

Shri G.S. Institute of Technology & Science, Indore
Electronics & Instrumentation Engineering Department
B.Tech (Applicable to 2024-25 Enrolled Students)

Batch 2024-28(NEP-2020)

Acadmic Year :2025-26

II Year / Semester-III

S.No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks				
				L	T	P	Th	Pr	Theory		Practical		Total
									Th.	CW	Pr.	SW	
1	BSC	MA27014	Mathematics-III	3	1	-	4	-	70	30	-	-	100
2	PCC	EI27011	Circuit Analysis & Synthesis	3	-	-	3	-	70	30	-	-	100
3	PCC	EI27016	Digital Electronics	3	-	-	3	-	70	30	-	-	100
4	PCC	EI27013	Electronics Devices & Circuits	3	-	-	3	-	70	30	-	-	100
5	ESC	EI27012	Fundamentals of Measurement	3	-	-	3	-	70	30	-	-	100
6	LC(EI)	EI27401	Circuit Analysis & Synthesis	-	-	2	-	1	-	-	60	40	100
7	LC(EI)	EI27404	Digital Electronics	-	-	2	-	1	-	-	60	40	100
8	LC(EI)	EI27403	Electronics Devices & Circuits	-	-	2	-	1	-	-	60	40	100
9	LC(EI)	EI27402	Fundamentals of Measurement	-	-	2	-	1	-	-	60	40	100
10	LC(EI)	EI27498	Electronics Workshop Lab	-	-	2	-	1	-	-	60	40	100
11	MC	EIM2002	Environmental Science*	2	-	-	-	-	-	50	-	-	50
Total				17	1	10	16	5	350	200	300	200	1050

*Non-credit mandatory subject

II Year / Semester-IV

S.No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks				
				L	T	P	Th	Pr	Theory		Practical		Total
									Th.	CW	Pr.	SW	
1	HSMC	HU27506	Economics for Engineers	3	-	-	3	-	70	30	-	-	100
2	PCC	EI27511	Analog Electronics	3	-	-	3	-	70	30	-	-	100
3	PCC	EI27521	Sensors & Transducers	3	-	-	3	-	70	30	-	-	100
4	BSC	MA27563	Mathematics – IV	3	1	-	4	-	70	30	-	-	100
5	PCC	EI27514	Digital Design using HDLs	3	-	-	3	-	70	30	-	-	100
6	LC (EI)	EI27801	Analog Electronics (Lab)	-	-	2	-	1	-	-	60	40	100
7	LC (EI)	EI27802	Sensors & Transducers (Lab)	-	-	2	-	1	-	-	60	40	100
8	LC (EI)	EI27803	Digital Design using HDLs (Lab)	-	-	2	-	1	-	-	60	40	100
9	LC (EI)	EI27882	Software workshop	-	-	2	-	1	-	-	60	40	100
10	MC	HU27881	Values, Humanity and Professional Ethics	2	-	-	2	-	-	100	-	-	100
12	PROJ	Internship-1		4-6 weeks-during vacation. Evaluation & Credit in V Semester									
TOTAL				17	1	8	18	4	350	250	240	160	1000

Shri G.S. Institute of Technology & Science, Indore
Electronics & Instrumentation Engineering Department
B.Tech (Applicable to 2023-24 Enrolled Students)

w.e.f July 2025

III Year / Semester-V

Batch 2023-2027(NEP-2020)

Academic Year :2025-26

S.No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks				
				L	T	P	Th	Pr	Theory		Practical		Total
									End sem	CW	Pr	SW	
1	PCC	IT37005	Data Structure	3		-	3	-	70	30	-	-	100
2	PCC	EI37006	Microprocessor Systems	3	-	-	3	-	70	30	-	-	100
3	PCC	EI37007	CMOS VLSI Design	3	-	-	3	-	70	30	-	-	100
4	PEC		Program Elective Course-I	3	-	-	3	-	70	30	-	-	100
5	OEC		Program Elective Course-II	3	-	-	3	-	70	30	-	-	100
6	LC(IT)	IT37xxx	Data Structure (Lab)	-	-	2	-	1	-	-	60	40	100
7	LC(EI)	EI37xxx	Microprocessor Systems (Lab)	-	-	2	-	1	-	-	60	40	100
8	LC(EI)	EI37xxx	CMOS VLSI Design (Lab)	-	-	2	-	1	-	-	60	40	100
9	LC(EI)	EI37481	Test & Calibration (Lab)	-	-	2	-	1	-	-	60	40	100
10	PROJ	EI37482	Internship-I (Evaluation)	-	-	2	-	1	-	-	-	50	50
11	HSMC	HUM3702	Constitution of India*	2	-	-	-	-	-	50	-	-	50
Total				17	0	10	15	5	350	200	240	210	1000

