BIRLA INSTITUTE OF TECHNOLOGY- MESRA, RANCHI
REVISED COURSE STRUCTURE - To be effective from academic session 2021-22
Based on CBCS & OBE Model
Recommended scheme of study for M.Tech Computer Science & Engineering

SEMESTER / Session of Study (Recomended)	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
				PE I	3	0	0	3
		Programme Elective (PE)		**PE III**	3	0	0	3
		LABORATORIES						
	Fifth	**Programme Core (PC)**	CS503	Advanced Data Structures Lab	0	0	4	2
			**	PE LAB 1	0	0	4	2
		TOTAL						**19**
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
				PE II	3	0	0	3
		LABORATORIES						
	Fifth	**Programme**	CS510	Advanced Computer Algorithm Lab	0	0	4	2

		Core (PC)	**	PE LAB 2	0	0	4		2
		TOTAL							19
THIRD / Monsoon	Sixth	Programme Core (PC)	CS600	Thesis (Part I)					8
		Open Elective (OE)		OE I / MOOC					3
				OE II / MOOC					3
		TOTAL							14
FOURTH / Spring	Sixth	Programme Core (PC)	CS650	Thesis (Part II)					16
		TOTAL							16
GRAND TOTAL FOR M.TECH PROGRAMME (38 + 30)									68

SEMESTER / Session of Study (Recommended)	Course Level		Course Code	Courses	Mode of delivery & credits			Total
					L-Lecture; T-Tutorial;P-Practicals			Credits
								C-Credits
					L	T	P	C
					(Periods/ week)	*(Periods/ week)*	*(Periods/ week)*	
FIRST /	5		CS506	Machine Learning	3	0	0	3
Monsoon	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
			IT603	Python Programming	0	0	4	2
	5		IT511	R Programming	0	0	4	2

SECOND/	5	PE 2	IT518	Internet of Things(IoT)	3	0	0	3
Spring	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 /	6	PE 3	CS605	High Performance Computing Architecture	3	0	0	3
Monsoon	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		Category	Course Code	Subjects	Mode of delivery & credits			Total
(Recomended)		of Course			*L-Lecture; T-Tutorial;P-Practicals*			Credits
								C-Credits
					L	T	P	C
					(Periods/ week)	*(Periods/ week)*	*(Periods/ week)*	
FIRST /		OE 1	CS514	Software Metrics	3	0	0	3
Monsoon			CS522	Pattern Recognition and	3	0	0	3

				Application				
			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/	5	OE 2	IT523	Biometric Security	3	0	0	3
Spring	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