

**DEPARTMENT OF ELECTRONICS COMMUNICATION AND INSTRUMENTATION ENGINEERING**

No. / ECIED/B. Tech-ECI/KITS/2026

Date: 06.01.2026

Honours Programme- B.Tech. (ECI): URR 18

S. No.	Honors curriculum course Identified by the Dept	Equivalent SWAYAM MOOC course	Online Course Link	Duration (Weeks)	Credits
1	U18HCI001 Introduction to Micro Sensors	NPTEL is not offering these courses in Jan-April 2026			
2	U18HCI002 Mathematical Foundation for Machine Learning	Introduction to Machine Learning	https://onlinecourses.nptel.ac.in/noc26_cs74/previous	12 weeks	03
3	U18HCI003 Advanced IoT Applications	NPTEL is not offering these courses in Jan-April 2026			
4	U18HCI004 Artificial Intelligence Applications	NPTEL is not offering these courses in Jan-April 2026			
5	U18HCI005 Op-Amp Applications: Design and Implementation	NPTEL is not offering these courses in Jan-April 2026			
6	U18HCI006 Advanced communication systems	NPTEL is not offering these courses in Jan-April 2026			
7	U18HCI007 Data Science for Engineers	Data Science for Engineers	https://onlinecourses.nptel.ac.in/noc26_cs65/previous	8 weeks	02
8	U18HCI008 Mathematical Aspects of Biomedical Electronic System Design	NPTEL is not offering these courses in Jan-April 2026			
9	U18HCI009 Advanced Digital Signal Processing	Signal Processing Techniques and Its Applications	https://onlinecourses.nptel.ac.in/noc26_ee50/previous	12 weeks	03
10	U18HCI010 Photonics and Applications	NPTEL is not offering these courses in Jan-April 2026			
11	U18HCI011 Microelectronics	NPTEL is not offering these courses in Jan-April 2026			
12	U18HCI012 Digital VLSI Testing	Digital VLSI Testing	https://onlinecourses.nptel.ac.in/noc26_ee45/preview	12 weeks	03

13	U18HCI1013 Software Defined Radio	<i>NPTEL is not offering these courses in Jan-April 2026</i>
14	U18HCI1014 mm Wave communication	<i>NPTEL is not offering these courses in Jan-April 2026</i>
15	U18HCI1015 Deep Learning for Computer Vision	<i>NPTEL is not offering these courses in Jan-April 2026</i>

Minor in ECI Programme _ B.Tech.(ECI) - URR18:

S. No	MINOR Curriculum course Identified by the Dept	Equivalent SWAYAM - MOOC course	ONLINE COURSE LINK	Duration (Weeks)	Credits
Core courses (any 2 to 3 courses)					
1.	U18MCI1001 Analog Electronic Circuits	Analog Electronic Circuits	https://onlinecourses.nptel.ac.in/noc26_ee65/preview	12 weeks	03
2.	U18MCI1002 Signals and Systems	Signals and Systems	https://onlinecourses.nptel.ac.in/noc26_ee79/preview	12 weeks	03
3.	U18MCI1003 Electrical Measurement and Electronic Instruments	NPTEL is not offering these courses in Jan-April 2026			
4.	U18MCI1004 Digital Circuits	NPTEL is not offering these courses in Jan-April 2026			
5.	U18MCI1005 Sensors & Actuators	NPTEL is not offering these courses in Jan-April 2026			
6.	U18MCI1006 Communication Engineering	NPTEL is not offering these courses in Jan-April 2026			
Elective courses (any 2 to 4 courses)					
7.	U18MCI1007 Integrated Circuits	Integrated Circuits and Applications	https://onlinecourses.nptel.ac.in/noc26_ee33/preview	12 weeks	03
8.	U18MCI1008 Digital Signal Processing	NPTEL is not offering these courses in Jan-April 2026			
9.	U18MCI1009 Microprocessors and Interfacing	Microprocessors And Interfacing	https://onlinecourses.nptel.ac.in/noc26_ee34/preview	12 weeks	03
10.	U18MCI1010 Industrial Internet of Things	Introduction to Industry 4.0 and Industrial Internet of Things	https://onlinecourses.nptel.ac.in/noc26_cs38/preview	12 weeks	03
11.	U18MCI1011 Introduction to Embedded System Design	Introduction to Embedded System Design	https://onlinecourses.nptel.ac.in/noc26_cs22/preview	12 weeks	03

