



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**  
(Established by Andhra Pradesh Act No.30 of 2008)  
Kukatpally, Hyderabad – 500 085, Andhra Pradesh (India)

**B.TECH. MECHANICAL ENGINEERING (MECHATRONICS)**

**I YEAR**

Code	Subject	L	T/P/D	C
	English	2	-	4
	Mathematics - I	3	1	6
	Engineering Mechanics	3	-	6
	Engineering Physics	3	-	6
	Engineering Chemistry	3	-	6
	Computer Programming	3	-	6
	Engineering Drawing	2	3	6
	Computer Programming Lab.	-	3	4
	Engineering Physics & Engineering Chemistry Lab	-	3	4
	English Language Communication Skills Lab.	-	3	4
	Engineering Workshop / IT Workshop	-	3	4
	<b>Total</b>	<b>19</b>	<b>16</b>	<b>56</b>

**II YEAR I SEMESTER**

Code	Subject	L	T/P/D	C
	Probability and Statistics	4	-	4
	Electrical Engineering	4	-	4
	Mechanics of Solids	4	-	4
	Electronic Devices & Circuits	4	-	4
	Thermal Science	4	-	4
	Metallurgy and Material Science	4	-	4
	Mechanics of Solids & Metallurgy Lab	0	3	2
	Electronic Devices and Circuits Lab	0	3	2
	<b>Total</b>	<b>24</b>	<b>6</b>	<b>28</b>

**II YEAR II SEMESTER**

Code	Subject	L	T/P/D	C
	Production Technology	4	-	4
	Kinematics of Machinery	4	-	4
	Environmental Studies	4	-	4
	Numerical Methods	4	-	4
	Machine Drawing	0	6	4
	Fluid Mechanics and Heat Transfer	4	-	4
	Electrical Engineering Lab	0	3	2
	Fluid Mechanics and Thermal Engineering Lab	0	3	2
	<b>Total</b>	<b>20</b>	<b>12</b>	<b>28</b>

**III YEAR I SEMESTER**

Code	Subject	L	T/P/D	C
	Managerial Economics and Financial Analysis	4	-	4
	Dynamics of Machinery	4	-	4
	Finite Element Techniques	4	-	4
	Switching Theory and Logic Design	4	-	4
	Machine Tools	4	-	4
	Principles of Machine Design	4	-	4
	Machine Tools Lab	0	3	2
	Heat Transfer and Production Technology Lab	0	3	2
	<b>Total</b>	<b>24</b>	<b>6</b>	<b>28</b>

**III YEAR II SEMESTER**

Code	Subject	L	T/P/D	C
	Industrial Management	4	-	4
	CAD/CAM	4	-	4
	Mechanical Measurements and Control Systems	4	-	4
	Analog and Digital I.C. Applications	4	-	4
	<b>Open Elective</b> Disaster Management Human Values & Professional Ethics Intellectual Property Rights	4	-	4
	Automobile Engineering	4	-	4
	CAD / CAM and Instrumentation & control Systems Lab	0	3	2
	Advanced English Communication Skills Lab	0	3	2
	<b>Total</b>	24	6	28

**IV YEAR I SEMESTER**

Code	Subject	L	T/P/D	C
	Operations Research	4	-	4
	Microprocessors and Micro Controllers	4	-	4
	Robotics & its applications	4	-	4
	Motion Control Design	4	-	4
	<b>Elective-I</b> Product Design and Assembly Automation Renewable Energy Sources Computational Fluid Dynamics Advanced Data Structures	4	-	4
	<b>Elective-II</b> Power Plant Engineering Computer Organization Flexible Manufacturing System Advanced Kinematics and Dynamics of Machinery	4	-	4
	Microprocessors and Micro Controllers Lab	0	3	2
	Motion Control Design and CNC & Robotics Lab	0	3	2
	<b>Total</b>	24	6	28

**IV YEAR II SEMESTER**

Code	Subject	L	T/P/D	C
	Automation in manufacturing	4	-	4
	<b>Elective-III</b> MEMS Design Production Planning and Control Concurrent Engineering Plant Engineering & Maintenance	4	-	4
	<b>Elective-IV</b> Artificial Neural Networks Mathematical Modeling and Simulation Principles of Entrepreneurship MATLAB Applications	4	-	4
	Industry Oriented Mini Project	0	-	2
	Seminar	0	6	2
	Project Work	0	15	10
	Comprehensive Viva	0	0	2
	<b>Total</b>	12	21	28

**Note :** All End Examinations (Theory and Practical) are of three hours duration.

**T-Tutorial**

**L – Theory**

**P – Practical/Drawing**

**C – Credits**