

Shri G.S. Institute of Technology & Science, Indore
Electronics & Instrumentation Engineering Department
B.Tech (Applicable to 2022-23 Enrolled Students)

Batch : 2022-2026
Academic Year 2022-23

I Year Semester A

S. No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks				
				L	T	P	Th	Pr	Theory		Practical		Total
									Th.	CW	SW	Pr.	
1	BSC	MA 10001	Mathematics - I	3	1	0	4	0	70	30	0	0	100
2	BSC	PH10016	Physics	2	1	-	3	-	70	30	-	-	100
3	ESC	EE10015	Fundamentals of Electrical Engineering	2	1	-	3	0	70	30	0	0	100
4	ESC	CE10013	Fundamentals of Civil Engineering & Applied Mechanics	2	1	-	3	0	70	30	0	0	100
5	ESC	ME10049	Engineering Graphics	2	-	-	2	-	70	30	-	-	100
6	BSC (LC)	PH10151	Applied Physics Lab	-	-	2	-	1	-	-	20	30	50
7	ESC (LC)	EE10152	Electrical Engineering Lab	-	-	2	-	1	-	-	20	30	50
8	ESC (LC)	ME10153	Engineering Graphics Lab	-	-	4	-	2	-	-	40	60	100
9	HSMC	HU10191	Extra /Co curricular Activity	-	-	2	-	1	-	-	50	0	50
10	MC		Induction program & Universal Human Values	2-3 weeks in the beginning of I Year & 1 hour per week during semester									
TOTAL				11	4	10	15	5	350	150	130	120	750

Semester - B

S. No.	Subject Category	Subject Code	Subject Name	Hours per Week			Credits		Maximum Marks				
				L	T	P	Th	Pr	Theory		Practical		Total
									Th.	CW	SW	Pr.	
1	BSC	MA 10501	Mathematics – II	3	1	-	4	-	70	30	0	0	100
2	BSC	CH10516	Chemistry	3	-	-	3	-	70	30	-	-	100
3	HSMC	HU10551	Technical English	2	-	-	2	-	70	30	0	0	100
4	ESC	CO10507	Programming for Problem Solving	2	1	-	3	-	70	30	0	0	100
5	ESC	EC10508	Basic Electronics Engineering	2	-	-	2	-	70	30	0	0	100
6	BSC (LC)	CH10656	Chemistry Lab	-	-	2	-	1	-	-	20	30	50
7	HSMC (LC)	HU10653	Language Lab	-	-	2	-	1	-	-	20	30	50
8	ESC (LC)	CO10654	Computer Programming Lab	-	-	2	-	1	-	-	20	30	50
9	ESC (LC)	IP10655	Manufacturing Practices	-	-	4	-	2	-	-	40	60	100
10	HSMC	HU10691	Extra /Co curricular Activity	-	-	2	-	1	-	-	50	-	50
11	MC		Induction program & Universal Human Values	2-3 weeks in the beginning of I Year & 1 hour per week during semester									
TOTAL				12	2	12	14	6	350	150	150	150	800

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II Year/ III Sem

Batch : 2022-2026

Academic Year 2023-24

S.no.	Category	Subject Code	Subject Name	Period/Week			Maximum Marks				Credits		Total Credits	Total Marks
				L	T	P	Theory		Practical					
							End Sem	CW	End Sem	SW	T	P		
1	DC-1	EI27001	Circuit Analysis & Synthesis	3		2	70	30	60	40	3	1	4	200
2	DC-2	EI27002	Fundamentals of Meaurement	3		2	70	30	60	40	3	1	4	200
3	DC-3	EI27003	Electronics Devices & circuits	3		2	70	30	60	40	3	1	4	200
4	BSC-3	MA27014	Mathematics-III	3	1		70	30			4		4	100
5	DC-4	EI27006	Digital Electronics	3		2	70	30	60	40	3	1	4	200
6	MC-1	EIM2002	Environmental Science*	2				50						50
7	DLC-1	EI27498	Electronics Workshop			2			60	40		1	1	100
Total				17	1	10	350	200	300	200	16	5	21	1050

