

Course Structure for 6-Year Integrated MTech in AI & Data Science

Semester –I					Semester -II						
Course	Course Name	L	T	P	C	Course	Course Name	L	T	P	C
IDSC XX	Probability and Statistics for Data Science	3	1	0	4	IDSC XX	Linear Algebra for Data Science	3	1	0	4
IDSC XX	IT Workshop I	3	1	2	5	IDSC XX	Data Structures	3	1	2	5
IDSC XX	Computer Programming	3	0	2	4	IDSC XX	Computer Organization	3	0	0	3
IDSC XX	Communication Skills	1	0	0	1	IDSC XX	IT Workshop II	3	0	2	4
IDSC XX	Introduction to AI and Data Science	1	0	0	1	IDSC XX	Principles of Management	1	0	0	1
Total		11	2	4	15	Total		13	2	4	17
Cumulative Credits at the End of First Year: 32											
Semester –III					Semester -IV						
Course	Course Name	L	T	P	C	Course	Course Name	L	T	P	C
IDSC XX	Optimization Techniques for Data Science	3	1	0	4	IDSC XX	Theory of Computation	3	1	0	4
IDSC XX	Design and Analysis of Algorithms	3	1	0	4	IDSC XX	Differential Equations and Transforms	3	1	0	4
IDSC XX	IT Workshop III	4	0	2	5	IDSC XX	Database Management Systems	3	1	2	5
IDSC XX	Operating Systems	3	0	2	4	IDSC XX	Software Engineering and Project Management	3	0	2	4
IDSC XX	Financial Management & Accounting	1	0	0	1	IDSC XX	Fundamentals of Economics	1	0	0	1
Total		14	2	4	18	Total		13	3	4	18
Cumulative Credits at the End of Second Year: 68											
Semester –V					Semester -VI						
Course	Course Name	L	T	P	C	Course	Course Name	L	T	P	C
IDSC XX	Artificial Intelligence	3	1	2	5	IDSC XX	Introduction to IOT	3	0	2	4
IDSC XX	Compiler Design	3	1	2	5	IDSC XX	Blockchain Technology	3	0	2	4
IDSC XX	Computer Networks	3	1	2	5	IDSC XX	Cryptography and Network Security	3	1	0	4
IDSC XX	Human Resource Management	1	0	0	1	IDSC XX	Parallel and Distributed Computing	3	0	2	4
Total		10	3	6	16	Total		12	1	6	16
Cumulative Credits at the End of Third Year: 100											
Exit with BCA in AI and Data Science											
Semester –VII					Semester -VIII						
Course	Course Name	L	T	P	C	Course	Course Name	L	T	P	C
IDSC XX	Data Warehousing & Data Mining	3	0	2	4	IDSC XX	Machine Learning	3	0	2	4
IDSC XX	Cloud Computing	3	1	2	5	IDSC XX	Big Data Analytics	3	0	2	4
IDSC XX	Introduction to DevOps and Microservices	2	0	0	2	IDSC XX	Data handling analysis and visualization	3	0	0	3
IDSC XX	Mini Project Phase I	6	0	0	6	IDSC XX	Mini Project Phase II	6	0	0	6
Total		14	1	4	17	Total		15	0	4	17
Cumulative Credits at the End of Fourth Year: 134											

Semester –IX						Semester -X					
Course	Course Name	L	T	P	C	Course	Course Name	L	T	P	C
IDSC XX	Applied Predictive Analytics	3	0	0	3	IDSC XX	Streaming Data Analytics	3	0	2	4
IDSC XX	Machine Learning Operations (MLOps)	3	0	2	4	IDSC XX	Speech and Natural Language Processing/ Computer Vision: Principles and Process	3	0	2	4
IDSC XX	Deep Learning	3	1	2	5	IDSC XX	Graph Algorithms and Mining	3	0	0	3
IDSC XX	Business Analytics	2	0	0	2	IDSC XX	Network Science Analytics	3	1	0	4
IDSC XX	Computer Graphics	3	0	0	3	IDSC XX	Research Methodology	2	0	0	2
Total		14	1	4	17	Total		14	1	4	17

Cumulative Credits at the End of Fifth Year: 168

Exit with MCA in AI and Data Science

Semester –XI						Semester -XII					
Course	Course Name	L	T	P	C	Course	Course Name	L	T	P	C
IDSC XX	IMTP - I	18	0	0	18	IDSC XX	IMTP - II	18	0	0	18
IDSC XX	Responsible Artificial Intelligence	2	0	0	2	IDSC XX	Methods of Explainable-AI	2	0	0	2
IDSC XX	Ethics for AI	1	0	0	1	IDSC XX	Interpretable Machine Learning	1	0	0	1
Total		21	0	0	21	Total		21	0	0	21

Cumulative Credits at the End of Sixth Year: 210

Integrated MTech. in AI and Data Science