B.Tech. (Mechatronics Engineering) Course Structure 2020-2021

First Year

Semester - I		Semester - II	
1	Mathematics-I	1	Mathematics-II
2	Basic Electrical Engineering	2	Programming for Problem Solving
3	Physics	3	Chemistry
4	Engineering Graphics & Design	4	Workshop / Manufacturing Practices
5	Constitution of India	5	English

Second Year

Semester – III		Semester – IV	
1	Mathematics -III	1	Mathematics - IV
2	Presentation and Communication Techniques	2	Principles of Economics and Management
3	Digital Electronics	3	Control Systems
4	Engineering Mechanics	4	Microprocessor and Microcontroller
5	Manufacturing Processes	5	Principles of Communication Engineering
6	Analog Devices and Circuits	6	Strength of Materials
		7	Environmental Studies

Third Year

Semester – V		Semester – VI	
1	Elements of Biology	1	PLC and Data Acquisition
2	Theory of Machines	2	Mechanical Measurements and Instrumentation
3	Industrial Electronics and Drives	3	Professional Ethics and Legal Aspects
4	Essence of Indian Traditional Knowledge	4	Research Methodology
5	Management Accounting for Engineers	5	**Professional Elective Course - 3 (Choose any one)** ➢ CAD/CAM/CIM ➢ Modeling and Simulation ➢ Dynamic System Modeling and Analysis
6	Electro-Mechanical Workshop	6	**Professional Elective Course – 4 (Choose any one)** ➢ Automobile Engineering ➢ Design of Machine Elements ➢ Additive Manufacturing
7	**Professional Elective Course – 1 (Choose any one)** ➢ Thermodynamics and Heat Transfer ➢ Materials Engineering ➢ Fluid Mechanics & Machinery		
8	**Professional Elective Course – 2 (Choose any one)** ➢ Industrial Data Communication ➢ Python programming ➢ Signals and Systems		

Fourth year

	Semester – VII		Semester – VIII
1	Mechatronics System Design	1	Industrial Robotics
2	Industrial Engineering	2	Product Design and Development
3	Project Phase I	3	Project Phase - II
4	**Elective I (Choose any one)** ➢ Dynamic System Modeling and Analysis ➢ Flexible Manufacturing Systems ➢ Automobile Engineering	4	**Elective III (Choose any one)** ➢ Project Management ➢ Additive Manufacturing ➢ Reliability Engineering
5	**Elective II (Choose any one)** ➢ Digital Signal Processing ➢ Microcontroller and Embedded Systems ➢ Microelectromechanical Systems	5	**Elective IV (Choose any one)** ➢ Virtual Instrumentation ➢ Automotive Electronics ➢ Artificial Intelligence