12.	U18MCH1012 Mathematical Foundation for Machine Learning	Introduction to Machine Learning	https://onlinecourses.nptel.ac.in/noc26_cs74/preview	12 weeks	03
13.	U18MCH1013 Artificial Intelligence and Applications	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
14.	U18MCH1014 Wireless and Cellular Communications	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
15.	U18MCH1015 Fiber Optic Communications	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
16.	U18MCH1016 Digital Image Processing	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
17.	U18MCH1017 VLSI Design	CMOS Digital VLSI Design	https://onlinecourses.nptel.ac.in/noc26_ee85/preview	8 weeks	02
18.	U18MCH1018 Biomedical Instrumentation	<i>NPTEL is not offering these courses in Jan-April 2026</i>			

Honours Programme _ B.Tech.(ECI) – URR24:

S. No.	Honours curriculum course Identified by the Dept	Equivalent SWAYAM MOOC course	Online Course Link	Duration	Credits
1	U24HCI1001 Introduction to Micro Sensors	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
2	U24HCI1002 Programming in Modern C++	Programming in Modern C++	https://onlinecourses.nptel.ac.in/noc26_cs52/preview	12 weeks	04
3	U24HCI1003 Embedded sensing, actuation and interfacing systems	Embedded Sensing, Actuation and Interfacing Systems	https://onlinecourses.nptel.ac.in/noc26_ee41/preview	12 weeks	04
4	U24HCI1004 Advanced IoT Applications	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
5	U24HCI1005 Statistical signal processing	Signal Processing Techniques and Its Applications	https://onlinecourses.nptel.ac.in/noc26_ee50/preview	12 weeks	04
6	U24HCI1006 Adaptive Signal Processing	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
7	U24HCI1007 Mathematical Aspects of Biomedical Electronic System Design	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
8	U24HCI1008 Operating System Fundamentals	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
9	U24HCI1009 Probability Foundations for Engineers	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
10	U24HCI1010 Introduction to Information Theory	An Introduction to Coding Theory	https://onlinecourses.nptel.ac.in/noc26_ee39/preview	8 weeks	03
11	U24HCI1011 Principles and Techniques of Modern Radar Systems	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
12	U24HCI1012 Modern communication systems	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
13	U24HCI1013 Photonics and Applications	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
14	U24HCI1014 Mathematical Foundations for Machine Learning	Mathematical Foundations of Machine Learning	https://onlinecourses.nptel.ac.in/noc26_cs02/preview	12 weeks	04
15	U24HCI1015 Practical Machine Learning with Tensor flow	<i>NPTEL is not offering these courses in Jan-April 2026</i>			

Minor Programme _ B.Tech.(ECI) – URR24:

S. No	MINOR curriculum course Identified by the Dept	Equivalent SWAYAM - MOOC course	Online Course Link	Duration	Credits
Core courses (any 2 to 3 courses)					
1.	U24MCI1001 Analog Electronic Circuits	Analog Electronic Circuits	https://onlinecourses.nptel.ac.in/noc26_ee65/preview	12 weeks	04
2.	U24MCI1002 Digital Circuits	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
3.	U24MCI1003 Sensors & Actuators	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
4.	U24MCI1004 Communication Engineering	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
5.	U24MCI1005 Signals and Systems	Mathematical Methods and Techniques in Signal Processing	https://onlinecourses.nptel.ac.in/noc26_ee79/preview	12 weeks	04
6.	U24MCI1006 Microprocessors and Interfacing	Digital Electronics and Microprocessor	https://onlinecourses.nptel.ac.in/noc26_ee34/preview	12 weeks	04
Elective courses (any 2 to 4 courses)					
7.	U24MCI1007 Electrical Measurement and Electronic Instruments	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
8.	U24MCI1007 Integrated Circuits	Integrated Circuits and Applications	https://onlinecourses.nptel.ac.in/noc26_ee33/preview	12 weeks	04
9.	U24MCI1008 Digital Signal Processing	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
10.	U24MCI1009 Industrial Internet of Things	Introduction to Industry 4.0 and Industrial Internet of Things	https://onlinecourses.nptel.ac.in/noc26_cs38/preview	12 weeks	04
11.	U24MCI1011 Introduction to Embedded System Design	Introduction to Embedded System Design	https://onlinecourses.nptel.ac.in/noc26_cs22/preview	12 weeks	04
12.	U24MCI1012 Introduction to Machine Learning	Introduction to Machine Learning	https://onlinecourses.nptel.ac.in/noc26_cs74/preview	12 weeks	04
13.	U24MCI1013 Artificial Intelligence and Applications	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
14.	U24MCI1014 Wireless and Cellular Communications	<i>NPTEL is not offering these courses in Jan-April 2026</i>			
15.	U24MCI1015 Fiber Optic Communications	<i>NPTEL is not offering these courses in Jan-April 2026</i>			

