Curriculum for B.Tech

Computer Science and Engineering

From The Academic Year 2020

(Approved in Senate 43 & 44)

Indian Institute of Information Technology Design and Manufacturing, Kancheepuram

Chennai-600 127

		Semester 1					
S.No	Course Code	Course Name	Category	L	T	P	C
1	MA1000	Calculus	BSC	3	1	0	4
2	PH1000	Engineering Electromagnetics	BSC	3	0	0	3
3	EC1000	Electrical Circuits for Engineers	BEC	3	1	0	4
4	CS1000	Problem Solving and Programming	BEC	3	0	0	3
5	ME1000	Materials for Engineers	BEC	3	0	0	3
6	DS1000	Foundation for Engineering and Product Design	DSC	1	2	0	3
7	PH1001	Engineering Electromagnetics Practice	BSC	0	0	3	2
8	CS1001	Problem Solving and Programming Practice	BEC	0	0	3	2
9	HS1000	Effective Language and Communication Skills	HSC	1	0	2	2
10	NC1000	NSO Semester 1	NC	0	0	2	0
	NC1002	NCC Semester 1					
	NC1004	SSG Semester 1					
							25

		Semester 2					
S.No	Course Code	Course Name	Category	L	T	P	C
1	MA1001	Differential Equations	BSC	3	1	0	4
2		Science Elective Course 1	SEC	3	1	0	4
3	ME1001	Engineering Graphics	BEC	2	0	4	4
4	CS1004	Data Structures and Algorithms	ITC	3	0	0	3
5	DS1001	Sociology of Design	DSC	1	2	0	3
6	ID1000	Design and Manufacturing Lab	ITC	0	0	2	1
7	CS1005	Discrete Structures for Computer Science	PCC	3	1	0	4
8	CS1006	Data Structures and Algorithms Practice	ITC	0	0	4	2
9	NC1001	NSO Semester 2	NC	0	0	2	0
	NC1003	NCC Semester 2					
	NC1005	SSG Semester 2					
10	NC1008	Earth, Environment and Design	NC	1	0	0	0
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		Semester 3					
S.No	Course Code	Course Name	Category	L	T	P	C
1		Science Elective Course 2	SEC	3	1	0	4
2	DS2000	Systems Thinking for Design	DSC	1	2	0	3
3	CS2000	Object Oriented Programming	PCC	2	0	4	4
4	CS2001	Digital System Design	PCC	3	1	0	4
5	CS2002	Design and Analysis of Algorithms	PCC	3	1	0	4
6	CS2003	Digital System Design practice	PCC	0	0	4	2
7	CS2004	Design and Analysis of Algorithms practice	PCC	0	0	4	2
8	NC2000	Indian Constitution, Essence of Indian Traditional Knowl	NC	1	0	0	0
							23

		Semester 4					
S.No	Course Code	Course Name	Category	L	T	P	C
1		Science Elective Course 3	SEC	3	1	0	4
2	DS2001	Smart Product Design	DSC	1	2	0	3
3	CS2007	Computer Organization and Architecture	PCC	3	1	0	4
4	CS2008	Database Systems	PCC	3	1	0	4
5	CS2009	Theory of Computation	PCC	3	1	0	4
6	CS2010	Computer Organization and Architecture practice	PCC	0	0	4	2
7	CS2011	Database Systems practice	PCC	0	0	4	2
8	NC2001	Human Values and Stress Management	NC	1	0	0	0
							23

S.No	CourseCode	Course Name	Category	L	T	P	C
		Semester 5					
1	CS3006	Introduction to Data Science for Engineers *	ITC	3	0	2	4
2	DS3000	Entrepreneurship and Management Functions	DSC	1	2	0	3
3	CS3000	Operating Systems	PCC	3	1	0	4
4	CS3001	Computer Networks	PCC	3	1	0	4
5	CS3002	Compiler Design	PCC	3	1	0	4
6	CS3003	Operating Systems practice	PCC	0	0	4	2
7	CS3004	Computer Networks practice	PCC	0	0	4	2
8	CS3005	Compiler Design Practice	PCC	0	0	4	2
9	NC3000	Professional Ethics and Organizational Behaviour	NC	1	0	0	0
							25

* Change of course name from Data Science : An Applied Perspective to Introduction to Data Science for Engineers (Approved in Senate 47)

S.No	Course Code	Course Name	Category	L	T	P	C
		Semester 6					
1	DS3001	Prototyping and Testing	DSC	1	2	0	3
2		Professional Elective Course 1	PEC	3	1	0	4
3		Professional Elective Course 2	PEC	3	1	0	4
4		Professional Elective Course 3	PEC	3	1	0	4
5		Free Elective Course 1	ELC	3	1	0	4
6		Free Elective Course 2	ELC	3	1	0	4
7	HS3000	Professional Communication	HSC	1	0	2	2
8	NC3001	Intellectual Property Rights	NC	1	0	0	0
							25

S.No	Course Code	Course Name	Category	L	T	P	C
		Semester 7					
1		Free Elective Course 3	ELC	3	1	0	4
2		Free Elective Course 4	ELC	3	1	0	4
3		Free Elective Course 5	ELC	3	1	0	4
4	CS4000	BT-CS-Summer Internship (May-Jul)	PCD	0	0	16	0
							12

S.No	Course Code	Course Name	Category	L	T	P	C
		Semester 8					
1		Free Elective Course 6	ELC	3	1	0	4
2	CS4002	BT-CS-Project/Course work #	PCD	0	0	16	8
							12

$ All NC courses are Pass/Fail courses for which the letter grade H/L shall be awarded.
# Students opting for course work can register for elective courses equivalent to project credits (Example two 4 credit courses)

1. Professional Elective Course is an elective course offered or prescribed by the parent department. Free Elective Course is an elective course offered by any department, including the parent department. For example: - A ME student, based on his/her choice, can register the elective course offered by ME department or CSE department as free elective course.

2. 3 Months internship is mandatory, however, the curriculum offers the flexibility to carry out 3-12 Months internship with the approval of the parent department. To satisfy the minimum credit requirement, students opting for long term internship (More than 3 months) are expected to advance a few elective courses and credit a few courses from NPTEL. In line with the guidelines approved by the Senate (Senate 46-07), a B.Tech student can earn a maximum of 9 credits from NPTEL Courses. For all successfully completed NPTEL Courses, the letter grade "H" (Pass) will be awarded and credits of such courses will not be accounted for CGPA calculation.

Semester wise Credit Distribution										
	Semester									
Category	S1	S2	S3	S4	S5	S6	S7	S8	Total	%
Basic Science Course (BSC)	8.5	4	0	0	0	0	0	0	12.5	7.4
Science Elective Course (SEC)	0	4	4	4	0	0	0	0	12	7.1
Basic Engineering Course (BEC)	11.5	4	0	0	0	0	0	0	15.5	9.1
Design Course (DSC)	3	3	3	3	3	3	0	0	18	10.6
IT Skill Course (ITC)	0	6	0	0	4	0	0	0	10	5.9
Professional Core Course (PCC)	0	4	16	16	18	0	0	0	54	31.8
Professional Elective Course (PEC)	0	0	0	0	0	12	0	0	12	7.1
Free Elective Course (ELC)	0	0	0	0	0	8	12	4	24	14.1
Humanities and Social Science Course (HSC)	2	0	0	0	0	2	0	0	4	2.4
Professional Career Development (PCD)	0	0	0	0	0	0	0	8	8	4.7
Total	25	25	23	23	25	25	12	12	170	100.0
	25	50	73	96	121	146	158	170		