

**B.Tech. - ARTIFICIAL INTELLIGENCE AND DATA SCIENCE****Regulations 2019 (Revised)****Semester I**

Sl. No.	Course Code	Course Title	Category	Contact Periods	L	T	P	C
<b>THEORY</b>								
		Induction Program	-	-	-	-	-	-
1	R19MA101	Matrix Algebra and Calculus	BS	4	3	1	0	4
2	R19CY101	Engineering Chemistry	BS	3	3	0	0	3
3	R19CS101	Problem solving using C	ES	3	3	0	0	3
4	R19EC103	Electronics and Microprocessor	ES	4	2	2	0	4
<b>THEORY CUM PRACTICAL</b>								
5	R19HS151	Technical English	HS	4	2	0	2	3
<b>PRACTICALS</b>								
6	R19CY111	Chemistry Laboratory	BS	2	0	0	2	1
7	R19GE111	Engineering Practices Laboratory	ES	4	0	0	4	2
8	R19CS111	Problem solving using C Laboratory	ES	4	0	0	4	2
<b>EMPLOYABILITY ENHANCEMENT COURSE</b>								
9	R19EM101	Soft Skills	EM	2	0	0	2	1
<b>TOTAL</b>				<b>30</b>	<b>13</b>	<b>3</b>	<b>14</b>	<b>23</b>

**Semester II**

Sl. No.	Course Code	Course Title	Category	Contact Periods	L	T	P	C
<b>THEORY</b>								
1	R19MA104	Linear Algebra	BS	4	3	1	0	4
2	R19CS201	Data Structures	PC	3	3	0	0	3
3	R19PH201	Physics for Information Science	BS	3	3	0	0	3
4	R19CS104	Application Design and Development	ES	4	2	2	0	4
5	R19MC101	தமிழர் மரபு / Heritage of Tamils	HSMC	1	1	0	0	1
6	R19HS11x	Language Elective	HS	3	3	0	0	3
<b>THEORY CUM PRACTICAL</b>								
7	R19CS151	Python Programming	ES	5	3	0	2	4
<b>PRACTICALS</b>								
8	R19PH111	Physics Laboratory	BS	2	0	0	2	1
9	R19CS211	Data Structures Laboratory	PC	4	0	0	4	2
<b>TOTAL</b>				<b>29</b>	<b>18</b>	<b>3</b>	<b>8</b>	<b>25</b>

### Semester III

Sl. No.	Course Code	Course Title	Category	Contact Periods	L	T	P	C
<b>THEORY</b>								
1	R19MA203	Discrete Mathematics	BS	4	3	1	0	4
2	R19CS205	Design and Analysis of Algorithms	PC	3	3	0	0	3
3	R19CS202	Database Management Systems	PC	3	3	0	0	3
4	R19CS203	Object Oriented Programming using Java	PC	3	3	0	0	3
<b>THEORY CUM PRACTICAL</b>								
6	R19EC252	Digital Principles and Computer Organization	ES	5	3	0	2	4
7	R19AD251	Data Science	PC	5	3	0	2	4
<b>PRACTICALS</b>								
8	R19CS215	Design and Analysis of Algorithms Laboratory	PC	4	0	0	4	2
9	R19CS212	Database Management Systems Laboratory	PC	2	0	0	2	1
10	R19CS213	Object Oriented Programming using Java Laboratory	PC	2	0	0	2	1
<b>MANDATORY COURSE</b>								
	R19MC102	தமிழரும் தொழில்நுட்பமும் / Tamils and Technology	HSMC	1	1	0	0	1
<b>TOTAL</b>				<b>32</b>	<b>19</b>	<b>1</b>	<b>12</b>	<b>26</b>

### Semester IV

Sl. No.	Course Code	Course Title	Category	Contact Periods	L	T	P	C
<b>THEORY</b>								
1	R19MA206	Probability and Statistics	BS	4	3	1	0	4
2	R19AD201	Artificial Intelligence	PC	3	3	0	0	3
3	R19CS204	Operating Systems	PC	3	3	0	0	3
4	R19CS206	Full Stack Development	PC	3	3	0	0	3
<b>THEORY CUM PRACTICAL</b>								
5	R19EC253	Computer Networks	PC	5	3	0	2	4
6	R19AD252	Data Exploration & Visualization	PC	4	2	0	2	3
<b>PRACTICALS</b>								
7	R19AD211	Artificial Intelligence Laboratory	PC	2	0	0	2	1
8	R19CS214	Operating Systems Laboratory	PC	2	0	0	2	1
9	R19CS216	Full Stack Development Laboratory	PC	2	0	0	2	1
<b>PROJECT WORK</b>								
10	R19AD281	Project using Design Thinking (Product / Software Development Life Cycle)	PW	2	0	0	2	1