16.	U24MCI1016 Digital Image Processing	NPTEL is not offering these courses in Jan-April 2026			
17.	U24MCI1017 VLSI Design	CMOS Digital VLSI Design	https://onlinecourses.nptel.ac.in/noc26_ee85/preview	8 weeks	03
18.	U24MCI1018 Biomedical Instrumentation	NPTEL is not offering these courses in Jan-April 2026			

Professional Electives: B. Tech. VI & VIII Sem:

S. No	Sem	PE	Professional Electives/ MOOCs	Equivalent SWAYAM MOOC course	Online Course Link	Duration	Credits
1.	VI	PE-II	U18CI 603A: Antennas and Wave Propagation	U18CI 603M: Antennas	NPTEL is not offering these courses in Jan-April 2026		
			U18CI 603B: Wireless Sensor Networks and Applications	NPTEL is not offering these courses in Jan-April 2026			
			U18CI 603C: Biomedical Instrumentation	NPTEL is not offering these courses in Jan-April 2026			
			Other Equivalent MOOC course in EVEN semester	U18CI 603M: Fuzzy sets, logic & Systems and Applications	NPTEL is not offering these courses in Jan-April 2026		
				U18CI 603M: Fundamentals of MIMO Wireless Communication	https://onlinecourses.nptel.ac.in/noc26_ee46/preview	8 weeks	02
2.	VIII	PE-V	U18CI801A: IoT Industrial Applications	U18CI801M: Introduction to Industry 4.0 and Industrial Internet of Things	NPTEL is not offering these courses in Jan-April 2026		
			U18CI801B: Satellite communications	NPTEL is not offering these courses in Jan-April 2026			
			U18CI801C: Cyber Security	Internet Crimes and Cyber Security	https://onlinecourses.nptel.ac.in/noc26_lw01/preview	8 weeks	02
			Other Equivalent MOOC course in EVEN semester	U18CI801M: VLSI Signal Processing	https://onlinecourses.nptel.ac.in/noc26_ee51/preview	8 weeks	02
				U18CI801M: Computer Vision and Image – Fundamentals and Applications	-	-	-
3.	VIII	PE-VI	U18 CI802A: Cloud Computing	U18CI802M: Cloud Computing	https://onlinecourses.nptel.ac.in/noc26_cs55/preview	12 weeks	3
			U18CI802B: Mobile and Wireless Networks	-	-	-	-
			U18CI802C: Robotics	U18CI802M: Advanced Robotics	https://onlinecourses.nptel.ac.in/noc26_me34/preview	12 weeks	3

			Other Equivalent MOOC course in EVEN semester	U18CI802M: Optical fiber sensors	https://onlinecourses.nptel.ac.in/noc26_ee76/preview	12 weeks	3
				U18CI802M: Deep learning	https://onlinecourses.nptel.ac.in/noc26_ee53/preview	12 weeks	3

Self Learning Mode- B.Tech (ECI):

Professional Elective-V (offered by Department)		SWAYAM-NPTEL Equivalent Course	ONLINE COURSE LINK	Professional Elective- V (offered by Department)		SWAYAM - NPTEL Equivalent Course	ONLINE COURSE LINK
U18CI801A	IoT Industrial Applications	Introduction To Internet of Things	-	U18CI802A	Cloud Computing	Cloud Computing	https://onlinecourses.nptel.ac.in/noc26_cs55/preview
U18CI801B	Satellite communications	-	-	U18CI802B	Mobile and Wireless Networks	-	-
U18CI801C	Cyber Security	Internet Crimes and Cyber Security	https://onlinecourses.nptel.ac.in/noc26_lw01/preview	U18CI802C	Robotics	Advanced Robotics	https://onlinecourses.nptel.ac.in/noc26_me34/preview
MOOCs-V: U18CI801M SWAYAM - MOOC course	(i)VLSI Signal Processing	(i) VLSI Signal Processing	https://onlinecourses.nptel.ac.in/noc26_ee51/preview	MOOCs-VI: U18CI802M SWAYAM - MOOC course	i. Optical fiber sensors	Optical Engineering	
	(i) Computer Vision and Image Fundamentals and Applications	(ii) Computer Vision and Image Processing Fundamentals and Applications	-		ii. Deep learning	Deep Learning - IIT Kharagpur	https://onlinecourses.nptel.ac.in/noc26_ee53/preview

