

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(Software 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 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
			CS505	Object Oriented Modelling and Design	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
THEORY								
SECOND/ Spring	Fifth	Programme Core (PC)	CS509	Advanced Computer Algorithm	3	0	0	3
			CS513	Software Testing	3	0	0	3
			CS514	Software Metrics	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 FOR FIFTH LEVEL								38
THEORY								

THIRD / Monsoon	Fifth	Programme Core	CS600	Thesis Part I				8	
			CS603	Software Project Management	3	0	0	3	
		Programme Elective (PE)	**	PE 3	3	0	0	3	
	LABORATORIES								
	Fifth	Programme Elective (PE)	**	PE LAB 3	0	0	4	2	
TOTAL									
16									
FOURTH/ Spring	Fifth	Programme Core (PC)	CS650	Thesis Part II					
		TOTAL							
16									
TOTAL FOR SIXTH LEVEL									
32									
GRAND TOTAL FOR M.TECH PROGRAMME (38 + 32)									
70									
Programme Elective List for M.Tech (Software 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 C- Credits	
					L <i>(Periods/week)</i>	T <i>(Periods/week)</i>	P <i>(Periods/week)</i>	C	
FIRST / Monsoon	5	PE 1	CS508	Software Architecture and Integration	3	0	0	3	
	5		IT507	Data Communication and Computer Networks	3	0	0	3	
	5		CS511	Advanced Database Management system	3	0	0	3	
	5		IT508	Cloud Computing	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	CS519	Software Reliability	3	0	0	3	
	5		CS520	Service Oriented Architecture	3	0	0	3	
	5		IT518	Internet of Things(IoT)	3	0	0	3	
	LABORATORIES								
	5	PE LAB 2	CS521	Software Modelling Lab	0	0	4	2	
5	IT519		Internet of Things(IoT) Lab	0	0	4	2		
THIRD / Monsoon	6	PE 3	CS607	Intelligent Systems	3	0	0	3	
	6		CS608	Software Defined Networking	3	0	0	3	
	5		CS515	Advanced Operating System	3	0	0	3	
	LABORATORIES								
	6	PE LAB 3	IT603	Python Programming	0	0	4	2	
	6		IT604	Web App Development Lab	0	0	4	2	
	5		CS516	Advanced Operating System Lab	0	0	4	2	
Open Elective List for M. Tech Program									
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 C- Credits	
					L <i>(Periods/week)</i>	T <i>(Periods/week)</i>	P <i>(Periods/week)</i>	C	
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)							