<b>PROFESSIONAL DEVELOPMENT</b>								
11	R19EM201	Logical Thinking	EM	2	0	0	2	1
	R19EM203	Summer Internship	EM	-	-	-	-	NC
<b>MANDATORY COURSE</b>								
	R19MC202	Indian Constitution and Tradition	MC	1	1	0	0	NC
<b>TOTAL</b>				<b>33</b>	<b>18</b>	<b>1</b>	<b>14</b>	<b>25</b>

### Semester V

Sl. No	Course Code	Course Title	Category	Contact Periods	L	T	P	C
<b>THEORY</b>								
1	R19AM301	Machine Learning	PC	3	3	0	0	3
2	R19XXXXX	Professional Elective I	PE	3	3	0	0	3
3	R19OXXXX	Open Elective I	OE	3	3	0	0	3
<b>THEORY CUM PRACTICAL</b>								
4	R19EC352	Embedded Systems and IoT	ES	5	3	0	2	4
5	R19AD351	Big Data Analytics	PC	5	3	0	2	4
6	R19AD352	Artificial Intelligence and Robotics	PC	4	2	0	2	3
<b>PRACTICALS</b>								
7	R19AM311	Machine Learning Laboratory	PC	2	0	0	2	1
<b>PROFESSIONAL DEVELOPMENT</b>								
8	R19EM202	Advanced Logical Thinking	EM	2	0	0	2	1
<b>MANDATORY COURSE</b>								
9	R19MC201	Environmental Science	MC	1	1	0	0	NC
<b>TOTAL</b>				<b>28</b>	<b>18</b>	<b>0</b>	<b>10</b>	<b>22</b>

### Semester VI

Sl. No.	Course Code	Course Title	Category	Contact Periods	L	T	P	C
<b>THEORY</b>								
1	R19AD303	Data and Information Security	PC	3	3	0	0	3
2	R19AM302	Deep Learning for Computer Vision	PC	3	3	0	0	3
3	R19XXXXX	Professional Elective II	PE	3	3	0	0	3
4	R19XXXXX	Open Elective I	OE	3	3	0	0	3
<b>THEORY CUM PRACTICAL</b>								
5	R19AM351	Natural Language Processing	PC	4	2	0	2	3
<b>PRACTICALS</b>								
6	R19AM311	Deep Learning for Computer Vision Laboratory	PC	2	0	0	2	1
<b>PROJECT WORK</b>								
7	R19AD381	Innovative / Multi-Disciplinary Project	PW	2	0	0	2	1

<b>TOTAL</b>	<b>20</b>	<b>14</b>	<b>0</b>	<b>6</b>	<b>17</b>
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Open Elective – L T P C for Open Electives can either be 3 0 0 3 or 2 0 2 3

### Semester VII

Sl. No.	Course Code	Course Title	Category	Contact Periods	L	T	P	C
<b>THEORY</b>								
1	R19HS401	Principles of Management	HS	3	3	0	0	3
2	R19XXXXX	Professional Elective III	PE	3	3	0	0	3
3	R19XXXXX	Professional Elective IV	PE	3	3	0	0	3
4	R19XXXXX	Professional Elective V	PE	3	3	0	0	3
<b>PRACTICALS</b>								
5	R19AD481	Project Work - Phase I	PW	6	0	0	6	3
<b>TOTAL</b>				<b>18</b>	<b>12</b>	<b>0</b>	<b>6</b>	<b>15</b>

### Semester VIII

Sl. No.	Course Code	Course Title	Category	Contact Periods	L	T	P	C
<b>Theory</b>								
1	R19OXXXX	Open Elective II	OE	3	3	0	0	3
<b>PRACTICALS</b>								
2	R19AD482	Project Work-Phase II	PW	16	0	0	16	8
<b>TOTAL</b>				<b>19</b>	<b>3</b>	<b>0</b>	<b>16</b>	<b>11</b>

Open Elective – L T P C for Open Electives can either be 3 0 0 3 or 2 0 2 3

**Total Number of Credits: 164**

<b>SUMMARY</b>											
<b>Sl. No.</b>	<b>Course Category</b>	<b>Credits per Semester</b>								<b>Credits</b>	<b>Credit %</b>
		<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>	<b>VI</b>	<b>VII</b>	<b>VIII</b>		
1	HS	3	3	-	-	-	-	3	-	9	5.49
2	BS	8	8	4	4	-	-	-	-	24	14.63
3	ES	11	8	4	-	4	-	-	-	27	16.46
4	PC	-	5	17	19	11	10		-	62	37.8
5	PE	-	-	-	-	3	3	9	-	15	9.15
6	OE	-	-	-	-	3	3	-	3	9	5.49
7	PW	-	-	-	1	-	1	3	8	13	7.93
8	EM	1	-	-	1	1	-	-	-	03	1.83
9	NC	-	-	-	NC	NC	-	-	-	-	-
10	MC	-	1	1	-	-	-	-	-	02	1.22
										<b>Total</b>	100