



**HINDUSTAN**

INSTITUTE OF TECHNOLOGY & SCIENCE  
(DEEMED TO BE UNIVERSITY)

CHENNAI

**B.Sc. Artificial Intelligence and Data Analytics**

**(Duration: 3 Years)**

**CURRICULUM and SYLLABI**

**(Applicable for Students admitted from Academic Year 2022-23)**

**DEPARTMENT OF COMPUTER APPLICATIONS**

**HINDUSTAN INSTITUTE OF TECHNOLOGY AND SCIENCE**

**B.Sc. Artificial Intelligence and Data Analytics  
Curriculum**

SEMESTER I									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	BS	CEL01001	English	3	0	0	3	0	3
2	BS	CMA01001	Statistics and Probability	3	1	0	4	0	4
3	PC	CAD01001	Introduction to Artificial Intelligence	3	0	2	4	0	5
4	PC	CAD01002	Data Structures	3	0	2	4	0	5
5	PC	CAD01003	Python Programming	3	0	2	4	0	5
<b>PRACTICAL</b>									
6	PC	CAD01400	Data Pre-Processing Laboratory	0	0	4	2	0	4
Total				<b>15</b>	<b>1</b>	<b>11</b>	<b>21</b>	<b>0</b>	<b>27</b>
<b>L – Lecture; T – Tutorial; P – Practical; C – Credit; S- Self Study; TCH- Total Contact Hours</b>									

SEMESTER II									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	PC	CAD01004	Design and Analysis of Algorithms	3	1	0	4	0	4
2	PC	CAD01005	Machine Learning Techniques	3	0	2	4	0	5
3	PC	CAD01006	Data Warehousing and Data Mining	3	0	2	4	0	5
4	PC	CAD01007	Data Analysis Techniques	3	0	2	4	0	5
5	PC	CAD01008	R Programming	3	0	2	4	0	5
<b>PRACTICAL</b>									
6	PC	CAD01401	Data Modelling Laboratory	0	0	4	2	0	4
Total				<b>15</b>	<b>1</b>	<b>12</b>	<b>22</b>	<b>0</b>	<b>28</b>
<b>L – Lecture; T – Tutorial; P – Practical; C – Credit; S- Self Study; TCH- Total Contact Hours</b>									

SEMESTER III									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	PC	CAD01009	Computer Vision	3	0	2	4	0	5
2	PC	CAD01010	Business Intelligence	3	0	2	4	0	5
3	PC	CAD01011	Search Engine Optimization	3	0	2	4	0	5
4	PC	CAD01012	Fundamentals of IoT	3	0	2	4	0	5
5	PC	CAD01013	Data Visualization Techniques	3	1	0	4	0	4
<b>PRACTICAL</b>									
6	PC	CAD01402	Data visualization Laboratory	0	0	4	2	0	4
<b>Total</b>				<b>15</b>	<b>1</b>	<b>12</b>	<b>22</b>	<b>0</b>	<b>28</b>
<b>L – Lecture; T – Tutorial; P – Practical; C – Credit; S- Self Study; TCH- Total Contact Hours</b>									

SEMESTER IV									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	PC	CAD01014	Big Data Analytics	3	0	2	4	0	5
2	PC	CAD01015	Deep Learning	3	0	0	3	0	3
3	PC	CAD01016	Mobile Application Development	3	0	2	4	0	5
4	DE	CAD0105*	Elective-I	3	0	0	3	0	3
5	DE	CAD0105*	Elective-II	3	0	0	3	0	3
<b>PRACTICAL</b>									
6	PC	CAD01403	Deep Learning Laboratory	0	0	4	2	0	4
<b>Total</b>				<b>15</b>	<b>0</b>	<b>8</b>	<b>19</b>	<b>0</b>	<b>23</b>
<b>L – Lecture; T – Tutorial; P – Practical; C – Credit; S- Self Study; TCH- Total Contact Hours</b>									

SEMESTER V									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	PC	CAD01017	Cognitive Computing	3	0	2	4	0	5
2	PC	CAD01018	Digital Marketing	3	0	2	4	0	5
3	DE	CAD0105*	Elective III	3	0	0	3	0	3
4	DE	CAD0105*	Elective IV	3	0	0	3	0	3
<b>PRACTICAL</b>									
5	PC	CAD01800	Mini Project	0	0	10	5	0	10
<b>Total</b>				<b>12</b>	<b>0</b>	<b>14</b>	<b>19</b>	<b>0</b>	<b>26</b>
<b>L – Lecture; T – Tutorial; P – Practical; C – Credit; S- Self Study; TCH- Total Contact Hours</b>									

SEMESTER VI									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TC H
1	PC	CAD01019	Predictive Analytics	3	0	2	4	0	5
2	DE	CAD015**	Elective V	3	0	0	3	0	3
<b>PRACTICAL</b>									
3	PC	CAD01801	Project Work	0	0	20	10	0	20
<b>Total</b>				<b>6</b>	<b>0</b>	<b>22</b>	<b>17</b>	<b>0</b>	<b>28</b>
<b>L – Lecture; T – Tutorial; P – Practical; C – Credit; S- Self Study; TCH- Total Contact Hours</b>									

**Total Credits: 120**

## LIST OF DEPARTMENTAL ELECTIVES WITH GROUPING - SEMESTER WISE

SEM	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
<b>ELECTIVE-I</b>									
4	DE	CAD01500	Augmented and Virtual Reality	3	0	0	3	0	3
4	DE	CAD01501	Natural Language Processing	3	0	0	3	0	3
<b>ELECTIVE-II</b>									
4	DE	CAD01502	Gaming Technology	3	0	0	3	0	3
4	DE	CAD01503	Artificial Intelligence and Block chain	3	0	0	3	0	3
<b>ELECTIVE-III</b>									
5	DE	CAD01504	IoT Analytics	3	0	0	3	0	3
5	DE	CAD01505	Robotics and Automation	3	0	0	3	0	3
<b>ELECTIVE-1V</b>									
5	DE	CAD01506	Web Analytics	3	0	0	3	0	3
5	DE	CAD01507	Reinforcement Learning	3	0	0	3	0	3
<b>ELECTIVE V</b>									
6	DE	CAD01508	Social Media Analytics	3	0	0	3	0	3
6	DE	CAD01509	Cyber Analytics	3	0	0	3	0	3