

**Sardar Vallabhbhai National Institute of Technology (SVNIT) Surat**  
**Department of Artificial Intelligence**

**Integrated BTech + MTech in Artificial Intelligence**

Sr. No.	Subject	Code	Scheme L-T-P	Credits (Min.)	Notional hours of Learning (Approx.)
<b>First Semester (1<sup>st</sup> year of IPG)</b>					
1	Fundamentals of Computer and Programming	IA101	3-0-2	4	85
2	Fundamentals of Engineering Mathematics	MA105	3-1-0	4	70
3	Linear Algebra and Statistics	MA116	3-1-0	4	70
4	English and Professional Communication	HS110	3-1-0	4	70
5	Electrical Network Analysis	EE103	3-0-2	4	85
			<b>Total</b>	<b>20</b>	<b>380</b>
6	Vocational Training / Professional Experience (Optional) (Mandatory for Exit)	IAV01 / IAP01	0-0-10	5	200 (20 x 10)
<b>Second Semester (1<sup>st</sup> year of IPG)</b>					
1	Data Structures	IA102	3-1-2	5	100
2	Web Programming and Python	IA104	3-0-2	4	85
3	Energy and Environmental Engineering	EG110	3-0-2	4	85
4	Discrete Mathematics	MA106	3-1-0	4	70
5	Digital Electronics and Logic Design	EC106	3-0-2	4	85
6	Indian Value System and Social Consciousness	HS120	2-0-0	2	35
			<b>Total</b>	<b>23</b>	<b>460</b>
7	Vocational Training / Professional Experience (Optional) (Mandatory for Exit)	IAV02 / IAP02	0-0-10	5	200 (20 x 10)
<b>Third Semester (2<sup>nd</sup> year of IPG)</b>					
1	Computer Organization	IA201	3-1-0	4	70
2	Database Management Systems	IA203	3-0-2	4	85
3	Design and Analysis of Algorithms	IA205	3-1-0	4	70
4	Signals and Systems	EC205	3-1-0	4	70
5	Object Oriented Programming	IA209	3-0-2	4	85
6	Automata and Formal Languages	IA211	3-1-0	4	70
			<b>Total</b>	<b>24</b>	<b>450</b>
<b>Fourth Semester (2<sup>nd</sup> year of IPG)</b>					
1	Artificial Intelligence	IA202	3-1-0	4	85
2	Operating Systems	IA204	3-0-2	4	85
3	Machine Learning	IA206	3-0-2	4	85
4	Computer Networks	IA208	3-0-2	4	85
5	Information Security and Cryptography	IA210	3-1-0	4	70
6	Data Science	IA212	3-1-0	4	70
			<b>Total</b>	<b>24</b>	<b>480</b>
7	Minor / Honor (M/H#1)	IA2AA	3-X-X	3/4	55/70/85
8	Vocational Training / Professional Experience (Optional) (Mandatory for Exit)	IAV04 / IAP04	0-0-10	5	200 (20 x 10)
<b>Fifth Semester (3<sup>rd</sup> year of IPG)</b>					
1	Deep Learning	IA301	3-0-2	4	85

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2	Cloud Computing	IA303	3-0-2	4	85
3	Soft Computing	IA305	3-0-2	4	85
4	Elective	IA3AA	3-X-X	3/4	55/70/85
5	Elective (Specialization#1)	IA3BB	3-X-X	3/4	55/70/85
6	Linear and Nonlinear Optimization	IA307	3-1-0	4	70
			<b>Total</b>	<b>22-24</b>	<b>435-495</b>
7	Minor / Honor (M/H#2)	IA3CC	3-X-X	4	70/85
<b>Sixth Semester (3<sup>rd</sup> year of IPG)</b>					
1	High Performance Computing	IA302	3-0-2	4	85
2	Cyber Physical System	IA304	3-0-2	4	85
3	Big Data Analytics and Visualization	IA306	3-0-2	4	85
4	Elective	IA3DD	3-X-X	3/4	55/70/85
5	Elective (Specialization#2)	IA3EE	3-X-X	3/4	55/70/85
6	Image Processing and Computer Vision	IA308	3-0-2	4	85
			<b>Total</b>	<b>22-24</b>	<b>450-510</b>
7	Minor / Honor (M/H#3)	IA3FF	3-X-X	3/4	70/85
8	Vocational Training / Professional Experience (Optional) (Mandatory for Exit)	IAV06 / IAP06	0-0-10	5	200 (20 x 10)
<b>Seventh Semester (4<sup>th</sup> year of IPG)</b>					
1	Swarm Intelligence	IA401	3-0-2	4	85
2	Research Methodology	IA403	1-1-0	2	35
3	Robotics and Applications	IA405	3-0-2	4	85
4	Elective	IA4BB	3-X-X	3/4	55/70/85
5	Elective (Specialization#3)	IA4CC	3-X-X	3/4	55/70/85
6	Elective (Specialization#4)	IA4DD	3-X-X	3/4	55/70/85
7	Minor Project-I	IA407	0-0-10	5	150
			<b>Total</b>	<b>24-27</b>	<b>520-610</b>
8	Minor / Honor (M/H#4)	IA4EE	3-X-X	3/4	55/70/85
<b>Eighth Semester (4<sup>th</sup> year of IPG)</b>					
1	Intelligent Multiagent and Expert Systems	IA402	3-0-2	4	85
2	Professional Ethics, Business and Entrepreneurship	HUXXX	3-1-0	4	70
3	Human Computer Interaction	IA404	3-1-0	4	70
4	Elective	IA406	3-X-X	3/4	55/70/85
5	Elective	IA408	3-X-X	3/4	55/70/85
6	Elective	IA410	3-X-X	3/4	55/70/85
7	Minor Project-II	IA412	0-0-10	5	150
			<b>Total</b>	<b>26-29</b>	<b>540-630</b>
<b>Nineth Semester (5<sup>th</sup> year of IPG)</b>					
1	MOOC-I	IA501	2-0-0	2	35
2	MOOC-II	IA503	2-0-0	2	35
3	M.Tech. Thesis Part-I	IA505	0-0-36	18	540
			<b>Total</b>	<b>22</b>	<b>610</b>
<b>Tenth Semester (5<sup>th</sup> year of IPG)</b>					
1	M.Tech. Thesis Part-II	IA502	0-0-40	20	600
			<b>Total</b>	<b>20</b>	<b>600</b>

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**Credit Table**

<b>Sr.</b>	<b>Domain</b>	<b>Credit</b>	<b>Percentage</b>
1	Basic Sciences	12	5.28 / 5.06 %
2	Humanities	6	2.64 / 2.53 %
3	Management	4	1.76 / 1.68 %
4	Engineering other branches	18	7.92 / 7.59 %
5	Core subjects	105	46.25 / 44.30 %
6	Electives	34/44	14.97 / 18.56 %
7	Project	48	21.14/20.25
<b>Total</b>		<b>227/237</b>	<b>100 %</b>