

**Master of Technology(Dual Degree)in  
Artificial Intelligence and Data Science**

**PROGRAMME STRUCTURE (2024-29)**

**First Semester:**

Code	Title	Credits (L T P)
<b>CORE COURSES</b>		
DS6A-101	Mathematics - I	4 (3-1-0)
DS6A-103	Physics - I	4 (3-0-2)
DS6A-105	Fundamentals of Programming	4 (3-0-2)
DS6A-107	Descriptive Statistics	3 (2-1-0)
DS6A-109	Introduction to Computer Science	3 (2-1-0)
<b>ELECTIVE COURSES (ANY ONE)</b>		
DS6A-121	Fundamentals of Electronics	3 (2-1-0)
DS6A-123	Engineering Graphics	3 (0-0-6)
<b>GENERIC COURSE</b>		
DS6A-131	Environmental Science	3 (3-0-0)
<b>Comprehensive Viva-Voce</b>		
DS6A-151	Comprehensive Viva-Voce	4

**Second Semester:**

Code	Title	Credits (L T P)
<b>CORE COURSES</b>		
DS6A-102	Mathematics -II	4 (3-1-0)
DS6A-104	Physics – II	4 (3-0-2)
DS6A-106	Data Structures	4 (3-1-0)
DS6A-108	Introduction to Probability Theory	3 (3-0-0)
DS6A-110	Advanced Excel	3 (0-0-6)
<b>ELECTIVE COURSES (ANY ONE)</b>		
DS6A-122	Digital Electronics	3 (2-0-2)
DS6A-124	Microprocessor	3 (2-0-2)
<b>GENERIC COURSE</b>		
DS6A-132	Indian Science and Society	3 (3-0-0)
<b>Comprehensive Viva-Voce</b>		
DS6A-152	Comprehensive Viva-Voce	4

## SCHOOL OF DATA SCIENCE AND FORECASTING

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### Third Semester:

Code	Title	Credits (L T P)
<b>CORE COURSES</b>		
DS6A-201	Mathematics-III	4 (3-1-0)
DS6A-203	Design & Analysis of Algorithms	4 (3-0-2)
DS6A-205	Object Oriented Programming	4 (3-0-2)
DS6A-207	Probability Distributions	3 (2-1-0)
DS6A-209	Computer Architecture	3 (2-0-2)
<b>ELECTIVE COURSES (ANY ONE)</b>		
DS6A-221	Engineering Economics	3 (3-0-0)
DS6A-223	Numerical Methods	3 (3-0-0)
<b>GENERIC COURSE</b>		
DS6A-231	Communication Skills	3 (3-0-0)
<b>Comprehensive Viva-Voce</b>		
DS6A-251	Comprehensive Viva-Voce	4

### Fourth Semester:

Code	Title	Credits (L T P)
<b>CORE COURSES</b>		
DS6A-202	Discrete Structures	4 (3-1-0)
DS6A-204	Python Programming	4 (3-0-2)
DS6A-206	Operating Systems	4 (3-1-0)
DS6A-208	Sampling Theory and Applications	3 (2-1-0)
DS6A-210	Database Management Systems	3 (2-0-2)
<b>ELECTIVE COURSES-(Any One)</b>		
DS6A-322	Computer Graphics	3 (3-0-2)
DS6A-224	Digital Logic Design	3 (2-0-2)
<b>GENERIC COURSE</b>		
DS6A-232	Technical Communication	3 (3-0-0)
<b>Comprehensive Viva-Voce</b>		
DS6A-252	Comprehensive Viva-Voce	4

### Fifth Semester:

Code	Title	Credits (L T P)
<b>CORE COURSES</b>		
DS6A-301	Software Engineering	4 (3-0-2)
DS6A-303	JAVA Programming	4 (3-0-2)
DS6A-305	Data Engineering	4 (3-1-0)
DS6A-307	Statistical Inference	3 (2-0-2)
DS6A-309	Automata Theory	3 (2-0-2)
<b>ELECTIVE COURSES-(Any One)</b>		
DS6A-321	Econometrics	3 (3-0-2)
DS6A-323	Computer Networks	3 (3-0-2)
<b>GENERIC COURSE</b>		
DS6A-331	Web Technology	3 (2-0-2)
<b>Comprehensive Viva-Voce</b>		
DS6A-351	Comprehensive Viva-Voce	4

