

**Department of Information Technology**  
**Syllabus of B.Sc. in Information Technology (Big Data Analytics)**  
**(Effective from academic session 2019-20)**

**Curriculum Structure**

<b>Semester I</b>							
<b>Sl. No.</b>	<b>CBCS Category***</b>	<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>
<b>Theory</b>							
1	C-1	BITBDA101	Programming For Problem Solving	3	0	0	3
2	SEC-1	BITBDA102	Electrical and Electronics Engineering	3	0	0	3
3	AECC-1	BITBDA103	Soft Skills	3	0	0	3
4	GE-1	BITBDA104	Mathematics for Computer Science	3	1	0	4
5	DSE-1	BITBDA105	Introduction to AI & Machine Learning	3	1	0	4
6	C-2	BITBDA106	Introduction to Data Science	3	1	0	4
<b>Practical</b>							
1		BITBDA191	Programming For Problem Solving Lab	0	0	4	2
2		BITBDA192	Electrical and Electronics Engineering Lab	0	0	4	2
3		BITBDA193	Soft Skills Lab	0	0	2	1
<b>Total Credit</b>							<b>26</b>

<b>Semester II</b>							
<b>Sl. No.</b>	<b>CBCS Category</b>	<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>
<b>Theory</b>							
1	C-3	BITBDA201	Data Acquisition & Processing	3	0	0	3
2	C-4	BITBDA202	Foundation in Big Data Analysis and Hadoop	3	0	0	3



Department of Information Technology  
Syllabus of B.Sc. in Information Technology (Big Data Analytics)  
(Effective from academic session 2019-20)

3	C-5	BITBDA203	Data Structure and Algorithm with Python	3	0	0	3
4	GE-2	BITBDA204	Discrete Mathematics	3	1	0	4
5	AECC-2	BITBDA205	Environmental Science	1	0	0	1
<b>Practical</b>							
1		BITBDA291	Data Acquisition & Processing Lab	0	0	4	2
2		BITBDA292	Hadoop Lab	0	0	4	2
3		BITBDA293	Data Structure and Algorithm with Python Lab	0	0	4	2
<b>Sessional</b>							
1		BITBDA281	Project -I	0	0	2	1
Total Credit							21

<b>Semester III</b>							
Sl. No.	CBCS Category	Course Code	Course Name	L	T	P	Credits
<b>Theory</b>							
1	C-6	BITBDA301	Operating System	3	0	0	3
2	C-7	BITBDA302	Database Management System	3	0	0	3
3	C-8	BITBDA303	Object-Oriented Programming with Java	3	0	0	3
4	GE-3	BITBDA304	Inferential Statistics	3	1	0	4
5	SEC-2	BITBDA305	Values and Ethics in Profession	3	0	0	3
<b>Practical</b>							
1		BITBDA391	Operating System Lab	0	0	4	2



Department of Information Technology  
Syllabus of B.Sc. in Information Technology (Big Data Analytics)  
(Effective from academic session 2019-20)

2		BITBDA392	Data Base Management System Lab	0	0	4	2
3		BITBDA393	Object-Oriented Programming with Java Lab	0	0	4	2
				<b>Total Credit</b>			22

Semester IV							
Sl. No.	CBCS Category	Course Code	Course Name	L	T	P	Credits
<b>Theory</b>							
1	C-9	BITBDA401	Computer Networks	3	0	0	3
2	C-10	BITBDA402	Advanced RDBMS	3	0	0	3
3	C-11	BITBDA403	Design & Analysis of Algorithms	3	0	0	3
4	DSE-2	BITBDA404	<b>Elective-I</b>				
			A. Ethical Hacking	3	0	0	3
			B. Neural Networks				
			C. Optimisation Techniques				
			D. Social Media Mining				
<b>Practical</b>							
1		BITBDA491	Computer Networks Lab	0	0	4	2
2		BITBDA492	Advanced RDBMS Lab	0	0	4	2
3		BITBDA493	Design & Analysis of Algorithms Lab	0	0	4	2
4		BITBDA494	A. Ethical Hacking Lab	0	0	4	2
			B. Neural Networks Lab				



Department of Information Technology  
Syllabus of B.Sc. in Information Technology (Big Data Analytics)  
(Effective from academic session 2019-20)

			C. Optimisation Techniques Lab D. Social Media Mining Lab				
<b>Sessional</b>							
1	SEC-3	BITBDA481	Technical Seminar and Communication Skill	0	0	2	1
2		BITBDA482	Project -II	0	0	2	1
<b>Total Credit</b>							<b>22</b>

<b>Semester V</b>							
Sl. No.	CBCS Category	Course Code	Course Name	L	T	P	Credits
<b>Theory</b>							
1	C-12	BITBDA501	Advanced Big Data Analytics	3	0	0	3
2	C-13	BITBDA502	Artificial Intelligence	3	0	0	3
3	DSE-3	BITBDA503	<b>Elective-II</b>	3	0	0	3
			A. Pattern Recognition B. Web Analytics C. Data Mining and Data Warehousing D. Data Visualisation				
4	DSE-4	BITBDA504	<b>Elective-III</b>	3	0	0	3
			A. XML and Web Services B. Multimedia Systems C. Knowledge Discovery				



Department of Information Technology  
Syllabus of B.Sc. in Information Technology (Big Data Analytics)  
(Effective from academic session 2019-20)

			Techniques D. Wireless Networking				
<b>Practical</b>							
1		BITBDA591	Advanced Big Data Analytics Lab	0	0	4	2
2		BITBDA592	Artificial Intelligence Lab	0	0	4	2
<b>Sessional</b>							
1	SEC-4	BITBDA581	Industrial Training and Internship	0	0	2	1
2		BITBDA582	Major Project-I	0	0	4	2
<b>Total Credit</b>							19

<b>Semester VI</b>							
Sl. No.	CBCS Category	Course Code	Course Name	L	T	P	Credits
<b>Theory</b>							
1	C-14	BITBDA601	Statistical Simulation and Data Analysis	3	0	0	3
2	C-15	BITBDA602	Cloud Computing	3	0	0	3
3	DSE-5	BITBDA603	<b>Elective-IV</b>	3	0	0	3
			A. Deep Learning				
			B. Soft Computing				
			C. Embedded Systems				
<b>Practical</b>							
1		BITBDA691	Statistical Simulation and Data	0	0	4	2



**Department of Information Technology**  
**Syllabus of B.Sc. in Information Technology (Big Data Analytics)**  
 (Effective from academic session 2019-20)

			Analysis Lab				
2		BITBDA692	Cloud Computing Lab	0	0	4	2
<b>Sessional</b>							
1		BITBDA681	Grand Viva	0	0	2	1
2	DSE-6	BITBDA682	Major Project-II	0	0	8	4
<b>Total Credit</b>							<b>18</b>

<b>Semester</b>	<b>Credit</b>
I	26
II	21
III	22
IV	22
V	19
VI	18
<b>TOTAL</b>	<b>128</b>

\*\*\*

<b>CBCS Category</b>	<b>CODE</b>
CORE COURSE	C
Ability Enhancement Compulsory Course	AECC
Skill Enhancement Course	SEC
Elective: Discipline Specific	DSE
Elective: Generic	GE