BIRLA INSTITUTE OF TECHNOLOGY- MESRA, RANCHI

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

REVISED COURSE STRUCTURE - Effective from academic session 2022- 23

Based on M. Tech Programme in EV Technology

SEMESTER / Session of Study (Recommended)	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							
FIRST/ Monsoon	Fifth	Programme Core (PC)	EE582	Vehicle Dynamics	3	0	0	3
			EE503	Modern Control Theory	3	0	0	3
			EE507	Advanced Power Electronics	3	0	0	3
			EE501	Advanced Digital Signal Processing	3	0	0	3
			EE584	Energy Storage System and Conversion	3	0	0	3
		LABORATORIES						
	Fifth	Programme Core (PC)	EE604	Power Converter Design Laboratory	0	0	4	2
			EE512	Electric Vehicle Simulation Laboratory	0	0	4	2
		HSS	MT132	Communication Skill – I	0	0	3	1.5
							TOTAL	**19**
SECOND/	Fifth	Programme Electives (PE)		Programme Electives (PE)	5*3	0	0	15
		LABORATORIES						
		HSS	MT133	Communication Skill – I	0	0	3	1.5
			EE576	Energy Storage and Battery Management System Laboratory	0	0	4	2

Spring	Fifth	Programme Elective EV Technology BASKET	EE574	Electric Drives Laboratory	**0**	**0**	**4**	**2**
							TOTAL	**19**
THIRD / Monsoon	Sixth	Programme Core (PC)	EE600	Thesis (Part I)				8
		Open Elective (OE)		OE I / MOOC				3
				OE II / MOOC				3
		TOTAL						14
FOURTH/ Spring	Sixth	Programme Core (PC)	EE650	Thesis (Part II)				16
		GRAND TOTAL FOR M. TECH PROGRAMME (38+ 30)						**68**

LIST OF PROGRAMME ELECTIVES (EV Technology)						
Level of Study	**Course Code**	**Courses**	**Mode of delivery & credits *L-Lecture; T-Tutorial; P- Practical***			**Total Credits *C- Credits***
			L (*Periods/ week*)	**T *(Periods/ week)***	**P *(Periods/ week)***	**C**
Fifth	EE543	Switched Mode Power Conversion	3	0	0	3
	EE577	Control of Electric Drives	3	0	0	3
	EE569	Electric Vehicles	3	0	0	3
	EE583R1	Renewable Sources of Electrical Energy and Grid Integration	3	0	0	3
	EE547	Battery Management System	3	0	0	3
	ME536	Nonlinear Vibrations	3	0	0	3
	ME530	Vibrations of Continuous systems	3	0	0	3
	EE586	Advanced Control Techniques for Electric Vehicles	3	0	0	3
LIST OF OPEN ELECTIVES						
Fifth	EE585	Hybrid Electric Vehicle	3	0	0	3
	EE587	Electromechenical Energy Conversion	3	0	0	3
	EE589	Power Semiconductor Devices	3	0	0	3
	EE595	Smart Grid	3	0	0	3
	EE597	Reliability Engineering	3	0	0	3
Sixth	EE601	Process Measurement and Control	3	0	0	3