Acceleration Programme -B.Tech (ECI):

Professional Elective- V: (offered by department)		SWAYAM - NPTEL Equivalent course	ONLINE COURSE LINK	Professional Elective- VI: (offered by department)		SWAYAM - NPTEL Equivalent course	ONLINE COURSE LINK
U18CI801A	IoT Industrial Applications	Introduction To Internet of Things	-	U18CI802A	Cloud Computi ng	Cloud Computing	https://onlinecourses.nptel.ac.in/noc26_cs55/preview
U18CI801B	Low Power VLSI Design	VLSI Interconnects	-	U18CI802B:	Mobile and Wireless Networks	-	-
U18CI801C	FPGA Design	-	-	U18CI802C:	Robotics	Advanced Robotics	https://onlinecourses.nptel.ac.in/noc26_me34/preview
-	-	-	-	-	-	-	-
MOOCs-V: U18CI801M SWAYAM -MOOC course		(i)VLSI Signal Processing	https://onlinecourses.nptel.ac.in/noc26_ee51/preview	MOOCs-VI: U18CI802M SWAYAM - MOOC course		Optical Fiber Sensors	https://onlinecourses.nptel.ac.in/noc26_ee76/preview
		(ii) Computer Vision and Image - Fundamental and Applications	-			Deep learning	https://onlinecourses.nptel.ac.in/noc26_ee53/preview

MINOR DOMAIN: VLSI DESIGN Programme -B.Tech (ECI-URR18):

S. No	Course Type	Course Code	Course Name (NPTEL Course Id)	Equivalent SWAYAM course	Online Course Link	Duration (Weeks)	Credits
-	Core Courses	Core Courses (any 4 courses)					
1		U18MDCI1001	Semiconductor Devices	Fundamentals of semiconductor devices	https://onlinecourses.nptel.ac.in/noc26_ee14/preview	12	03
2		U18MDCI1002	Analog Circuits	Analog Circuits	https://onlinecourses.nptel.ac.in/noc26_ee23/preview	08	02
3		U18MDCI1003	Network Analysis	Network Analysis	https://onlinecourses.nptel.ac.in/noc26_ee48/preview	12	03
4		U18MDCI1004	Digital Electronic Circuits	Digital Electronic Circuits	https://onlinecourses.nptel.ac.in/noc26_ee54/preview	12	03
5		U18MDCI1005	Microprocessors and Microcontrollers	Microprocessors And Microcontrollers	https://onlinecourses.nptel.ac.in/noc26_ee58/preview	12	03
6		U18MDCI1006	VLSI Technology	-	-	-	-
7		U18MDCI1007	Hardware Modeling using Verilog	-	-	-	-
8		U18MDCI1008	VLSI Physical Design	VLSI Physical Design	https://onlinecourses.nptel.ac.in/noc26_cs50/preview	12	03
-	Elective Courses	Elective Courses (any 2 courses)					
9		U18MDCI1009	CMOS VLSI Design	-	-	-	-
10		U18MDCI1010	Analog VLSI Design	-	-	-	-
11		U18MDCI1011	Digital IC Design	Digital IC Design	https://onlinecourses.nptel.ac.in/noc26_ee70/preview	12	03
12		U18MDCI1012	System Design Through Verilog	-	-	-	-

MINOR DOMAIN: **CONTROL AND INSTRUMENTATION** Programme -B.Tech (ECI-URR18):

S. No	Course Type	Course Code	Course Name (NPTEL Course Id)	Equivalent SWAYAM course	Online Course Link	Duration (Weeks)	Credits
-	Core Courses	Core Courses (any 4 courses)					
1		U18MDCI2001	Signals and Systems	Signals and Systems	https://onlinecourses.nptel.ac.in/noc26_ee79/preview	12	03
2		U18MDCI2002	Electrical Measurement and Electronic Instruments	-	-	-	-
3		U18MDCI2003	Analog Circuits	Analog Circuits	https://onlinecourses.nptel.ac.in/noc26_ee23/preview	8	02
4		U18MDCI2004	Control Systems	Advanced Aircraft Control Systems with MATLAB/SIMULINK	https://onlinecourses.nptel.ac.in/noc26_ae09/preview	12	03
5		U18MDCI2005	Transducers for Instrumentation	Transducers for Instrumentation	https://onlinecourses.nptel.ac.in/noc26_ee29/preview	12	03
6		U18MDCI2006	Digital Electronics	-	-	-	-
7		U18MDCI2007	Microprocessors and Microcontrollers	Microprocessors And Microcontrollers	https://onlinecourses.nptel.ac.in/noc26_ee58/preview	12	03
8		U18MDCI2008	Process Control	-	-	-	-
-	Elective Courses	Elective Courses (any 2 courses)					
9		U18MDCI2009	Industrial Instrumentation	-	-	-	-
10		U18MDCI2010	IOT and Applications	-	-	-	-
11		U18MDCI2011	Biomedical Signal Processing	Biomedical Signal Processing	https://onlinecourses.nptel.ac.in/noc26_ee52/preview	12	03
12		U18MDCI2012	Intelligent Control of Robotic Systems	-	-	-	-

