



SIR PADAMPAT SINGHANIA UNIVERSITY

Udaipur

SCHOOL OF ENGINEERING

**Course Curriculum of 4-Year B. Tech. Degree Programme
in**

Electronics & Communication Engineering

Specialization in

Internet of Things (IoT)

(Batch- 2020-24)

Credit Structure

B. Tech. Core		B. Tech. Elective	
Category	Credits	Category	Credits
Departmental Core Subjects	148	Department Level Optional Courses	20
Basic Sciences Subjects	36	University Level Optional Courses	6
Ability Enhancement Courses	7		
Total	191	Total	26
Grand Total			217

Distribution of Total Credits & Contact Hours in all Semesters

S. No.	Semester Number	Credits/Semester	Contact hours/week
1	I	28	34
2	II	28	35
3	III	26	31
4	IV	29	33
5	V	27	31
6	VI	25	29
7	VII	30	35
8	VIII	24	33
Total		217	--

Course Structure: B. Tech. 2020-2024

Semester - I

S. No.	Course Code	Course Title	L	T	P	Credit(s)
1	CE-1001	Engineering Mechanics	5	0	1	6
2	EC-1001	Basic Electrical Engineering	4	0	1	5
3	ME-1001	Basic Workshop Practice – I	0	0	2	2
4	MA-1001	Applied Mathematics – I	4	1	0	5
5	PH-1001	Applied Physics – I	3	0	1	4
6	CH-1001	Applied Chemistry – I	3	0	1	4
7	CH-1002	Environmental Studies	2	0	0	2
Total Credits						28
8	EP-1999	Endeavour Project (Beyond the Syllabus)				
Total Contact hours/week						34

Semester - II

S. No.	Course Code	Course Title	L	T	P	Credit(s)
1	CS-1001	Structured Programming Approach	4	0	1	5
2	ME-1002	Engineering Drawing	3	0	2	5
3	ME-1003	Basic Workshop Practice – II	0	0	2	2
4	MA-1002	Applied Mathematics – II	4	1	0	5
5	PH-1002	Applied Physics – II	3	0	1	4
6	CH-1003	Applied Chemistry – II	3	0	1	4
7	HU-1001	Communication Skills	2	1	0	3
Total Credits						28
8	EP-1999	Endeavour Project (Beyond the Syllabus)				3
Total Contact hours/week						35

Semester - III

S. No.	Course Code	Course Title	L	T	P	Credit(s)
1	EC-2001	Electronic Devices & Circuits – I	4	0	0	4
2	EC-2002	Electronic Devices & Circuits – I Lab	0	0	1	1
3	EC-2003	Digital Circuit Design	4	0	0	4
4	EC-2004	Digital Circuit Design Lab	0	0	1	1
5	EC-2005	Electrical Network Analysis & Synthesis	4	0	0	4
6	EC-2006	Electronic Instrumentation & Measurements	4	0	0	4
7	EC-2007	Electrical Networks & Measurement Lab	0	0	1	1
8	CS-2091	Object Oriented Programming Methodology Lab	0	0	2	2
9	MA-2003	Applied Mathematics – III	4	1	0	5
Total Credits						26
10	EP-2999	Endeavour Project (Beyond the Syllabus)				
Total Contact hours/week						31

Semester - IV

S. No.	Course Code	Course Title	L	T	P	Credit(s)
1	EC-2008	Electronic Devices & Circuits – II	4	0	0	4
2	EC-2009	Electronic Devices & Circuits – II Lab	0	0	1	1
3	EC-2010	Microprocessors & Applications	4	0	0	4
4	EC-2011	Microprocessors & Applications Lab	0	0	1	1
5	EC-2012	Digital System Design	4	0	0	4
6	EC-2013	Digital System Design Lab	0	0	1	1
7	EC-2014	Principles of Communication Engineering	4	0	0	4
8	EC-2015	Principles of Communication Engineering Lab	0	0	1	1
9	EC-2016	Linear Control Systems	4	0	0	4
10	MA-2007	Applied Mathematics – IV	4	1	0	5
Total Credits						29
11	EP-2999	Endeavour Project (Beyond the Syllabus)				3
Total Contact hours/week						33

Semester - V

S. No.	Course Code	Course Title	L	T	P	Credit(s)
1	EC-3001	Micro-controllers & Applications	4	0	0	4
2	EC-3002	Micro-controllers & Applications Lab	0	0	1	1
3	EC-3003	Digital Communication	4	0	0	4
4	EC-3004	Digital Communication Lab	0	0	1	1
5	EC-3005	Design with Linear Integrated Circuits	4	0	0	4
6	EC-3006	Design with Linear Integrated Circuits Lab	0	0	1	1
7	EC-3007	Engineering Electromagnetics	4	1	0	5
8	IO-3001	Sensors for Internet of Things	4	0	0	4
9	IO-3002	Sensors for Internet of Things Lab	0	0	1	1
10	HU-3001	Business Communication & Ethics	1	1	0	2
Total Credits						27
11	EP-3999	Endeavour Project (Beyond the Syllabus)				
Total Contact hours/week						31