*Non-credit mandatory subject

III Year/ Semster-VI

S.No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks				
				L	T	P	Th	Pr	Theory		Practical		Total
									End sem	CW	Pr	SW	
1	PCC	EI37xxx	Digital Signal Processing	3	-	-	3	-	70	30	-	-	100
2	PCC	EI37504	Microcontroller & Embedded System	3	-	-	3	-	70	30	-	-	100
3	PCC	EE37505	Control Systems	3	-	-	3	-	70	30	-	-	100
4	PEC		Program Elective Course-III	3	-	-	3	-	70	30	-	-	100
5	OEC		Program Elective Course-IV	3	-	-	3	-	70	30	-	-	100
6	LC (EI)	EI37xxx	Digital Signal Processing (Lab)	-	-	2	-	1	-	-	60	40	100
7	LC (EE)	EExxx	Control Systems (Lab)	-	-	2	-	1	-	-	60	40	100
8	PEC-LC (EI)	EIxxx	Microcontroller & Embedded System (Lab)	-	-	2	-	1	-	-	60	40	100
9	PROJ	EIxxx	Major Project Phase-I	-	-	4	-	2	-	-	60	40	100
10	HSMC	HUMxxx	Essence of Indian Knowledge Tradition*	2	-	-	-	-	-	50	-	-	50
11	PROJ	Internship-II		Minimum 4-6 weeks-during vacation. Evaluation & Credit in VII Semester									
TOTAL				17	0	10	15	5	350	200	240	160	950

*Non-credit mandatory subject

Vocational Degree in Electronics & Instrumentation Engg. will be awarded after acquiring additional 10 credits out of which 6 credits as 3 months industrial training within 5 years.

List of Electives for 5th & 6th Semester

Program Elective-I (5th Semester)		
1	EC37254	Analog & Digital Communication
2	EI37255	Smart Sensors
3	EIxxx	Peripherals & Interfacing

Program Elective-II (5th Semester)		
1	IP37251	Industrial Engineering & Management
2	CO37253	Artificial Intelligence
	EI3N001	(NPTEL) Fundamentals of Artificial Intelligence
	EI3N002	(NPTEL) Artificial Intelligence - "Search Methods for Problem Solving"

Program Elective-III		
1	EI37703	High Frequency Engineering
2	EI37xxx	Analog Integrated Circuits
3	EI37704	Analytical Instrumentation

Program Elective-IV		
1	EC 37726	Mobile Communication
2	EI37xxx	Robotics & Drone Technology
3	EI37xxx	Verification using System Verilog

The Department will offer following Open Electives

Open Elective-I (V Semester)		
1	EI37xxx	Digital Design Using HDLs

Open Elective-II (VI Semester)		
1	EI xxx	Filter Design & Simulation

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wef July 2025

IV Year/ VII Sem

Batch : 2022-26

Academic Year 2025-26

S.no.	Category	Subject Code	Subject Name	Period/Week			Credits		Maximum Marks				Total Credits	Total Marks
				L	T	P			Theory		Practical			
							T	P	End Sem	CW	Pr.	SW		
1	DC-13	EI47053	Process Instrumentation	3	-	2	3	1	70	30	60	40	4	200
2	DC-14	BM47xxx	Medical Instrumentation	3	-	2	3	1	70	30	60	40	4	200
3	DC-15	EI47xxx	Fiber Optics & Photonics	3	-	2	3	1	70	30	60	40	4	200
4	PEC-III		Elective -III	3	-	-	3	-	70	30	-	-	3	100
5	PEC-IV		Elective -IV	3	-	-	3	-	70	30	-	-	3	100
6	Internship	EI47497	Internship-II (Evaluation)	-	-	2	-	1	-	-	-	50	1	50
7	DLC-7	EI47XXX	Major Project	-	-	8	-	4	-	-	60	40	4	100
Total				15	0	16	15	8	350	150	240	210	23	950

IV Year/ VIII Sem

S.no.	Category	Subject Code	Subject Name	Period/Week					Maximum Marks				Total Credits	Total Marks
				L	T	P	Credits		Theory		Practical			
							T	P	End Sem	CW	Pr.	SW		
1	Internship	EI47881	Industrial Training/ Internship (min 10 -12 week/seminar /Presentation with report)	-	-	20	-	10	-	-	60	40	10	100
2	DLC-8	EI47xxx	Research Work /Research Paper/ Seminar/Poster Presentation	-	-	8	-	4	-	-	60	40	4	100
Total				-	-	28	-	14	-	-	120	80	14	200

List of Electives for VII semester

Semester VII		
Program Elective-III		
1	EI 47322	VLSI Technology
	EI 47xxx	Fabrication Techniques for MEMS Based Sensors(NPTEL).
2	EE 47xxx	Power Electronics
	EE 47xxx	Power Electronics with wide band Gap devices(NPTEL)
3	EI 47xxx	Radio Frequency Integrated Circuits*
	EI 47xxx	Radio Frequency Integrated Circuits(NPTEL)

* Pre-requisite for the subject is Analog IC design

Semester VII		
Program Elective-IV		
1	EI 47xxx	Internet of Things
	EI 47xxx	Introduction to IoT(NPTEL)
2	EI 47776	Automation in Instrumentation
	EI 47xxx	Automation in Manufacturing(NPTEL)
3	EI 47xxx	Advance Control Systems