II Year/ IV Sem

S.no.	Category	Subject Code	Subject Name	Period/Week			Maximum Marks				Credits		Total Credits	Total Marks
				L	T	P	Theory		Practical					
							End Sem	CW	End Sem	SW	T	P		
1	DC-5	EI27501	Analog electronics	3		2	70	30	60	40	3	1	4	200
2	DC-6	EI27551	Sensors & Transducers	3		2	70	30	60	40	3	1	4	200
3	DC-7	EI27504	Circuit Design using HDLs	3		2	70	30	60	40	3	1	4	200
4	BSC-4	MA27563	Mathematics-IV	3	1		70	30			4		4	100
5	HU-1	HU27881	Values, Humanities & professional Ethics		2			100			2		2	100
6	HU-2	HU27506	Economics for Engineers	3			70	30			3		3	100
7	MC-2	HUM2052	Essence of Indian knowledge Tradition*	2				50						50
8	DLC-2	EI27882	Software Workshop			2			60	40		1	1	100
Total				17	3	8	350	300	240	160	18	4	22	1050

*Proposed in 27th Academic Council. Non credit mandatory subject

Internship-I To be completed any time during III/IV semester. Its evaluation/credits to be added in Semester V (Minimum 4 Weeks Duration)

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Batch : 2022-2026

Academic Year 2024-25

III Year/ V Sem

S.no.	Category	Subject Code	Subject Name	Period/Week			Maximum Marks				Credits		Total	Total Marks
				L	T	P	Theory		Practical					
							End Sem	CW	End Sem	SW	T	P		
1	DC-8	IT37005	Data Structure	3		2	70	30	60	40	3	1	4	200
2	DC-9	EI37006	Microprocessor Systems	3		2	70	30	60	40	3	1	4	200
3	DC-10	EI37007	CMOS VLSI Design	3		2	70	30	60	40	3	1	4	200
4	OEC-I		Open Elective-1	3			70	30			3		3	100
5	PEC-1		Program Elective -I	3			70	30			3		3	100
6	DLC-3	EI37481	Test & Calibration			4			60	40		2	2	100
7	MC-3	HUM3702	Constitution of India	2				50						50
8	DLC-4	EI37482	Internship-1 (Evaluation)			4				50		2	2	50
Total				17	0	14	350	200	240	210	15	7	22	1000

III Year/ VI Sem

S.no.	Category	Subject Code	Subject Name	Period/Week			Maximum Marks				Credits		Total	Total Marks
				L	T	P	Theory		Practical					
							End Sem	CW	End Sem	SW	T	P		
1	DC-11	EI37511	Filter Design & Simulation	3		2	70	30	60	40	3	1	4	200
2	DC-12	EI37504	Microcontroller & Embedded System	3		2	70	30	60	40	3	1	4	200
3	DC-13	EE37505	Control System	3		2	70	30	60	40	3	1	4	200
4	OEC-II		Open Elective-II	3			70	30			3		3	100
5	PEC-II		Program Elective-II	3			70	30			3		3	100
6	DLC-5	EI37991	Mini Project			4			60	40		2	2	100
Total				15	0	10	350	150	240	160	15	5	20	900

Internship-II To be completed any time during V/VI semester. Its evaluation/credits to be added in Semester VII(Minimum 4 Weeks Duration)

List of Electives for 5th & 6th Semester

Program Elective-I		
1	EC37254	Analog & Digital Communication
2	EI37255	Smart Sensors
3	EIxxx	Peripherals & Interfacing

Open Elective-I		
1	IP37251	Industrial Engineering & Management
2	CO37253	Artificial Intelligence
	EI3N001	Fundamentals of Artificial Intelligence (NPTEL)
	EI3N002	Artificial Intelligence -"Search Methods for Problem Solving"(NPTEL)

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

Open Elective-II		
1	IT 37xxx	Web Engineering
2	EC 37726	Mobile Communication
3	EC37727	Digital Signal Processing

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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