BIRLA INSTITUTE OF TECHNOLOGY- MESRA, RANCHI

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**	Communications Skill – I	**0**	**0**	**3**	**1.5**
		TOTAL						**20.5**
SECOND /	**Fifth**	**Programme Electives (PE)**		**Programme Electives (PE)**	5*3	0	0	15
		LABORATORIES						
		HSS	**MT133**	Communications Skill – II	**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						**20.5**
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 (41+ 30)						**71**

LIST OF PROGRAMME ELECTIVES
(EV Technology)

Level of Study	Course Code	Courses	Pre-requisites	Mode of delivery & credits *L-Lecture; T-Tutorial;P- Practicals*			Total Credits *C- Credits*
				L (*Periods/ week*)	T (*Periods/ week*)	P (*Periods/ week*)	C
5	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	RenewableSourcesofElectricalEnergyand 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							
5	EE585	Hybrid Electric Vehicle	NIL	3	0	0	3
	EE587	Electromechenical Energy Conversion	NIL	3	0	0	3
	EE589	Power Semiconductor Devices	NIL	3	0	0	3
	EE595	Smart Grid	NIL	3	0	0	3
	EE597	Reliability Engineering	NIL	3	0	0	3
6	EE601	Process Measurement and Control	NIL	3	0	0	3