

**Department of Information Technology**  
**B.Sc. in Information Technology (Data Science)**

Semester I							
Sl. No.	CBCS Category	Course Code	Course Name	L	T	P	Credits
<b>Theory + Practical</b>							
1	CC-1	BITDSC101 BITDSC191	Programming Fundamentals	4	0	4	6
2	CC-2	BITDSC102	Discrete Structures	5	1	0	6
3	AECC-1	BITDSA101	Soft skill	2	0	0	2
4	GE-1	BITDSG101 BITDSG102 BITDSG103 BITDSG104	1. MOOCS Basket 1 2. MOOCS Basket 2 3. MOOCS Basket 3 4. MOOCS Basket 4	4/ 5	0/ 1	4/ 0	6
<b>Total Credit</b>							<b>20</b>

Semester II							
Sl. No.		Course Code	Course Name	L	T	P	Credits
<b>Theory + Practical</b>							
1	CC-3	BITDSC201 BITDSC291	Data Structure and Algorithm with Python	4	0	4	6
2	CC-4	BITDSC202 BITDSC292	Operating System	4	0	4	6
3	AECC-2	BITDSA201	Environmental Science	2	0	0	2
4	GE-2	BITDSG201 BITDSG202 BITDSG203 BITDSG204	1. MOOCS Basket 1 2. MOOCS Basket 2 3. MOOCS Basket 3 4. MOOCS Basket 4	4/ 5	0/ 1	4/ 0	6
<b>Sessional</b>							
5	SEC-1	BITDSS281	Project and Entrepreneurship	0	0	4	2
<b>Total Credit</b>							<b>22</b>

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Semester III							
Sl. No.	CBCS Category	Course Code	Course Name	L	T	P	Credits
<b>Theory + Practical</b>							
1	CC-5	BITDSC301 BITDSC391	Database Management System	4	0	4	6
2	CC-6	BITDSC302	Foundation of Data Science	5	1	0	6
3	CC-7	BITDSC303	Data Mining & Data Warehousing	5	1	0	6
4	GE-3	BITDSG301 BITDSG302 BITDSG303 BITDSG304	1. MOOCS Basket 1 2. MOOCS Basket 2 3. MOOCS Basket 3 4. MOOCS Basket 4	4/ 5	0/ 1	4/ 0	6
5	SEC-2	BITCSS381	Object Oriented Programming	1	0	4	3
<b>Total Credit</b>							<b>27</b>

Semester IV							
Sl. No.	CBCS Category	Course Code	Course Name	L	T	P	Credits
<b>Theory + Practical</b>							
1	CC-8	BITDSC401 BITDSC491	Computer Networks	4	0	4	6
2	CC-9	BITDSC402 BITDSC492	Software Engineering	4	0	4	6
3	CC-10	BITDSC403 BITDSC493	Machine Learning for Data Science	4	0	4	6
4	GE-4	BITDSG401	1. MOOCS Basket 1 2. MOOCS Basket 2 3. MOOCS Basket 3 4. MOOCS Basket 4	4/ 5	0/ 1	4/ 0	6
<b>Sessional</b>							
6	SEC-3	BITDSS481	Minor Project and Entrepreneurship I	0	0	4	4
<b>Total Credit</b>							<b>28</b>

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Semester V							
Sl. No.	CBCS Category	Course Code	Course Name	L	T	P	Credits
<b>Theory + Practical</b>							
1	CC-11	BITDSC501 BITDSC591	Internet of Things	4	0	4	6
2	CC-12	BITDSC502 BITDSC592	Artificial Intelligence	4	1	4	6
3	DSE-1	BITDSD501 BITDSD591	Elective-I	4/ 5	0/ 1	4/ 0	6
			A. Deep Learning				
			B. Descriptive Analytics				
			C. Real Time Analytics				
			D. Natural Language Processing				
4	DSE-2	BITDSD502	Elective-II	4/ 5	0/ 1	4/ 0	6
			A. Translational Bioinformatics				
			B. Information and Coding Theory				
			C. Predictive & Prognostic Analytics				
			D. Optimisation Techniques in Data Analysis				
<b>Sessional</b>							
5	SEC-4	BITDSS501	Industrial Training and Internship	0	0	0	2
<b>Total Credit</b>							<b>26</b>

Semester VI							
Sl. No.	CBCS Category	Course Code	Course Name	L	T	P	Credits
<b>Theory</b>							

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1	CC-13	BITDSC601 BITDSC691	Cloud Computing	4	0	4	<b>6</b>
2	CC-14	BITDSC602 BITDSC692	Computer Vision & Image Processing	4	0	4	<b>6</b>
3	DSE-4	BITDSD601	Elective-III [MOOCS]				
			A. Machine Learning for Financial Modelling and Forecasting	4/ 5	0/ 1	4/ 0	<b>6</b>
			B. Machine Learning for Industrial Application				
			C. Big Data Analytics (Hadoop)				
<b>Sessional</b>							
4	SEC-5	BITCSS601	Grand Viva	-	-	-	<b>1</b>
6	SEC-6	BITCSS602	Seminar	0	2	0	<b>2</b>
6	DSE-5	BITCSD681	Major Project & Entrepreneurship II	0	0	8	<b>4</b>
<b>Total Credit</b>							<b>25</b>

Semester	Credit
I	20
II	22
III	27
IV	28
V	26
VI	25
<b>TOTAL</b>	<b>148</b>

GE Basket 1	GE Basket 2	GE Basket 3	GE Basket 4
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Mathematics		Humanities and Social Sciences		General Science		Emerging Technologies, Innovation & Entrepreneurship	
1	Mathematics for Computing	1	Creative Writing	1	Climate Change and Health	1	Digital Marketing
2	Probability & Statistics	2	Business English	2	Environmental Law and Policy	2	Entrepreneurship Theory and Practice
3	Bayesian Statistics	3	Leadership	3	Environmental Informatics	3	Project Management
4	Operations Research	4	Professional Communication	4	Health Informatics	4	E-Commerce System Development
5	Data Analytics	5	E-Learning	5	Intelligence of Biological Systems	5	Effective Problem-Solving and Decision-Making
6	Applied Cryptography	6	Model Thinking	6	Simulation and Modelling Natural Processes	6	Business Analytics
7	Inferential Statistics	7	Digital Transformation and Industry 4.0	7	Bioinformatics	7	Design Thinking for Innovation