

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 <i>L-Lecture; T-Tutorial;P-Practicals</i>			Total Credits <i>C- Credits</i>	
					L <i>(Periods/week)</i>	T <i>(Periods/week)</i>	P <i>(Periods/week)</i>	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	
		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	
	TOTAL								19
	LABORATORIES								
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	
		Programme Elective (PE)	**	PE 2	3	0	0	3	
	Open Elective (OE)	*	OE 2	3	0	0	3		
	LABORATORIES								
	Fifth	Programme Core	CS510	Advanced Computer Algorithm Lab	0	0	4	2	
Programme Elective (PE)		**	PE LAB 2	0	0	4	2		
TOTAL FOR FIFTH LEVEL								38	

THIRD / Monsoon	Sixth	Programme Core (PC)	CS600	Thesis Part I				8
			CS601	Graph Theory	3	0	0	3
		Programme Elective (PE)	**	PE 3	3	0	0	3
		LABORATORIES						
	Sixth	Programme Elective (PE)	**	PE LAB 3	0	0	4	2
	TOTAL							16
FOURTH/ Spring	Sixth	Programme Core (PC)	CS650	Thesis Part II				16
	TOTAL							16
TOTAL FOR SIXTH LEVEL								32
GRAND TOTAL FOR M.TECH PROGRAMME (38 + 32)								70

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

SEMESTER / Session of Study (Recommended)	Course Level	Category of Course	Course Code	Courses	Mode of delivery & credits			Total C
					L (Periods/week)	T (Periods/week)	P (Periods/week)	
FIRST / Monsoon	5	PE 1	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
5	IT511		R Programming	0	0	4	2	
SECOND/ Spring	5	PE 2	CS515	Advanced Operating System	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	CS516		Advanced Operating System 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		IT518	Internet of Things(IoT)	3	0	0	3
		LABORATORIES						
	5	PE LAB 3	IT519	Internet of Things(IoT) Lab	0	0	4	2
	6		IT603	Python Programming	0	0	4	2
6	IT604		Web App Development Lab	0	0	4	2	

Open Elective List for M. Tech Program

SEMESTER / Session of Study (Recommended)	Course Level	Category of Course	Course Code	Subjects	Mode of delivery & credits			Total C
					L (Periods/week)	T (Periods/week)	P (Periods/week)	
FIRST / Monsoon	5	OE 1	CS514	Software Metrics	3	0	0	3
	5		CS522	Pattern Recognition and Application	3	0	0	3
	5		IT518	Internet of Things	3	0	0	3
	5		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
	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)