

CURRICULUM

B. Tech. Smart Manufacturing (MSM)

(According to 31st senate meeting minutes)

Semester 1					
Course Name	I	P	C	Category	Code
Calculus	3	0	3	BSC	MAT104T
Engineering Mechanics	3	0	3	BSC	PHY108T
Computational Engineering / Basic Electrical and Electronics Engineering	3	0	3	BEC/ BEC	COM105T / ELE103T
Concepts in Engineering Design/ Science and Engineering of Materials	3	0	3	DES/ BEC	DES101T / INT108T
English for Communication	2	0	2	HMC	INT107T
Earth, Environment & Design/ Professional Ethics for Engineers	2		P/F	DES/ HMC	DES103T / MAN102T
Engineering Skills Practice	0	3	2	BEC	INT110P
Materials & Mechanics Practice	0	3	2	BSC	PHY109P
Computational Engineering Practice/ Measurement & Data Analysis Practice	0	3	2	BEC/ BSC	COM105P / INT111P
Engineering Graphics	1	3	3	BEC	INT109P
Total			23		
Semester 2					
Course Name	I	P	C	Category	Code
Differential Equations	3	0	3	BSC	MAT105T
Engineering Electromagnetics	3	0	3	BSC	PHY107T
Basic Electrical and Electronics Engineering/ Computational Engineering	3	0	3	BEC/ BEC	ELE103T / COM105T
Science and Engineering of Materials / Concepts in Engineering Design	3	0	3	BEC/ DES	INT108T / DES101T
Design History	2	0	2	DES	DES102T
Professional Ethics for Engineers/ Earth, Environment & Design	2	0	P/F	HMC/ DES	MAN102T / DES103T
Measurement & Data Analysis Practice/ Computational Engineering Practice	0	3	2	BSC/ BEC	INT111P / COM105P
Industrial Design Sketching	0	3	2	DES	DES104P
Engineering Electromagnetics Practice	0	3	2	BSC	PHY107P
Design Realization	0	3	2	DES	DES105P
Total			22		
Semester 3					
Course Name	I	P	C	Category	Code
Probability and Statistics	3	0	3	BSC	MAT207T
Engineering Economics	2	0	2	HMC	MAN201T
Data Structures and Algorithms	3	0	3	PEC	COM208T
Thermal Concepts for Manufacturing Engineers	3	0	3	PEC	MEC222T
Manufacturing Processes I	3	0	3	PEC	MEC223T
Manufacturing Processes Practice I	0	3	2	PEC	MEC223P
Production Drawing and Manufacturability Analysis	1	3	3	PEC	MEC224A
Electrical Drives	1	3	3	PEC	ELE220A
Data Structures and Algorithms Practice	0	3	2	PEC	COM208P
Total			24		

Semester 4					
Course Name	I	P	C	Category	Code
Free Elective (Maths category)	3	0	3	BSC	-
Operations and Supply Chain Management	3	0	3	HMC	DES603
Database Management Systems	3	0	3	PEC	COM213T
Manufacturing Processes II	3	0	3	PEC	MEC225T
Sensors and Controls	3	0	3	PEC	MEC320T
Sensors and Controls Practice	0	3	2	PEC	MEC320P
Manufacturing Processes Practice II	0	3	2	PEC	MEC225P
Machine to Machine Communication Practice	1	3	3	PEC	COM214A
Total			22		
Semester 5					
Course Name	I	P	C	Category	Code
Entrepreneurship and Management Functions	2	0	2	HMC	MAN301T
Manufacturing Systems	3	0	3	PEC	MEC328T
Robotics and Automation	3	0	3	PEC	MEC309
Quality Engineering	3	0	3	PEC	MEC329T
Mechanical Design Concepts	3	0	3	PEC	MEC330T
Robotics and Automation Practice	0	3	2	PEC	MEC309P
Quality Inspection and Product Validation Practice	0	3	2	PEC	MEC331P
Embedded Systems Practice	1	3	3	PEC	ELE313A
Total			21		
Semester 6					
Course Name	I	P	C	Category	Code
Operations Research	2	0	2	HMC	MAN304T
Smart Connected Systems	3	0	3	PEC	MEC332T
Special Manufacturing Processes	3	0	3	PEC	MEC333T
Computer Aided Design and Manufacturing	3	0	3	PEC	MEC323T
Elective I	3	0	3	ELE	-
Elective II	3	0	3	ELE	-
Computer Aided Design and Manufacturing Practice	0	3	2	PEC	MEC323P
Smart Connected Systems Practice	0	3	2	PEC	MEC332P
Product Design Practice	0	3	2	DES	INT303
Total			23		
Semester 7					
Course Name	I	P	C	Category	Code
Internship	0	-	5	PCD*	INT404
Data Analytics	2	0	2	HMC	MAN406T
Free Elective – I	3	0	3	ELE	-
Design and Manufacturing Project	0	6	5	PCD	DES401
Total			15		
Semester 8					
Course Name	I	P	C	Category	Code
Free Elective (Management category)	2	0	2	HMC	-
Elective – III	3	0	3	ELE	-
Free Elective-II	3	0	3	ELE	-
Project	0	-	10	PCD	INT405
Total			18		

*Internship is for a period of 5 months