

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

Scheme of Teaching & Examination of Bachelor of Technology

III Semester B.Tech. (Industrial IOT)

Sr. No.	Course Code	Category	Course Name	Hours/ Week			Credits	Maximum Marks					Minimum Passing Marks	
								Theory		Practical		Total		
				L	T	P		Internal	University	Internal	University		Theory	Practical
1	BTechIOT301T	Basic Science Course	Discrete Mathematics and Graph Theory	3	1	0	4.00	30	70	-	-	100	45	
2	BTechIOT302T	Professional core courses	Operating Systems	3	0	0	3.00	30	70	-	-	100	45	
3	BTechIOT303T	Professional core courses	Sensors and Actuators	3	0	0	3.00	30	70	-	-	100	45	
4	BTechIOT303P	Professional core courses	Sensors and Actuators lab	0	0	2	1.00	-	-	25	25	50		25
5	BTechIOT304T	Professional core courses	Data Structures & Algorithm Design	3	0	0	3.00	30	70	-	-	100	45	
6	BTechIOT304P	Professional core courses	Data Structures & Algorithm Design Lab	0	0	2	1.00	-	-	25	25	50		25
7	BTechIOT305T	Engineering Sciences	Logic Design and Microcontroller	3	0	0	3.00	30	70			100	45	
8	BTechIOT305P	Engineering Sciences	Logic Design and Microcontroller Lab	0	0	2	1.00	-	-	25	25	50		25
9	BTechIOT306P	Engineering Sciences	Professional Skills (Core Python)	0	0	2	1.00			25	25	50		25
10	BTechIOT307T	HSMC	Universal Human Values	2	0	0	2.00	15	35			50	23	
11	BTechIOT308T	Mandatory Course	Environmental Science	2	0	0	Audit	College assessment in grades O, A,B,C						
Total				19	1	8	22.00	165	385	100	100	750		



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IV Semester B.Tech. (Industrial IOT)

Sr. No.	Course Code	Category	Course Name	Hours/ Week			Credits	Maximum Marks					Minimum PassingMarks	
				Theory		Practical		Total						
				L	T	P			Internal	University	Internal	University	Theory	Practical
1	BTechIOT 401T	Professional core courses	Embedded System for IOT	3	0	0	3.00	30	70	-	-	100	45	
2	BTechIOT 401P	Professional core courses	Embedded System for IOT	0	0	2	1.00	-	-	25	25	50		25
3	BTechIOT 402T	Professional Core courses	Introduction to Artificial Intelligence	3	0	0	3.00	30	70	-	-	100	45	
4	BTechIOT 403T	Professional Core courses	Computer Networks	3	0	0	3.00	30	70	-	-	100	45	
5	BTechIOT 404T	Professional core courses	Object oriented programming	3	0	0	3.00	30	70	-	-	100	45	
6	BTechIOT404P	Professional core courses	Object oriented programming	0	0	2	1.00	-	-	25	25	50		25
7	BTechIOT 405T	Professional core courses	Database Management Systems	3	0	0	3.00	30	70			100	45	
8	BTechIOT 405P	Professional core courses	Database Management Systems Lab	0	0	2	1.00	-	-	25	25	50		25
9	BTechIOT 406T	Engineering Sciences	Analog and Digital Communication	3	0	0	3.00	30	70	-	-	100	45	
10	BTechIOT 406P	Engineering Sciences	Analog and Digital Communication lab	0	0	2	1.00	-	-	25	25	50	-	25
11	BTechIOT 407P	Project Work/Internship	Internship	0	0	2	1.00			50	--	50		25
Total				18	0	10	23.00	180	420	150	100	850		

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V Semester B.Tech . (Industrial IOT)

Sr. No.	Course Code	Category	Course Name	Hours/ Week			Credits	Maximum Marks					Minimum Passing Marks	
								Theory		Practical		Total		
				L	T	P		Internal University		Internal University			Theory	Practical
1	BTechIOT501T	Professional core courses	IOT Architecture & Protocols	3	0	0	3.00	30	70			100	45	
2	BTechIOT501P	Professional core courses	IOT Architecture & Protocols Lab	0	0	2	1.00			25	25	50		25
3	BTechIOT502T	Professional Core courses	Machine Learning	3	0	0	3.00	30	70	-	-	100	45	
4	BTechIOT502P	Professional core courses	Machine Learning Lab	0	0	2	1.00			25	25	50	45	25
5	BTechIOT503T	Professional core courses	Cloud & FOG Computing	3	0	0	3.00	30	70	-	-	100	45	
6	BTechIOT504T	Professional Core course	Advanced Signal Processing	3	1	0	4.00	30	70	-	-	100	45	
7	BTechIOT504P	Professional Core course	Advanced Signal Processing Lab	0	0	2	1.00	-	-	25	25	50		25
8	BTechIOT505T	Professional Elective Course	Elective- I	3	0	0	3.00	30	70			100	45	
9	BTechIOT506T	HSMC	Effective Technical Communication	2	0	0	2.00	15	35			50	23	
Total				17	1	6	21	165	385	75	75	700		

