

Indian Institute of Information Technology Design and Manufacturing Kurnool

SCHEME OF INSTRUCTION

B. Tech (MECH) Course Structure

I-Year I-Semester

Sl. No.	Course Code	Course Name	Category Code	I	P	No. of Credits
1	DS101	Differential and Integral Calculus	BSC	3	0	3
2	DS102	Engineering Mechanics	BSC	3	0	3
3	CS101 EC101	Problem Solving and Computer Programming (or) Basic Electrical and Electronics Engineering	BEC BEC	3 3	0 0	3 3
4	ME101 ME102	Concepts in Engineering Design (or) Science and Engineering of Materials	DES BEC	3 3	0 0	3 3
5	DS103 DS11x	Technical and Professional Communication (or) Humanities Course 1	HMC HMC	2 2	2 0	3 2
6	DS12x DS104	Humanities Course 2 (or) Earth, Environment and Design	DES DES	2 2	0 0	0 0
7	ME103	Engineering Graphics	DES	0	3	2
8	DS105	Engineering Mechanics Practice	BSC	0	3	2
9	DS106 CS102	Measurement and Data Analysis (or) Problem Solving and Computer Programming Practice	BSC BEC	0 0	3 3	2 2
10	ME104	Engineering Skills Practice	BEC	0	3	2
Total				16	14	23
Total				16	14	22

List of courses in Humanities elective – 1

- 1) Design History (DS111)
- 2) History of Science and Technology in India (DS112)

List of Courses in Humanities elective – 2

- 1) Professional Ethics for Engineers (DS121)
- 2) Universal Human Values (DS122)

I-Year II-Semester

Sl. No.	Course Code	Course Name	Category Code	I	P	No. of Credits
1	DS107	Differential Equations	BSC	3	0	3
2	DS108	Engineering Electromagnetics	BSC	3	0	3
3	EC101 CS101	Electrical and Electronics Engineering (or) Problem Solving and Computer Programming Basic	BEC	3	0	3
			BEC	3	0	3
4	ME102 ME101	Science and Engineering of Materials (or) Concepts in Engineering Design	BEC	3	0	3
			DES	3	0	3
5	DS11x DS103	Humanities Course 1 (or) Technical and Professional Communication	HMC	2	0	2
			HMC	2	2	3
6	DS104 DS12x	Earth, Environment and Design (or) Humanities Course 2	DES	2	0	0
			DES	2	0	0
7	ME105	Design Realization	DES	0	3	2
8	DS109	Engineering Electromagnetics Practice	BSC	0	3	2
9	DS106 CS102	Measurement and Data Analysis (or) Problem Solving and Computer Programming Practice	BSC	0	3	2
			BEC	0	3	2
10	ME106	Industrial Design Sketching	BEC	0	3	2
Total				16	14	22
				16	14	23

II-Year I-Semester

S. No.	Course Code	Course Name	Category	I	P	No. of Credits
1	DS201	Linear Algebra	PEC	3	0	3
2	ME201T	Thermal Engineering - Concepts & Applications	PEC	3	0	3
3	ME202T	Mechanics of Materials	PEC	3	0	3
4	ME203T	Basic Concepts in Manufacturing Processes	PEC	3	0	3
5	ME204T	Kinematics of Machines	PEC	3	0	3
6	ME205I	Electrical Drives	PEC	1	3	3
7	ME206P	Machine Drawing & Manufacturability Analysis Practice	PEC	0	3	2
8	ME207P	Product Realization Practice	PEC	0	3	2
Total				16	9	22

II-Year II-Semester

S. No.	Course Code	Course Name	Category	I	P	No. of Credits
1	DS203	Numerical Methods	BSC	3	0	3
2	DS205	Engineering Economics	HMC	3	0	3
3	ME208T	Fluid Mechanics and Hydraulic Machinery	PEC	3	0	3
4	ME209T	Dynamics of Machines	PEC	3	0	3
5	ME210T	Quality Inspection and Product Validation	PEC	3	0	3
6	ME210P	Quality Inspection and Product Validation Practice	PEC	0	3	2
7	ME211I	Sensors and Controls	PEC	1	3	3
8	ME212P	Mechanical Design Practice	PEC	0	3	2
Total				16	9	22

