BIRLA INSTITUTE OF TECHNOLOGY- MESRA, RANCHI

NEW COURSE STRUCTURE – WEF academic session 2025-26

Based on NEP

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 *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)	CS26501	Advanced Data Structures & Algorithms	3	0	0	3
			AI26509	Machine Learning	3	0	0	3
			CS26503	Image Processing	3	0	0	3
			CS26505	Advanced Networking	3	0	0	3
			CS26507	Advanced Computer Architecture	3	0	0	3
								15
		LABORATORIES						
	Fifth	Programme Core (PC) Lab	CS26502	Advanced Data Structures & Algorithms Lab	0	0	3	1.5
			AI26510	Machine Learning Lab	0	0	3	1.5
			CS26510	Skill Development course- I	0	0	4	2
								5
			TOTAL					**15+5=20**

SECOND / Spring	Fifth	Programme Core (PC)	CS26511	Database System Design	3	0	0	3
		Programme Elective (PE)		PE I (Pool 1)	3	0	0	3
				PE II (Pool 2)	3	0	0	3
				PE III (Pool 2)	3	0	0	3
				PE IV (Pool 2)	3	0	0	3
			TOTAL					**15**
		LABORATORIES						
	Fifth	Programme Core (PC) Lab	CS26512	Database System Design Lab	0	0	3	1.5
			CS26514	Skill Development course – II	0	0	4	2
		Programme Elective (PE) Lab		PE I Lab (Pool 1)	0	0	3	1.5
								5
			TOTAL					**15+5=20**
TOTAL FOR FIFTH LEVEL								**20+20=40**
THIRD /Monsoon	Sixth	Programme Core (PC)	CS26515	Thesis Part I				14
		Open Elective (OE)	*	OE 1/MOOC-I	3	0	0	3
		Open Elective (OE)	*	OE 2/MOOC-II	3	0	0	3
		TOTAL						**14+6=20**
FOURTH / Spring	Sixth	Programme Core (PC)	CS26517	Thesis Part II				20
		TOTAL						**20**
TOTAL FOR SIXTH LEVEL								**20+20=40**
GRAND TOTAL FOR M.TECH. PROGRAMME								**80**

Open Elective List for M. Tech Program

Course Code	Courses	Mode of delivery & credits *L-Lecture; T-Tutorial; P- Practicals*			Total Credits *C-Credits*
CS26519	Basics of Python Programming	0	2	2	3

List of Electives

Systems Track

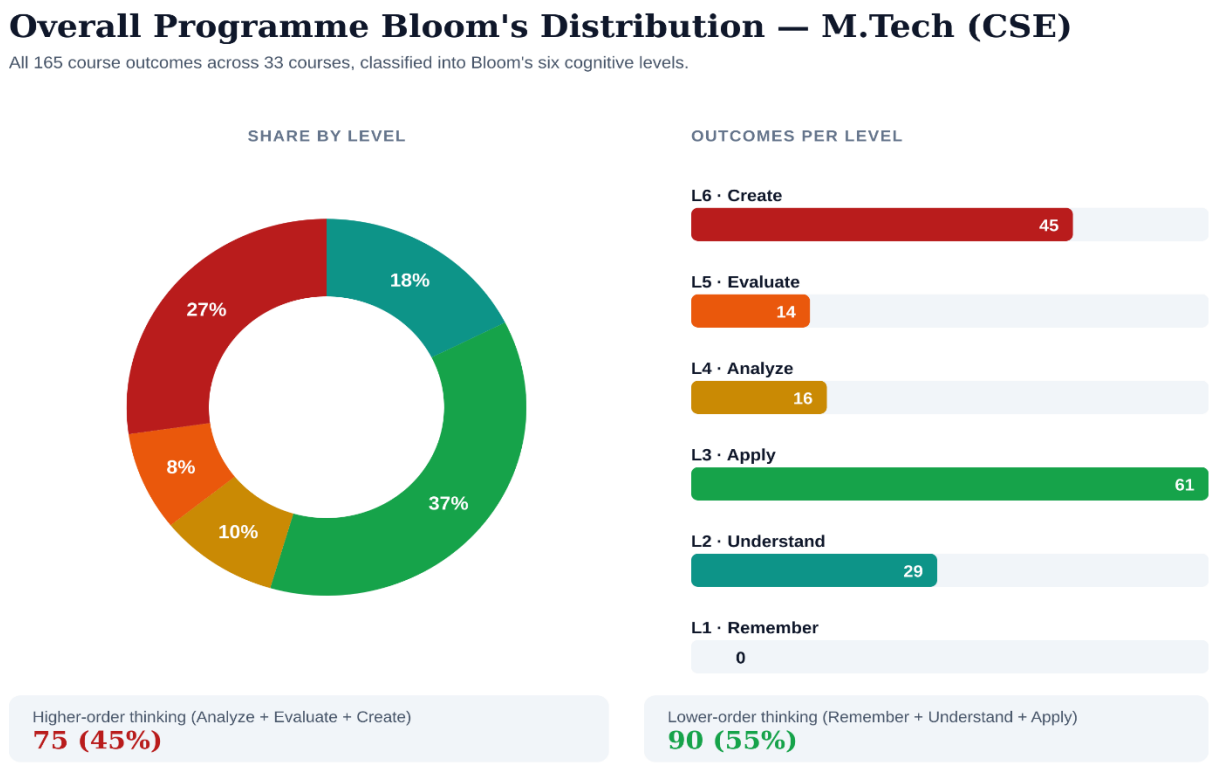
Course Code	Courses	Mode of delivery & credits *L- Lecture; T- Tutorial; P- Practicals*			Total Credits *C-Credits*
	Theory with Lab- Pool 1				
CS26521	Blockchain Technology	3	0	0	3
CS26523	Computer Vision	3	0	0	3
CS26525	Advanced Graphics	3	0	0	3
CS26527	Cyber Security & Digital Forensics	3	0	0	3
CS26522	Blockchain Technology Lab	0	0	3	1.5
CS26524	Computer Vision Lab	0	0	3	1.5
CS26526	Advanced Graphics Lab	0	0	3	1.5
CS26528	Cyber Security & Digital Forensics Lab	0	0	3	1.5
	Theory- Pool 2				
CS26529	Internet of Things (IoT)	3	0	0	3
CS26531	Quantum Computing	3	0	0	3
CS26533	Modern Optimization Techniques	3	0	0	3
CS26535	GPU Computing	3	0	0	3
CS26537	Video Processing	3	0	0	3

