

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 M.Tech Programme in Automated Manufacturing Systems

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
FIRST / Monsoon	THEORY							
	FIFTH	PC Programme Core	PE 501	Manufacturing Automation	3	0	0	3
			PE 503	Planning & Control of Production System	3	0	0	3
			PE 504	Modeling and Simulation	3	0	0	3
		PE Programme Elective		Programme Elective - I	3	0	0	3
		OE Open Elective		Open Elective - I	3	0	0	3
	LABORATORIES							
	FIFTH	PC	PE 502	Computer Aided Manufacturing Lab	0	0	4	2
			PE 505	Manufacturing Simulation Lab	0	0	4	2
	TOTAL							
SECOND/ Spring	THEORY							
	FIFTH	PC	PE 510	Robotics & Robot Applications	3	0	0	3
			PE 511	Computer Integrated Manufacturing	3	0	0	3
			PE 512	Soft Computing in Manufacturing Automation	3	0	0	3
		PE		Programme Elective - II	3	0	0	3
		OE		Open Elective - II	3	0	0	3
	LABORATORIES							
	FIFTH	PC	PE 516	Autonomous Systems Lab	0	0	4	2
			PE 517	Computer Aided Design & Drafting Laboratory	0	0	4	2
	TOTAL							
TOTAL FOR FIFTH LEVEL								38
THIRD/ Monsoon	THEORY							
	SIXTH	PC	PE 600	Thesis Part - I				8
			PE 601	Data Analytics	3	0	0	3
		PE		Programme Elective - III	3	0	0	3
	LABORATORIES							
SIXTH	PC	PE 605	Data Analytics Lab	0	0	4	2	
TOTAL								16
FOURTH/ Spring	SIXTH	PC	PE650	Thesis Part- II				16
	TOTAL							
TOTAL FOR SIXTH LEVEL								32
GRAND TOTAL FOR M.TECH PROGRAMME (38 + 32)								70

**DEPARTMENT OF PRODUCTION ENGINEERING
PROGRAMME ELECTIVES (PE)****

LEVEL		Course Code	Name of the PE courses	Prerequisites courses with code	L	T	P	C
FIFTH	PE - I (Any one)	PE 506	Manufacturing Technology	None	3	0	0	3
		PE 507	Additive Manufacturing	None	3	0	0	3
		PE 508	Operations and Supply Chain Management	None	3	0	0	3
	PE - II (Any one)	PE 513	Manufacturing System Design	None	3	0	0	3
		PE 514	Mechatronic Systems	None	3	0	0	3
		ME 533	Automatic Control	None	3	0	0	3
		EE 573	Embedded System and Applications	None	3	0	0	3
SIXTH	PE - III (Any one)	PE 602	Optimization Techniques	None	3	0	0	3
		PE 603	Hydraulic & Pneumatic Controls	PE 501 Manufacturing Automation	3	0	0	3
		PE 604	Quality Engineering and Robust Design	None	3	0	0	3

**** PROGRAMME ELECTIVES TO BE OPTED ONLY BY THE DEPARTMENT STUDENTS**

**DEPARTMENT OF PRODUCTION ENGINEERING
OPEN ELECTIVES (OE)***

LEVEL / SESSION	Code no.	Name of the OE courses	Prerequisites courses with code	L	T	P	C
FIFTH / (MO)	PE 509	Automated Manufacturing	None	3	0	0	3
FIFTH / (SP)	PE 515	Smart Manufacturing	None	3	0	0	3

* OPEN ELECTIVES TO BE OPTED ONLY BY OTHER DEPARTMENT STUDENTS