



**BIRLA INSTITUTE OF TECHNOLOGY-
MESRA, RANCHI
COURSE STRUCTURE FOR
MASTER OF SCIENCE (AI & Data Science)
(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 | |
| First Monsoon | Fourth | XX25401 | Data Structures | 3 | 0 | 0 | 3 |
| | | XX25403 | Database Design Concepts | 3 | 0 | 0 | 3 |
| | | XX25405 | Python Programming | 3 | 0 | 0 | 3 |
| | | XX25407 | Modern Operating Systems | 3 | 0 | 0 | 3 |
| | | XXXXX | Environmental Science | 2 | 0 | 0 | 2 |
| | | HS24131 | Communication Skills-I | 0 | 0 | 3 | 1.5 |
| | | XX25402 | Data Structures Lab | 0 | 0 | 3 | 1.5 |
| | | XX25404 | Database Design Concepts Lab | 0 | 0 | 3 | 1.5 |
| | | XX25406 | Python Programming Lab | 0 | 0 | 3 | 1.5 |
| | | | | | | | |

| 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 | XX25411 | Introduction to AI and ML | 3 | 0 | 0 | 3 |
| | | XX25413 | Analysis of Algorithms | 3 | 1 | 0 | 4 |
| | | XX25415 | Software Engineering | 3 | 0 | 0 | 3 |
| | | XX25417 | Foundations of data science | 3 | 1 | 0 | 4 |
| | | XX25412 | AI and ML Lab | 0 | 0 | 3 | 1.5 |
| | | XX25414 | Analysis of Algorithms Lab | 0 | 0 | 3 | 1.5 |
| | | XX25416 | Software Engineering Lab | 0 | 0 | 3 | 1.5 |
| | | HS24132 | Communication Skills-II | 0 | 0 | 3 | 1.5 |
| 20 | | | | | | | |

| Semester/ Session of Study (Recomm ended) | Course Level | Course Code | Courses | Mode of delivery and credits L-Lecture; T-Tutorial; P-Practical | | | Total Credit s C |
|---|-----------------|----------------|------------------------------|---|---|---|---------------------------|
| | | | | L | T | P | C |
| Third Monsoon | Fifth | XX25501 | Deep Learning | 3 | 1 | 0 | 4 |
| | | XX25503 | Data Mining and Applications | 3 | 1 | 0 | 4 |
| | | XX25505 | Big Data Analytics | 3 | 0 | 0 | 3 |
| | | XX25507 | Natural Language Processing | 3 | 0 | 0 | 3 |
| | | XX25502 | Data Mining Lab | 0 | 0 | 3 | 1.5 |
| | | XX25506 | Big Data Analytics Lab | 0 | 0 | 3 | 1.5 |
| | | XX25508 | Mini Project & Seminar | | | | 3 |
| | | | 20 | | | | |

| 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 |
| Fourth Spring | Fifth | XX25510 | Project/ Internship | 0 | 0 | 0 | 20 |
| | | 20 | | | | | |