OPEN ELECTIVES TO BE OPTED ONLY BY OTHER DEPARTMENT STUDENTS							