BIRLA INSTITUTE OF TECHNOLOGY- MESRA, RANCHI
NEW COURSE STRUCTURE - To be effective from academic session 2018- 19
Based on CBCS & OBE model
Recommended scheme of study for M.Tech(Computer Science & Engineering)

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)	CS501	Mathematical Foundations of Computer Science	3	0	0	3
			CS502	Advanced Data Structures	3	0	0	3
			CS504	Distributed Systems	3	0	0	3
		Programme Elective (PE)	**	PE 1	3	0	0	3
		Programme Elective (PE)	**	PE 3	3	0	0	3
		Open Elective (OE)	*	OE 1	3	0	0	3
		LABORATORIES						
	Fifth	Programme Core (PC)	CS503	Advanced Data Structures Lab	0	0	4	2
		Programme Elective (PE)	**	PE LAB 1	0	0	4	2
				PE LAB 3	0	0	4	2
		TOTAL						24
SECOND/ Spring	Fifth	Programme Core (PC)	CS509	Advanced Computer Algorithm	3	0	0	3
			CS511	Advanced Database Management System	3	0	0	3
			CS512	Artificial Intelligence	3	0	0	3
			CS601	Graph Theory	3	0	0	3
		Programme Elective (PE)	**	PE 2	3	0	0	3
		Open Elective (OE)	*	OE 2	3	0	0	3
		LABORATORIES						
	Fifth	Programme Core (PC)	CS510	Advanced Computer Algorithm Lab	0	0	4	2
		Programme Elective (PE)	**	PE LAB 2	0	0	4	2
		TOTAL						22
TOTAL FOR FIFTH LEVEL								46
THIRD /Monsoon	Sixth	Programme Core (PC)	CS600	Thesis Part I				8
		TOTAL						8
FOURTH/ Spring	Sixth	Programme Core (PC)	CS650	Thesis Part II				16
		TOTAL						16
TOTAL FOR SIXTH LEVEL								24
GRAND TOTAL FOR M.TECH PROGRAMME (46 + 24)								70

Programme Elective List for M.Tech (Computer Science & Engineering)

SEMESTER / Session of Study (Recommended)	Course Level		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	5		CS506	Machine Learning	3	0	0	3
	5		IT503	Wireless Sensor Networks	3	0	0	3
	5		CS507	Computability and Complexity Theory	3	0	0	3
		LABORATORIES						
	5	PE LAB 1	IT509	Matlab Programming	0	0	4	2
	5		IT510	Java Programming	0	0	4	2
			IT516	Python Programming	0	0	4	2
	5		IT511	R Programming	0	0	4	2
SECOND/ Spring	5	PE 2	IT518	Internet of Things(IoT)	3	0	0	3
	5		IT516	Data Mining and Data Analysis	3	0	0	3
	5		CS517	Design and Analysis of Parallel Algorithm	3	0	0	3
		LABORATORIES						
	5	PE LAB 2	IT517	Data Mining and Data Analysis Lab	0	0	4	2
	5		CS518	Parallel Computing Lab	0	0	4	2
	5		IT519	Internet of Things(IoT) Lab	0	0	4	2

THIRD / Monsoon	6	PE 3	CS605	High Performance Computing Architecture	3	0	0	3
	6		IT508	Cloud Computing	3	0	0	3
	5		IT516	Advanced Operating System	3	0	0	3

Open Elective List for M. Tech Program

SEMESTER / Session of Study (Recomended)		Category of Course	Course Code	Subjects	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		OE 1	CS514	Software Metrics	3	0	0	3
			CS522	Pattern Recognition and Application	3	0	0	3
			IT518	Internet of Things	3	0	0	3
			IT570	Basics of Python Programming	0	1	4	3
			IT522	Cyber Security and Digital Forensics	3	0	0	3
SECOND/ Spring	5	OE 2	IT523	Biometric Security	3	0	0	3
	5		IT504	Applied Cryptography	3	0	0	3
	5		IT524	Image Processing Techniques	3	0	0	3
	5		CS524	Soft Computing	3	0	0	3
			IT571	Introduction to R Programming	0	1	4	3
	5		CS512	Artificial Intelligence	3	0	0	3

	5	IT516	Data Mining and Data Analysis	3	0	0	3

** indicates program elective (PE)

* indicates Open Elective (OE)