Semester - VI

S. No.	Course Code	Course Title	L	T	P	Credit(s)
1	EC-3008	Embedded System & RTOS	4	0	0	4
2	EC-3009	Embedded System & RTOS Lab	0	0	1	1
3	EC-3010	Computer Communication Network	4	0	0	4
4	EC-3011	Computer Communication Network Lab	0	0	1	1
5	EC-3012	VLSI Design	4	0	0	4
6	EC-3013	VLSI Design Lab	0	0	1	1
7	EC-3014	Signals & Systems	4	1	0	5
9	IO-3003	Wireless Sensor Networks	4	0	0	4
10	IO-3004	Wireless Sensor Networks Lab	0	0	1	1
Total Credits						25
11	EP-3999	Endeavour Project (Beyond the Syllabus)				3
Total Contact hours/week						29

Semester - VII

S. No.	Course Code	Course Title	L	T	P	Credit(s)
1	EC-4001	Instrumentation System Design	4	0	0	4
2	EC-4002	Instrumentation System Design Lab	0	0	1	1
3	EC-4003	Power Electronics	4	0	0	4
4	EC-4004	Power Electronics Lab	0	0	1	1
5	EC-4005	Digital Signal Processing	4	0	0	4
6	EC-4006	Digital Signal Processing Lab	0	0	1	1
7	IO-4001	Internet of Things	4	0	0	4
8	IO-4002	Internet of Things Lab	0	0	1	1
9	EC-4100	Minor Project	0	0	4	4
10	EC-4200	Summer Internship	-	-	-	3
11	XX-XXXX	University Level Optional Course – I	3	0	0	3
Total Credits						30
12	EP-4999	Endeavour Project (Beyond the Syllabus)				
Total Contact hours/week						35

Semester - VIII

S. No.	Course Code	Course Title	L	T	P	Credit(s)
1	EC-4009	Analog & Mixed VLSI Design	4	0	0	4
2	EC-4010	Analog & Mixed VLSI Design Lab	0	0	1	1
3	EC-XXXX	Department Level Optional Course – I	4	0	0	4
4	EC-XXXX	Department Level Optional Course – I Lab	0	0	1	1
5	EC-4300	Major Project	0	0	6	6
6	IO-4003	Advanced Internet of Things	4	0	0	4
7	IO-4004	Advanced Internet of Things Lab	0	0	1	1
8	XX-XXXX	University Level Optional Course – II	3	0	0	3
Total Credits						24
10	EP-4999	Endeavour Project (Beyond the Syllabus)				3
Total Contact hours/week						33

List of Department Level Optional Course(s) - I

S. No.	Course Code	Course Title	L	T	P	Credit
1	EC-4109	Advanced Power Electronics	4	0	0	4
2	EC-4110	Advanced Power Electronics Lab	0	0	1	1
3	EC-4111	MEMS Technology	4	0	0	4
4	EC-4112	MEMS Technology Lab	0	0	1	1
5	EC-4113	Virtual Instrumentation	4	0	0	4
6	EC-4114	Virtual Instrumentation lab	0	0	1	1
7	EC-4115	Digital Image Processing	4	0	0	4
8	EC-4116	Digital Image Processing Lab	0	0	1	1

List of University Level Optional Course(s) - I

S. No.	Course Code	Course Title	L	T	P	Credit
1	ME-4151	Product Lifecycle Management	3	0	0	3
2	ME-4152	Reliability Engineering	3	0	0	3
3	CS-4151	Management Information System	3	0	0	3
4	EC-4151	Design of Experiments	3	0	0	3
5	ME-4153	Operation Research	3	0	0	3
6	CS-4152	Cyber Security & Laws	3	0	0	3
7	CE-4151	Disaster Management & Mitigation Measures	3	0	0	3
8	EC-4152	Energy Audit & Management	3	0	0	3
9	EC-4153	Development Engineering	3	0	0	3

List of University Level Optional Course(s) - II

S. No.	Course Code	Course Title	L	T	P	Credit
1	ME-4154	Project Management	3	0	0	3
2	BM-4151	Finance Management	3	0	0	3
3	BM-4152	Entrepreneurship Development & Management	3	0	0	3
4	BM-4153	Human Resource Management	3	0	0	3
5	BM-4154	Professional Ethics & CSR	3	0	0	3
6	CS-4153	Research Methodology	3	0	0	3
7	EC-4154	IPR & Patenting	3	0	0	3
8	CS-4154	Digital Business Management	3	0	0	3
9	CE-4152	Environmental Management	3	0	0	3

The Detailed Contents are under construction...