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## Sixth Semester:

Code	Title	Credits (L T P)
<b>CORE COURSES</b>		
DS6A-302	Data Mining and Data Warehousing	4 (3-0-2)
DS6A-304	R Programming	4 (3-0-2)
DS6A-306	NOSQL Databases	4 (3-0-2)
DS6A-308	Linear Algebra	3 (2-1-0)
DS6A-310	Design of Experiments	3 (2-0-2)
<b>ELECTIVE COURSES-(Any One)</b>		
DS6A-322	Scientific Computing	3 (2-0-2)
DS6A-324	Soft Computing	3 (2-0-2)
<b>ADVANCE COURSE</b>		
DS6A-332	Data Security	3 (3-0-0)
<b>Summer Training/ Internship</b>		
DS6A-342	Internship-I	4 (0-0-8)
<b>Comprehensive Viva-Voce</b>		
DS6A-352	Comprehensive Viva-Voce	4

## Seventh Semester:

Code	Title	Credits (L T P)
<b>CORE COURSES</b>		
DS6A-401	Data Visualization	4 (3-0-2)
DS6A-403	Machine Learning	4 (2-1-2)
DS6A-405	Optimization Algorithms and Techniques	4 (3-1-0)
DS6A-407	Scala Programming	3 (2-0-2)
DS6A-409	Cryptography and Network Security	3 (3-0-0)
<b>ELECTIVE COURSES-(Any One)</b>		
DS6A-421	Stochastic Processes	3 (3-0-0)
DS6A-423	Multivariate Analysis	3 (3-0-0)
<b>ADVANCE COURSE</b>		
DS6A-431	Advanced JAVA	3 (2-0-2)
<b>PROJECT WORK</b>		
DS6A-441	Project-I	4 (0-0-8)
<b>Comprehensive Viva-Voce</b>		
DS6A-451	Comprehensive Viva-Voce	4

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### Eighth Semester:

Code	Title	Credits (L T P)
<b>CORE COURSES</b>		
DS6A-402	Deep Learning	4 (3-0-2)
DS6A-404	Forecasting Methods	4 (3-0-2)
DS6A-406	Hadoop and Spark	4 (3-1-0)
DS6A-408	Cloud Computing	3 (2-0-2)
DS6A-410	Dependable AI	3 (3-0-0)
<b>ELECTIVE COURSES-(Any One)</b>		
DS6A-422	Modelling and Simulation	3 (2-0-2)
DS6A-424	Decision Analysis	3 (3-0-0)
<b>GENERIC COURSE</b>		
DS6A-432	Ethics in AI	3 (3-0-0)
<b>Summer Training/ Internship</b>		
DS6A-442	Internship-II	4 (0-0-8)
<b>Comprehensive Viva-Voce</b>		
DS6A-452	Comprehensive Viva-Voce	4

### Ninth Semester:

Code	Title	Credits (L T P)
<b>CORE COURSES</b>		
DS6A-501	Blockchain Technology	4 (3-0-2)
DS6A-505	Natural Language Processing	4 (2-1-2)
DS6A-507	Computer Vision	4 (3-1-0)
DS6A-509	High Performance Computing	4 (3-0-2)
<b>ELECTIVE COURSES-(Any One)</b>		
DS6A-521	Text and Image Analytics	4 (2-1-2)
DS6A-523	Social Network Analysis	4 (2-1-2)
<b>PROJECT WORK</b>		
DS6A-541	Project-II	4 (0-0-8)
<b>Comprehensive Viva-Voce</b>		
DS6A-352	Comprehensive Viva-Voce	4

### Tenth Semester:

Code	Title	Credits (L T P)
<b>DISSERTATION</b>		
DS6A-542	M.Tech. Dissertation	12 (0-0-24)
<b>Comprehensive Viva-Voce</b>		
DS6A-552	Comprehensive Viva-Voce	4

Note: The above course contents can be modified as per requirement from time to time in accordance with University Ordinance No. 14.