Modern Technology Track

Course Code	Courses	Mode of delivery & credits *L- Lecture; T- Tutorial; P- Practicals*			Total Credits *C-Credits*
	Theory with Lab- Pool 1				
AI26513	Deep Learning	3	0	0	3
CS26539	Natural Language Processing	3	0	0	3
AI26514	Deep Learning Lab	0	0	3	1.5
CS26540	Natural Language Processing Lab	0	0	3	1.5
	Theory- Pool 2				
AI26501	Modern Artificial Intelligence	3	0	0	3
AI26525	Large Language Models (LLM)	3	0	0	3
AI26527	Agentic AI Systems	3	0	0	3
CS26541	NoSQL	3	0	0	3

M. Tech CSE COURSE MAPPING WITH BLOOM'S LEVELS

Level	Cognitive level	Description
L1	Remember	Recall facts, terms and basic concepts.
L2	Understand	Explain ideas or concepts in one's own words.
L3	Apply	Use knowledge to solve problems in new situations.
L4	Analyze	Break information into parts and examine how they relate.
L5	Evaluate	Judge or justify a decision based on criteria.
L6	Create	Combine elements to produce new ideas or solutions.



Assessment Tool→ Bloom's level mapping

Legend: L1 Remember L2 Understand L3 Apply L4 Analyze L5 Evaluate L6 Create

Semesters I & II

Evaluation method	Type	L1	L2	L3	L4	L5	L6
		Remember	Understand	Apply	Analyze	Evaluate	Create
Quizzes	Theory	✓	✓	✓			
Assignments	Theory		✓	✓	✓		
Seminar (before committee)	Theory		✓		✓	✓	✓
Semester-End Examination	Theory	✓	✓	✓	✓		
Day-to-day lab evaluation	Lab			✓	✓		
Lab Viva	Lab		✓	✓	✓	✓	
Lab Quiz	Lab	✓	✓	✓			
End-Sem performance	Lab			✓	✓		✓

Semester III — Thesis Part I + MOOC / Open Elective

Evaluation method	Scope	L1	L2	L3	L4	L5	L6
		Remember	Understand	Apply	Analyze	Evaluate	Create
Progressive Evaluation	Thesis Part I				✓	✓	✓
End Semester Presentation	Thesis Part I				✓	✓	✓
MOOC / Open-Elective assessment	MOOC / OE		✓	✓	✓	✓	

Semester IV — Thesis Part II

Evaluation method	Scope	L1	L2	L3	L4	L5	L6
		Remember	Understand	Apply	Analyze	Evaluate	Create
Progressive Evaluation	Thesis Part II				✓	✓	✓
End Semester Presentation	Thesis Part II				✓	✓	✓