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 in Chemical Engineering

SEMESTER / Session of Study (Recomended)	Course Level	Category of course	Course Code	Courses	Mode of delivery & credits *L-Lecture; T-Tutorial;P-Practical*			Total Credits *C- Credits*
					L (*Periods/week*)	**T** (*Periods/week*)	**P** (*Periods/week*)	**C**
FIRST / Monsoon	FIFTH	PC		**THEORY**				
			CL 501	Advanced Transport Phenomena-I	3	0	0	3
			CL502	Advanced Mathematical Techniques in Chemical Engg	3	0	0	3
			CL503	Advanced Reaction Engg.	3	0	0	3
		PE		Program Elective (PE-I)	3	0	0	3
		OE		Open Elective (OE-I)	3	0	0	3
	FIFTH	PC		**LABORATORY**				
			CL504	Design & Simulation Lab	0	0	4	2
			CL505	Computational Laboratory	0	0	4	2
				TOTAL				**19**
SECOND/ Spring	FIFTH	PC		**THEORY**				
			CL506	Advanced Transport Phenomena- II	3	0	0	3
			CL507	Advanced Process Modelling, Simulation and Optimization	3	0	0	3
			CL508	Advanced Thermodynamics	3	0	0	3
		PE		Program Elective (PE-II)	3	0	0	3
		OE		Open Elective (OE-II)	3	0	0	3
	FIFTH	PC		**LABORATORY**				
			CL509	Computer Aided Process Engg.	0	0	4	2
			CL510	Chemical Engg. Research Lab-I	0	0	4	2
								19
				TOTAL FOR FIFTH LEVEL				**38**
THIRD / Monsoon	SIXTH	**PC**		**THEORY**				
			CL 600	Thesis Part 1				8
			CL 602	Advanced Separation Process	3	0	0	3
		PE		Program Elective (PE-III)	3	0	0	3

				LABORATORY				
	SIXTH	PC	CL603	Chemical Engg. Research Lab-II	0	0	4	2
				TOTAL				**16**
FOURTH/ Spring	SIXTH	PC	CL650	Thesis Part 2				16
				TOTAL				**16**
	TOTAL FOR SIXTH LEVEL							**32**
	GRAND TOTAL FOR M.TECH PROGRAMME (38 + 32)							**70**

DEPARTMENT OF CHEMICAL ENGINEERING
PROGRAMME ELECTIVES (PE) **
OFFERED FOR LEVEL 5-6 of M.Tech. In Chemical Engineering

PE / LEVEL	Code no.	Name of the PE courses	Prerequisites courses with code	L	T	P	C
Programme Elective -I							
PE/5 (MO)	CL511	Complex Fluid Technology	CL210,CL203	3	0	0	3
PE/5 (MO)	CL512	Biochemical Engineering	CL209,CL302, CL308	3	0	0	3
PE/5 (MO)	CL513	Process safety and Management	CL205,CL308	3	0	0	3
Programme Elective - II							
PE/5 (SP)	CL514	Computational Fluid Dynamics	CL210,CL203,MA203,CS101	3	0	0	3
PE/5 (SP)	CL515	Process Intensification	CL308,CL210	3	0	0	3
PE/5 (SP)	CL516	Heterogeneous Catalysis and Catalytic Processes	CL302,CH101, PH113, CL301	3	0	0	3
Programme Elective -III							
PE/6 (MO)	CL631	Composite Manufacturing Technology	CH101, PH111,MA103	3	0	0	3
PE/6 (MO)	CL632	Polymer Physics	CH101, PH111,MA103	3	0	0	3
PE/6 (MO)	CL633	Polymer Product manufacturing Technology	CH101, PH111,MA103	3	0	0	3
PE/6 (MO)	CL634	Polymer Rheology	CH101, PH111,MA103	3	0	0	3
PE/6 (MO)	CL635	Die and Mould	PE201, ME101	3	0	0	3
PE/6 (MO)	CL614	Process Integration	CL308,CL210	3	0	0	3

** PROGRAMME ELECTIVES TO BE OPTED ONLY BY THE DEPARTMENT STUDENTS

DEPARTMENT OF CHEMICAL ENGINEERING
OPEN ELECTIVES (OE)*
OFFERED FOR LEVEL 5-6 of M.Tech in Chemical Engineering

OE / LEVEL	Code no.	Name of the PE courses	Prerequisites courses with code	L	T	P	C
OE/5 (MO)	CL516	Heterogeneous Catalysis and Catalytic Processes	NIL	3	0	0	3
OE/5 (MO)	CL515	Process Intensification	NIL	3	0	0	3
OE/5 (SP)	CL614	Process Integration	NIL	3	0	0	3
OE/5 (SP)	CL612	Composite Manufacturing Technology	NIL	3	0	0	3

* OPEN ELECTIVES TO BE OPTED ONLY BY OTHER DEPARTMENT STUDENTS