

### Program Structure: B. Tech - Computer Science Engineering (AI & Data Science)

#### I Semester

S. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BT AI&DS 1101	Fundamentals of Computing	3	0	2	5	4
2.	BT AI&DS 1102	Fundamentals of Programming	3	0	2	5	4
3.	BT AI&DS 1103	Mathematics I	3	1	0	4	4
4.	BT AI&DS 1104	Effective Communication I	3	0	0	3	3
5.	BT AI&DS 1105	Performing Arts/Sports/Music/Language I	1	0	2	3	2
<b>TOTAL</b>			<b>13</b>	<b>1</b>	<b>6</b>	<b>20</b>	<b>17</b>

#### II Semester

S. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BT AI&DS 1201	Engineering Mechanics	2	1	0	3	3
2.	BT AI&DS 1202	Physics	3	0	0	3	3
3.	BT AI&DS 1203	Mathematics II	3	1	0	4	4
4.	BT AI&DS 1204	Engineering Realization	0	0	2	2	2
5.	BT AI&DS 1205	Effective Communication II	3	0	0	3	3
6.	BT AI&DS 1206	Performing Arts/Sports/Music/Language II	1	0	2	3	2
<b>TOTAL</b>			<b>12</b>	<b>2</b>	<b>4</b>	<b>18</b>	<b>17</b>

#### III Semester

S. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BT AI&DS 2101	Probability, Statistics, and Stochastic Processes	3	1	0	4	4
2.	BT AI&DS 2102	Signals and Systems	3	1	0	4	4
3.	BT AI&DS 2103	Maths for Computing	3	0	0	3	3
4.	BT AI&DS 2104	Data Structures and Algorithms	3	0	2	5	4
5.	BT AI&DS 2105	Foundations of Quantum Information Processing (Program Linked Science Elective)	3	0	0	3	3
6.	BT AI&DS 2106	Intro. To Profession	0	2	2	4	1
<b>TOTAL</b>			<b>15</b>	<b>4</b>	<b>4</b>	<b>23</b>	<b>19</b>

#### IV Semester

S. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BT AI&DS 2201	Pattern Recognition and Machine Learning	3	0	2	5	4
2.	BT AI&DS 2202	Software Engineering	3	0	2	5	4
3.	BT AI&DS 2203	Human-Machine Interaction	0	0	4	4	2
4.	BT AI&DS 2204	Digital Design	2	0	2	4	3
5.	BT AI&DS 2205	Humanities I	3	0	0	3	3
<b>TOTAL</b>			<b>11</b>	<b>0</b>	<b>10</b>	<b>21</b>	<b>16</b>

### V Semester

S. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BT AI&DS 3101	Design and Analysis of Algorithms	3	1	0	4	4
2.	BT AI&DS 3102	Computer Architecture	3	0	0	3	3
3.	BT AI&DS 3103	Principles of Programming Languages	3	0	0	3	3
4.	BT AI&DS 3104	Database Systems	3	0	2	5	4
5.	BT AI&DS 3105	Humanities II	3	0	0	3	3
6.	BT AI&DS 3106	Professional Ethics I	0	1	0	1	1
<b>TOTAL</b>			<b>15</b>	<b>1</b>	<b>2</b>	<b>19</b>	<b>18</b>

### VI Semester

S. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BT AI&DS 3201	Cyber Security	3	0	2	5	4
2.	BT AI&DS 3202	Computer Networks	3	0	2	5	4
3.	BT AI&DS 3203	Operating Systems	3	0	2	5	4
4.	BT AI&DS 3204	Digital Systems Lab	0	0	2	2	1
5.	BT AI&DS 3205	CS Elective Core	3	0	0	3	3
6.	BT AI&DS 3207	Programme/Open Elective	3	0	0	3	3
7.	BT AI&DS 3208	Professional Ethics II	0	0	2	2	1
8.	BT AI&DS 3209	Colloquium	1	0	0	1	1
<b>TOTAL</b>			<b>16</b>	<b>0</b>	<b>10</b>	<b>26</b>	<b>21</b>

### VII Semester

S. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BT AI&DS 4101	B. Tech. Project - I	0	0	6	6	3
2.	BT AI&DS 4102	CS Elective Core	3	0	0	3	3
3.	BT AI&DS 4103	Programme/Open Elective	3	0	0	3	3
4.	BT AI&DS 4104	Environmental Science	2	0	0	2	2
5.	BT AI&DS 4105	Dissertation - I	10	0	0	10	10
<b>TOTAL</b>			<b>16</b>	<b>0</b>	<b>6</b>	<b>24</b>	<b>21</b>

### VIII Semester

S. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BT AI&DS 4201	B. Tech. Project - II	0	0	6	6	3
2.	BT AI&DS 4202	Humanities III	3	0	0	3	3
3.	BT AI&DS 4203	Programme/Open Elective	5	0	0	5	5
4.	BT AI&DS 4204	Dissertation - II	10	0	0	10	10
<b>TOTAL</b>			<b>18</b>	<b>0</b>	<b>6</b>	<b>24</b>	<b>21</b>

**TOTAL NO. OF CREDITS = 150**

**Note:** Selection of open electives, projects, and dissertations based on the specializations.