

BIRLA INSTITUTE OF TECHNOLOGY
MESRA : RANCHI

DEPARTMENT OF SPACE ENGINEERING & ROCKETRY

M. E. PROGRAMME

COURSE STRUCTURE

I SEMESTER

<u>Course No.</u>	<u>Title</u>	L	T	P	C
MSR 1101	Elements of Rocket Propulsion	3	1	0	4
MSR 1103	Elements of Aerodynamics	3	1	0	4
MSR 1005	Space Engineering & Space Flight	3	0	0	3
MMA1105	Computational Mathematics	3	0	0	3
MSR 1002	Rocket Propulsion Lab	0	0	3	2
MSR 1004	Aerodynamics Lab I	0	0	3	2
<u>ELECTIVE – I</u> (One Course to be selected)					
MSR 1007	Fundamentals of Combustion	3	0	0	3
MSR 1111	Stability and Control	3	0	0	3

II SEMESTER (ROCKET PROPULSION)

MSR 2001	Solid Rocket Propulsion	3	0	0	3
MSR 2103	Liquid & Hybrid Rocket Propulsion	3	0	0	3
MSR 2105	Rocket Combustion Processes	3	0	0	3
MSR 2002	Solid Rocket Propulsion Lab	0	0	3	2
MSR 2004	Liquid & Hybrid Propulsion Lab	0	0	3	2

ELECTIVE – II (One Course to be selected)

MSR 2009	Ignition and Ignition Devices	3	0	0	3
MSR 2111	Propellant Technology	3	0	0	3
MSR 2013	Special Topics in Chemical Propulsion	3	0	0	3
	Breadth Paper	3	0	0	3

II SEMESTER (AERODYNAMICS)

MSR 2021	Missile Aerodynamics	3	0	0	3
MSR 2123	Viscous Flows	3	0	0	3
MSR 2125	High Speed Aerodynamics	3	0	0	3
MSR 2008	Aerodynamics Lab II	0	0	3	2
MSR 2010	Aerodynamics Lab III	0	0	3	2

ELECTIVE – II (One Course to be selected)

MSR 2029	Experimental Aerodynamics	3	0	0	3
MSR 2131	Theory of Turbulence	3	0	0	3
MSR 2033	Elements of Hypersonic Flight	3	0	0	3
	Breadth Paper	3	0	0	3

III SEMESTER

MSR 3001	Thesis	0	0	0	15
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IV SEMESTER

MSR 4001	Thesis	0	0	0	20
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Total Credits : 75

Breadth Papers offered by the Department :

MSR 2007	Advanced Propulsion Systems	3	0	0	3
MSR 2127	Computational Aerodynamics	3	0	0	3