Curriculum for B.Tech

Smart Manufacturing

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	1.5
8	CS1001	Problem Solving and Programming Practice	BEC	0	0	3	1.5
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	CS1002	Elementary Data Structures and Logical Thinking	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	ME1002	Applied Mechanics	PCC	3	0	0	3
8	CS1003	Elementary Data Structures and Logical Thinking Practice	ITC	0	0	4	2
9	ME1003	Applied Mechanics Practice	PCC	0	0	2	1
10	NC1001	NSO Semester 2	NC	0	0	2	0
	NC1003	NCC Semester 2					
	NC1005	SSG Semester 2					
11	NC1008	Earth, Environment and Design	NC	1	0	0	0
							25
		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	ME2003	Manufacturing Processes - 1	PCC	3	1	0	4
4	ME2011	Theory of Machines and Design	PCC	3	0	0	3
5	EC2005	Electrical Drives	PCC	2	0	0	2
6	ME2012	Sensors and Controls	PCC	3	0	0	3
7	ME2004	Manufacturing Processes Practice - 1	PCC	0	0	3	1.5
8	CS2006	Introduction to Data Management	PCC	2	0	2	3
9	EC2006	Electrical Drives Practice	PCC	0	0	3	1.5
10	NC2000	Indian Constitution, Essence of Indian Traditional Knowled	NC	1	0	0	0
							25
		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	ME2007	Manufacturing Processes - 2	PCC	3	1	0	4
4	ME2014	Thermal and Fluids Engineering	PCC	3	0	0	3
5	ME2015	Operations Research	PCC	3	0	0	3
6	ME2016	Production Drawing Practice	PCC	0	0	3	1.5
7	ME2010	Manufacturing Processes Practice - 2	PCC	0	0	3	1.5
8	EC2012	Embedded Systems Practice	PCC	1	0	2	2
9	CS2013	Machine to Machine Communication	PCC	2	0	2	3
10	NC2001	Human Values and Stress Management	NC	1	0	0	0
							25

S.No	Course Code	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	ME3004	Operations and Supply Chain Management	PCC	3	0	0	3
4	ME3005	Robotics and Automation	PCC	3	0	0	3
5		Professional Elective Course 1	PEC	3	1	0	4
6	ME3006	Quality Engineering	PCC	2	0	2	3
7	ME3007	Robotics and Automation Practice	PCC	0	0	2	1
8	NC3000	Professional Ethics and Organizational Behaviour	NC	1	0	0	0
							21
		Semester 6					
S.No	Course Code	Course Name	Category	L	T	P	C
1	DS3001	Prototyping and Testing	DSC	1	2	0	3
2		Professional Elective Course 2	PEC	3	1	0	4
3		Professional Elective Course 3	PEC	3	1	0	4
4		Free Elective Course 1	ELC	3	1	0	4
5		Free Elective Course 2	ELC	3	1	0	4
6	HS3000	Professional Communication	HSC	1	0	2	2
7	NC3001	Intellectual Property Rights	NC	1	0	0	0
							21
		Semester 7					
S.No		Course Name	Category	L	T	P	C
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	ME4001	BT-SM-Summer Internship (May-Jul)	PCD	0	0	16	0
							12
		Semester 8					
S.No	Course Code	Course Name	Category	L	T	P	C
1		Free Elective Course 6	ELC	3	1	0	4
2	ME4003	BT-SM-Project	PCD	0	0	16	8
							12

$ All NC courses are Pass/Fail courses for which the letter grade H/L shall be awarded.

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	7.5
Science Elective Course (SEC)	0	4	4	4	0	0	0	0	12	7.2
Basic Engineering Course (BEC)	11.5	4	0	0	0	0	0	0	15.5	9.3
Design Course (DSC)	3	3	3	3	3	3	0	0	18	10.8
IT Skill Course (ITC)	0	6	0	0	4	0	0	0	10	6
Professional Core Course (PCC)	0	4	18	18	10	0	0	0	50	30.1
Professional Elective Course (PEC)	0	0	0	0	4	8	0	0	12	7.2
Elective Course (ELC)	0	0	0	0	0	8	12	4	24	14.5
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	4.8
Total	25	25	25	25	21	21	12	12	166	100
	25	50	75	99	121	142	154	166		