



**BIRLA INSTITUTE OF TECHNOLOGY-
MESRA, RANCHI
COURSE STRUCTURE FOR
MASTER OF SCIENCE (AI & DS)
(w.e.f. Academic Session 2025-26)
(Proposed)**

Semester/ Session of Study (Recomm ended)	Course Level	Course Code	Courses	Mode of delivery and credits L-Lecture; T-Tutorial; P-Practical			Total Credits C
				L	T	P	C
First Monsoon	Fourth	MC25401	Data Structures	3	0	0	3
		MC25403	Database Management Systems	3	0	0	3
		MC25405	Python Programming	3	0	0	3
		MC25407	Operating Systems	3	0	0	3
		MC25409	Mathematics for AI & Data Science	3	0	0	3
		MC25402	Data Structures Lab	0	0	3	1.5
		MC25404	DBMS Lab	0	0	3	1.5
		MC25406	Python Programming Lab	0	0	3	1.5
		HS24131	Communication Skills-I	0	0	3	1.5
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Semester/ Session of Study (Recomm ended)	Course Level	Course Code	Courses	Mode of delivery and credits L-Lecture; T-Tutorial; P-Practical			Total Credits C
				L	T	P	C
Second Spring	Fourth	MC25411	Introduction to AI and ML	3	0	0	3
		MC25413	Design &Analysis of Algorithms	3	0	0	3
		MC25415	Foundations of Data Science	3	0	0	3
			PE - I	3	0	0	3
			PE – II	3	0	0	3
		MC25412	AI and ML Lab	0	0	3	1.5
		MC25414	Design &Analysis of Algorithms Lab	0	0	3	1.5
			PE - I Lab	0	0	3	1.5
		HS24132	Communication Skills-II	0	0	3	1.5
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Semester/ Session of Study (Recommended)	Course Level	Course Code	Courses	Mode of delivery and credits L-Lecture; T-Tutorial; P-Practical			Total Credits C
				L	T	P	C
Third Monsoon	Fifth	MC25501	Deep Learning	3	1	0	4
		MC25503	Data Mining and Applications	3	0	0	3
		MC25505	Natural Language Processing	3	0	0	3
			PE – III	3	0	0	3
		MC25502	Deep Learning Lab	0	0	3	1.5
		MC25504	Data Mining Lab	0	0	3	1.5
			PE- III Lab	0	0	3	1.5
		MC25506	Minor Project / MOOC	0	0	0	3
		20.5					

Semester/ Session of Study (Recommended)	Course Level	Course Code	Courses	Mode of delivery and credits L-Lecture; T-Tutorial; P-Practical			Total Credits C
				L	T	P	C
Fourth Spring	Fifth	MC25520	Project/ Internship	0	0	0	20
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List of Program Electives

PE / LEVEL	Course Level	Course Code	Courses	Mode of delivery and credits L-Lecture; T-Tutorial; P-Practical			Total Credits C
				L	T	P	C
	PE - I	MC25421	Software Engineering	3	0	0	3
		MC25423	Full Stack Development	3	0	0	3
		MC25425	Cloud Computing	3	0	0	3
		MC25422	Software Engineering Lab	0	0	3	1.5
		MC25424	Full Stack Development Lab	0	0	3	1.5
		MC25426	Cloud Computing Lab	0	0	3	1.5

	PE - II	MC25427	Internet of Things	3	0	0	3
		MC25429	Cyber Security	3	0	0	3
		MC25431	Blockchain Technology	3	0	0	3
	PE - III	MC25507	Big Data Analytics	3	0	0	3
		MC25509	Information Retrieval	3	0	0	3
		MC25511	Computer Vision	3	0	0	3
		MC25508	Big Data Analytics Lab	0	0	3	1.5
		MC25510	Information Retrieval Lab	0	0	3	1.5
		MC25512	Computer Vision Lab	0	0	3	1.5