MINOR DOMAIN: VLSI DESIGN Programme -B.Tech (ECI-URR24):

S. No.	Course Type	Course Code	Course Name (NPTEL Course Id)	Equivalent SWAYAM course	Online Course Link	Duration (Weeks)	Credits
-	Core Courses	Core Courses (any 4 courses)					
1		U24MDCI1001	Semiconductor Devices	Fundamentals of semiconductor devices	https://onlinecourses.nptel.ac.in/noc26_ee14/preview	12	04
2		U24MDCI1002	Analog Circuits	Analog Circuits	https://onlinecourses.nptel.ac.in/noc26_ee23/preview	8	03
3		U24MDCI1003	Network Analysis	Network Analysis	https://onlinecourses.nptel.ac.in/noc26_ee48/preview	12	04
4		U24MDCI1004	Digital Electronic Circuits	Digital Electronic Circuits	https://onlinecourses.nptel.ac.in/noc26_ee54/preview	12	04
5		U24MDCI1005	Microprocessors and Microcontrollers	Microprocessors And Microcontrollers	https://onlinecourses.nptel.ac.in/noc26_ee58/preview	12	04
6		U24MDCI1006	VLSI Technology	-	-	-	-
7		U24MDCI1007	Hardware Modeling using Verilog	-	-	-	-
8		U24MDCI1008	VLSI Physical Design	VLSI Physical Design	https://onlinecourses.nptel.ac.in/noc26_cs50/preview	12	04
-	Elective Courses	Elective Courses (any 2 courses)					
9		U24MDCI1009	CMOS VLSI Design	-	-	-	-
10		U24MDCI1010	Analog VLSI Design	-	-	-	-
11		U24MDCI1011	Digital IC Design	Digital IC Design	https://onlinecourses.nptel.ac.in/noc26_ee70/preview	12	04
12		U24MDCI1012	System Design Through Verilog	-	-	-	-

MINOR DOMAIN: **CONTROL AND INSTRUMENTATION** Programme -B.Tech (ECI-URR24):

S. No.	Course Type	Course Code	Course Name (NPTEL Course Id)	Online Course Link	Online Course Link	Duration (Weeks)	Credits
-	Core Courses	Core Courses (any 4 courses)					
1		U24MDCI2001	Signals and Systems	Signals and Systems	https://onlinecourses.nptel.ac.in/noc26_ee79/preview	12	04
2		U24MDCI2002	Electrical Measurement and Electronic Instruments	-	-	-	-
3		U24MDCI2003	Analog Circuits	Analog Circuits	https://onlinecourses.nptel.ac.in/noc26_ee23/preview	8	03
4		U24MDCI2004	Control Systems	Advanced Aircraft Control Systems with MATLAB/SIMULINK	https://onlinecourses.nptel.ac.in/noc26_ae09/preview	12	04
5		U24MDCI2005	Transducers for Instrumentation	Transducers for Instrumentation	https://onlinecourses.nptel.ac.in/noc26_ee29/preview	12	04
6		U24MDCI2006	Digital Electronics	-	-	-	-
7		U24MDCI2007	Microprocessors and Microcontrollers	Microprocessors And Microcontrollers	https://onlinecourses.nptel.ac.in/noc26_ee58/preview	12	04
8		U24MDCI2008	Process Control	-	-	-	-
-	Elective Courses	Elective Courses (any 2 courses)					
9		U24MDCI2009	Industrial Instrumentation	-	-	-	-
10		U24MDCI2010	IOT and Applications	-	-	-	-
11		U24MDCI2011	Biomedical Signal Processing	Biomedical Signal Processing	https://onlinecourses.nptel.ac.in/noc26_ee52/preview	12	04
12		U24MDCI2012	Intelligent Control of Robotic Systems	-	-	-	-

(Dr. K. Sivani)
Head, Dept. of ECIE

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3. For Posting in website department page
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