Elective I- 1.Computer Graphics for Virtual Reality 2.Data Visualisation
3. Wireless Communication Technologies 4. Industrial & Medical IOT

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VI Semester B.Tech. (Industrial IOT)

Sr. No.	Course Code	Category	Course Name	Hours / Week			Credits	Maximum Marks					Minimum Passing Marks	
								Theory		Practical		Total		
				L	T	P		Internal	University	Internal	University		Theory	Practical
1	BTechIOT601T	Professional core courses	Mobile & Web Application Development	3	0	0	3.00	30	70	-	-	100	45	
2	BTechIOT601P	Professional core courses	Mobile & Web Application Development Lab	0	0	2	1.00			25	25	50		25
3	BTechIOT602T	Professional Core courses	Digital modelling and SOC	3	1	0	4.00	30	70	-	-	100	45	
4	BTechIOT602P	Professional core courses	Digital modeling and SOC Lab	0	0	2	1.00			25	25	50		25
5	BTechIOT603T	Professional core courses	Big data Analytics & Business Intelligence	3	0	0	3.00	30	70	-	-	100	45	
6	BTechIOT603P	Professional core courses	Big data Analytics & Business Intelligence	0	0	2	1.00	-	-	25	25	50		25
7	BTechIOT604T	Professional Elective Course	Elective- 2	3	0	0	3.00	30	70			100	45	
8	BTechIOT605T	Open Elective	Open Elective-1	3	0	0	3.00	30	70			100	45	
9	BTechIOT606T	HSMC	Organizational Behaviour	2	0	0	Audit Course	College assessment in grades O, A,B,C						
10	BTechIOT607P	Project Work /Internship	Mini Project /Internship	0	0	6	3.00	-	-	25	25	50	-	25
Total				17	1	12	22.00	150	350	100	100	700		

Elective II: 1. Web and Social Media Analytics 2. Linux and shell programming 3. Intelligent Sensor & Instrumentation 4. Robotics and Intelligent Systems 5. Block Chain & Cyber Security

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VII Semester B.Tech . (Industrial IOT)

Sr. No.	Course Code	Category	Course Name	Hours/ Week			Credits	Maximum Marks					Minimum Passing Marks	
								Theory		Practical		Total		
				L	T	P		Internal	University	Internal	University		Theory	Practical
1	BTechIOT701T	Professional core courses	Digital Image Processing	3	0	0	3.00	30	70	-	-	100	45	
2	BTechIOT701P	Professional core courses	Digital Image Processing Lab	0	0	2	1.00			25	25	50		25
3	BTechIOT702T	Professional core courses	Natural Language Processing	3	0	0	3.00	30	70	-	-	100	45	
4	BTechIOT702P	Professional core courses	Natural Language Processing Lab	0	0	2	1.00			25	25	50		25
5	BTechIOT703T	Professional Elective Course	Elective- III	3	0	0	3.00	30	70	-	-	100	45	
6	BTechIOT704T	Open Elective	Open Elective- II	3	0	0	3.00	30	70	-	-	100	45	
7	BTechIOT705P	Project Work	Project	0	0	6	3.00	-	-	50	50	100		50
Total				12	0	10	17.00	120	280	100	100	600		

Elective III: 1. Deep Learning and Neural Network 2. Medical Image Analysis 3. Micro-Electro- Mechanical Systems 4. Data compression and encryption



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VIII Semester B.Tech . (Industrial IOT)

Sr. No.	Course Code	Category	Course Name	Hours/ Week			Credits	Maximum Marks					Minimum Passing Marks	
								Theory		Practical		Total		
				L	T	P		Internal	University	Internal	University		Theory	Practical
1	BTechIOT - 801T	Professional Elective Course	Elective IV	3	0	0	3.00	30	70	-	-	100	45	
2	BTechIOT - 802T	Professional Elective Course	Elective V	3	0	0	3.00	30	70	-	-	100	45	
3	BTechIOT - 803P	Project Work	Project	0	0	16	8.00			100	100	200		100
Total				6	0	16	14.00	60	140	100	100	400		

Elective IV: 1. Cyber forensic and cyber defense 2. Generative adversarial network 3. Biomedical Instrumentation 4. Measurement and Design

Elective V: 1. Ubiquitous Sensing, Computing and Communication 2. Optical Circuits & Fibers 3. Cyber Crimes & Digital Forensics 4. Database Security and Access Control



Credit Structure for UG Program B.Tech Industrial IOT

Sr. No.	Semester	Category							Total
		BSC	ESC	HSMC	PCC	PEC	OEC	PROJ	
1.	I	09	07	03	-	-	-	-	19
2	II	09	13	-	-	-	-	-	22
3	III	04	04	02	12	-	-	-	22
4	IV	-	04	-	18	-	-	01	23
5	V	-	--	02	16	03		-	21
6	VI	-	-		13	03	03	03	22
7	VII	-	-	-	08	03	03	03	17
8	VIII	-	-	-	-	06	-	08	14
Total		22	28	07	67	15	06	15	160

