

Indian Institute of Information Technology, Surat
Curriculum: B.Tech. (CSE) Computer Science and Engineering
Semester - 1

Sr. No	Course	Code	Credit	Teaching Scheme			Examination Scheme			Total
				L	T	P	L	T	P	
1	Fundamentals of Computers & Programming	CS 101	4	2	1	2	50	25	50	125
2	English & Communication Skills	AL 102	4	3	0	2	100	0	50	150
3	Engineering Physics	AS 103	4	3	0	2	100	0	50	150
4	Electrical Networks	EE 104	4	3	0	2	100	0	50	150
5	Engineering Mathematics	AS 105	4	3	1	0	100	25	0	125
6	ICT Workshop - I	EC 106	2	0	0	4	0	0	100	100
	Total		22	14	2	12	450	50	300	800
	Total Contact Hours per Week			28						

Semester - 2

Sr. No	Course	Code	Credit	Teaching Scheme			Examination Scheme			Total
				L	T	P	L	T	P	
1	Data Structure and Algorithm	CS 201	4	3	0	2	100	0	50	150
2	Electronic Devices & Circuits	EC 202	4	3	0	2	100	0	50	150
3	Engineering Mechanics	AE 203	4	3	0	2	100	0	50	150
4	Digital Logic Design	EC 204	4	3	0	2	100	0	50	150
5	Discrete Mathematics	AS 205	4	3	1	0	100	25	0	125
6	Signals and Systems	EC 206	4	3	1	0	100	25	0	125
	Total		24	18	2	8	600	50	200	850
	Total Contact Hours per Week			28						

Semester - 3

Sr. No	Course	Code	Credit	Teaching Scheme			Examination Scheme			Total
				L	T	P	L	T	P	
1	Computer Architecture & Organisation	CS 301	4	3	0	2	100	0	50	150
2	Microprocessor & Interfacing	EC 302	4	3	0	2	100	0	50	150
3	Communication Engineering	EC 303	4	3	0	2	100	0	50	150
4	Automata and Formal Languages	CS 304	4	3	1	0	100	25	0	125
5	Probability & Statistical Analysis	AS 305	4	3	1	0	100	25	0	125
6	ICT Workshop - II	CS 306	2	0	0	4	0	0	100	100
	Total		22	15	2	10	500	50	250	800
	Total Contact Hours per Week			27						

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Semester - 4

Sr. No	Course	Code	Credit	Teaching Scheme			Examination Scheme			Total
				L	T	P	L	T	P	
1	Operating System	CS 401	4	3	0	2	100	0	50	150
2	Computer Networks	CS 402	4	3	0	2	100	0	50	150
3	Database Management System	CS 403	4	3	0	2	100	0	50	150
4	Object Oriented Technology	CS 404	4	3	0	2	100	0	50	150
5	System Software	CS 405	4	3	0	2	100	0	50	150
6	Design and Analysis of Algorithms	CS 406	4	3	1	0	100	25	0	125
	Total		24	18	1	10	600	25	250	875
	Total Contact Hours per Week			29						

Semester - 5

Sr. No	Course	Code	Credit	Teaching Scheme			Examination Scheme			Total
				L	T	P	L	T	P	
1	Software Engineering	CS 501	4	3	0	2	100	0	50	150
2	Computer Graphics	CS 502	4	3	0	2	100	0	50	150
3	Digital Signal Processing	EC 503	4	3	0	2	100	0	50	150
4	Economics & Business Management	AE 504	3	3	0	0	100	0	0	100
5	Elective 1		4	3	0	2	100	0	50	150
6	Elective 2		3	3	0	0	100	0	0	100
	Total		22	18	0	8	600	0	200	800
	Total Contact Hours per Week			26						

Semester - 6

Sr. No	Course	Code	Credit	Teaching Scheme			Examination Scheme			Total
				L	T	P	L	T	P	
1	Introduction to Machine Learning	CS 601	4	3	0	2	100	0	50	150
2	High Performance Computing	CS 602	4	3	0	2	100	0	50	150
3	Web Engineering	CS 603	4	3	0	2	100	0	50	150
4	Advance Database Management	CS 604	4	3	0	2	100	0	50	150
5	Elective 3		3	3	0	0	100	0	0	100
6	Elective 4		3	3	0	0	100	0	0	100
	Total		22	18	0	8	600	0	200	800
	Total Contact Hours per Week			26						

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Electives				
5 th Semester			6 th Semester	
E-1	<ul style="list-style-type: none"> • Numerical Methods using Python (CS 511) • Probabilistic Graphical Model (CS 512) • Hardware Description Languages (EC 511) 		E-3	<ul style="list-style-type: none"> • Mathematical Optimization (CS 631) • Cloud Computing & Big Data Infrastructure (CS 632) • Introduction to Game Design (CS 633) • Block-Chain and Ledger (CS 634)
E-2	<ul style="list-style-type: none"> • Fuzzy & Neural Networks (CS 521) • Human Computer Interface (CS 522) • Game Theory (CS 523) • Sensors & Instrumentation (EC 521) 		E-4	<ul style="list-style-type: none"> • Augmented & Virtual Reality (CS 641) • Cognitive Psychology (CS 642) • Computer Ethics & Public Policy (CS 643) • Information Theory & Coding (EC 641)

Semester - 7

Sr. No	Course	Code	Credit	Teaching Scheme			Examination Scheme			Total
				L	T	P	L	T	P	
1	Natural Language Processing	CS 701	4	3	0	2	100	0	50	150
2	Discrete Event Simulation	CS 702	4	3	0	2	100	0	50	150
3	Advanced topics in Deep Learning	CS 703	4	3	0	2	100	0	50	150
4	Elective 5		3	3	0	0	100	0	0	100
5	Project Preliminaries	CS 705	2	0	0	4	0	0	100	100
6	Technical Writing & Presentation	CS 706	3	2	0	2	100	0	50	150
	Total		20	14	0	12	500	0	300	800
	Total Contact Hours per Week			26						

Semester - 8

Sr. No	Course	Code	Credit	Teaching Scheme			Examination Scheme			Total
				L	T	P	L	T	P	
1	Artificial Intelligence	CS 801	4	3	0	2	100	0	50	150
2	Compiler Design	CS 802	4	3	0	2	100	0	50	150
3	Building Large Scale Enterprise Solution and Project Management	CS 803	4	3	0	2	100	0	50	150
4	Project	CS 804	6	0	0	12	0	0	300	300
5	Elective 6		3	3	0	0	100	0	0	100
6	Elective 7		3	3	0	0	100	0	0	100
	Total		24	15	0	18	500	0	450	950
	Total Contact Hours per Week			33						

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Electives			
7th Semester		8th Semester	
E-5	<ul style="list-style-type: none"> • Network Security, Cyber Crime & Forensic (CS 751) • Evolutionary Computation (CS 752) • Computational Linguistics (CS 753) • Processor Architecture (EC 751) 	E-6	<ul style="list-style-type: none"> • Convex Optimization (CS 861) • Decision Making under Uncertainty (CS 862) • Speech Processing (EC 861) • Robotics (EC 862)
		E-7	<ul style="list-style-type: none"> • Quantum Computing (CS 871) • Hardware Accelerator for Advanced Computing (CS 872) • IoT Architecture & Sensor Network (CS 873) • Introduction to Computational Biology (CS 874) • Computer Vision (EC 871)