III-Year I-Semester

S. No.	Course Code	Course Name	Category	I	P	No. of Credits
1	DS301	Entrepreneurship and Management Functions	HMC	2	0	2
2	ME301T	Heat Transfer	PEC	3	0	3
3	ME302T	Automation in Manufacturing	PEC	3	0	3
4	ME302P	Manufacturing Automation Practice	PEC	0	3	2
5	ME303T	Machine Tool Technology	PEC	3	0	3
6	ME304T	Design of Machine elements	PEC	3	0	3
7	ME305I	Microprocessors and Controllers	PEC	1	3	3
8	ME306P	Fluid Mechanics and Heat Transfer Practice	PEC	0	3	2
Total				15	9	21

III-Year II-Semester

S. No.	Course Code	Course Name	Category	I	P	No. of Credits
1	DES302T	Design for Quality and reliability	DES	3	0	3
2	ME307T	Computational Methods in Engineering	PEC	3	0	3
3	ME307P	Mechanical Design Simulation Practice	PEC	0	3	2
4	ME308T	Thermal Energy Systems	PEC	3	0	3
5	ME308P	Thermal Engineering Practice	PEC	0	3	2
6	MExxxT	Elective – I	PEC	3	0	3
7	MExxxT	Elective – II	PEC	3	0	3
8	INT303	Product Design Practice	PCD	0	3	2
Total				15	9	21

IV-Year I-Semester

S. No.	Course Code	Course Name	Category	I	P	No. of Credits
1	INT404	Internship	PCD	-	-	5
2	XXxxxT	Free Elective – I	PEC	3	0	3
3	DES401K	Design Project	DES	-	-	5
Total				3	6	13

IV-Year II-Semester

S. No.	Course Code	Course Name	Category	I	P	No. of Credits
1	MExxxT	Elective – III	PEC	3	0	3
2	XXxxxT	Free Elective – II	PEC	3	0	3
3	XXxxxT	Design Elective	DES	3	0	3
4	INT405	Project	PCD	-	-	10
Total				9	0	19

HMC: Humanities & Management Courses

BSC: Basic Science Courses (Physics/ Chemistry/Mathematics / Life Science)

BEC: Basic Engineering Courses

PEC: Professional Engineering Courses ELE Elective

PCD: Professional / Career Development (Industrial Lecture / Internships/Projects)

DES: Design Courses

I: Number of theory hours per week

P: Number of practice hours per week

List of Electives

S. No.	Course Code	Course Name	Category	I	P	No. of Credits
Department Electives						
1	ME501T	Mechanical Vibrations	PEC	3	0	3
2	ME502T	Advanced Solid Mechanics	PEC	3	0	3
3	ME503T	Computer Aided Design and Manufacturing	PEC	3	0	3
4	ME504T	Modern Manufacturing Technology	PEC	3	0	3
5	ME505T	Operation Research	PEC	3	0	3
6	ME506T	Computational Fluid Dynamics	PEC	3	0	3
7	ME507T	Optimization techniques for Mechanical Engineers	PEC	3	0	3
Free Electives						
1	ME508T	Automobile Engineering Systems	PEC	3	0	3
2	ME509T	Non-linear Dynamics	PEC	3	0	3
3	ME510T	Operations and Supply Chain Management	PEC	3	0	3
Design Electives						
1	ME512T	Design Intelligent Systems	PEC	3	0	3
2	DS402	Sustainable Design	DES	3	0	3

*In addition to the above prescribed electives, the student can enroll for the courses offered as part of M.Tech in Smart Manufacturing with the consent of the Faculty and prior approval of HoD.