

**B. TECH. & ROBOTICS& AUTOMATION: COURSE STRUCTURE CBCS-2020-21B.Tech.
Robotics &Automation Sem.-I**

Sr. No.	Course Code	Name of Course	Teaching Scheme (Hrs./Week)			Examination Scheme (Marks)						Credits			
			L	P	T	UE	IA	TW	TW & OR	TW & PR	Total	L	P TW/OR/PR	T	Total
1		Linear Algebra, Calculus & Complex Variables	4	-	1	60	40	-	-	-	100	4	-	1	5
2		Waves & Solid State Physics	3	2	-	60	40	25	-	-	125	3	1	-	4
3		Electrical Engineering Systems	4	2	-	60	40	25	-	-	125	4	1	-	5
4		Computer Aided Drafting & Visualization *	4	2	-	60	40	-	-	50	150	4	1	-	5
5		Mechanical Engineering Systems	3	2	-	60	40	50	-	-	150	3	1	-	4
6		Computer Programming: Fundamentals (Using C/C++)	-	4	-	-	-	-	-	100	100	-	2	-	2
		Total	18	12	1	300	200	100	-	150	750	18	6	1	25

*End Sem. Examination of 4 Hrs.; #: Based on TW & internal oral examination

B. Tech. Robotics & Automation Sem.-II

Sr. No.	Course Code	Name of Course	Teaching Scheme (Hrs./Week)			Examination Scheme (Marks)						Credits			
			L	P	T	UE	IA	TW	TW & OR	TW & PR	Total	L	P TW/OR/PR	T	Total
1		Differential Equations, Probability & Statistics	4	-	1	60	40	-	-	-	100	4	-	1	5
2		Chemistry of Engineering Materials	3	2	-	60	40	25#	-	-	125	3	1	-	4
3		Electronics Engineering Systems	4	2	-	60	40	25#	-	-	125	4	1	-	5
4		Fundamentals of Robotics	4	2	-	60	40	-	-	50	150	4	1	-	5

5		Engineering Mechanics	3	-	-	60	40	-	-	-	100	3	-	-	3
6		Basics of PLC	-	2	-	-	-	50#	-	-	50	-	1	-	1
7		Object Oriented Programming (Using Python)	-	4	-	-	-	-	-	100	100	-	2	-	2
		Total	18	12	1	300	200	100	-	150	750	18	6	1	25

*End Sem. Examination of 4 Hrs.; #: Based on TW & internal oral examination

B. Tech. Robotics & Automation Sem.-III

Sr. No.	Course Code	Name of Course	Teaching Scheme (Hrs./Week)			Examination Scheme (Marks)						Credits			
			L	P	T	UE	IA	TW	TW & OR	TW & PR	Total	L	P TW/OR/PR	T	Total
1		Hydraulics & Pneumatics: Principals	4	2	-	60	40	-	50	-	150	4	1	-	5
2		Theory of Machines	4	2	-	60	40	-	50	-	150	4	1	-	5
3		Strength of Machine Components	3	2	1	60	40	25#	-	-	125	3	1	1	5
4		Electronic Circuits	3	2	-	60	40	25#	-	-	125	3	1	-	4
5		Embedded Systems@	4	2	-	60	40	25#	-	-	125	4	1	-	5
6		Data Structures and Algorithms	-	2	-	-	-	25#			25		1	-	1
7		MATLAB Programming	-	2	-	-	-	-	-	50	50	-	1	-	1
8		Vocational Course-I: Sensors, PLC & HMI: Basic Training	-	-	-		-	-	50	-	50	-	2	-	2
9		MOOC-I	-	-	-		-	-	-	-	-	-	-	-	2
10		Environmental Studies (Mandatory Course)+	-	-	-		-	-	-	-	-	-	-	-	-
Total			18	14	1	300	200	100	150	50	800	18	9	1	30

#: Based on TW & internal oral examination; @Industry Taught Course-I; \$ To be conducted in service centre after office hours: 4 hrs/week; + End sem. Exam. of 100 marks

B. Tech. Robotics & Automation Sem.-IV

Sr. No.	Course Code	Name of Course	Teaching Scheme (Hrs./Week)			Examination Scheme (Marks)						Credits			
			L	P	T	UE	IA	TW	TW & OR	TW & PR	Total	L	P TW/OR/PR	T	Total
1		Design & Analysis of Machine Components	4	2	-	60	40	-	50	-	150	4	1	-	5
2		Digital Electronics@	4	2	-	60	40	25#	-	-	125	4	1	-	5
3		Power Electronics & Drives	3	2	1	60	40	-	50	-	150	3	1	1	5
4		Manufacturing Technology-I	3	2	-	60	40	50#	-	-	150	3	1	-	4
5		Automatic Control Systems	4	2	-	60	40	25#	-	-	125	4	1	-	5
6		Solid Modelling	-	4	-	-	-	-	-	50	50		2	-	2

7		Vocational Course-II: PLC, HMI & Automation: Advanced Training	-	-	-	-	-	-	50	-	50	-	2	-	2
8		Social Activities-I	-	-	-	-	-	-	-	-	-	-	-	-	2
9		Disaster Management (Mandatory Course) ⁺	-	-	-	--	-	-	-	-	-	-	-	-	-
		Total	18	14	1	300	200	100	150	50	800	18	9	1	30

#: Based on TW & internal oral examination; @Industry Taught Course-II; \$ To be conducted in service centre after office hours: 4 hrs/week; + End sem. Exam. of 100 marks