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 Information Technology

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
			IT501	Information Theory and Coding	3	0	0	3
				PE I	3	0	0	3
		Programme Elective (PE)		**PE II**	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**	CS509	Advanced Comput	3	0	0	3

		(PC)		er Algorithm				
			IT512	Advanced Web Technology	3	0	0	3
			IT513	Big Data Analytics	3	0	0	3
			CS601	Graph Theory	3	0	0	3
		Programme Elective (PE)						
				PE III	3	0	0	3
		LABORATORIES						
	Fifth	**Programme Core (PC)**	CS510	Advanced Computer Algorithm Lab	0	0	4	2
			**	PE LAB 2	0	0	4	2
		TOTAL						**19**
THIRD / Monsoon	**Sixth**	**Programme Core (PC)**		**Thesis (Part I)**				**8**
		Open Elective (OE)		**OE I / MOOC**				**3**
				OE II / MOOC				**3**
		TOTAL						**14**
FOURTH/ Spring	**Sixth**	**Programme Core (PC)**		**Thesis (Part II)**				**16**
		TOTAL						**16**
GRAND TOTAL FOR M.TECH PROGRAMME (38 + 30)								**68**

SEMESTER / Session of Study	Course Level		Course Code	Courses	Mode of delivery & credits	Total
(Recomended)					*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
SECOND/	5	PE 2	IT508	Cloud Computing	3	0	0	3
Spring	5		IT516	Data Mining and Data Analysis	3	0	0	3
	5		IT518	Internet of Things(IoT)	3	0	0	3
		LABORATORIES						
	5	PE LAB 2	IT517	Data Mining and Data Analysis Lab	0	0	4	2
	5		IT519	Internet of Things(IoT) Lab	0	0	4	2
	5		IT511	R Programming	0	0	4	2
THIRD /	6	PE 3	CS607	Intelligent Systems	3	0	0	3

Monsoon	6		CS605	High Performance Computing Architecture	3	0	0	3
	5		IT507	Data Communication and Computer Networks	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 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/	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