



## JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

### List of SWAYAM MOOCS Courses as Electives for AY 2024-25

(January – June 2025 Batch)

#### R22 B.Tech. III Year II Semester

Name of the Dept.	MOOCS Course (s) (Professional Elective – I)	MOOCS Course (s) (Professional Elective – II)	MOOCS Course (s) (Professional Elective – III)
<b>CE</b>	1. Energy Efficiency, Acoustics and Daylight in Building (IITD 12W) 2. Urban Transportation Systems Planning (IITKGP 12W)	--	--
<b>EEE</b>	--	1. Operation and Planning of Power Distribution Systems (IITG 12W)	--
<b>ME</b>	1. Dynamics and Control of Mechanical Systems (IISC B 12W) 2. Product Design and Manufacturing (IITK 12W) 3. Fundamentals of Combustion (IITM 12W)	--	--
<b>ECE</b>	--	1. Communication Networks (IITKGP 12W) 2. Embedded System Design (IITKGP 12W) 3. Introduction to Embedded System Design (IITD 12W) 4. Computer Vision and Image Processing- Fundamentals and Applications (IITG 12W) 5. Modern computer Vision – (IITM 12W)	--
<b>EIE</b>	--	1. Industrial Automation and Control (IITKGP 12W) 2. Embedded System Design (IITKGP 12W) 3. Introduction to Embedded System Design (IITD 12W)	--

CSE/ CSBS/ CSIT/ CSD/ CE(SE)/ CSE(CYS)/ CSE (DS)/ CSE(NWS)/ IT	--	--	Since PE – III & PE – III Lab are linked, No MOOCS course is given.
CSE (AIML)/ AIML/ AIDS	--	Business Intelligence & Analytics (IITM 12W)	--
CSE (IOT)	--	1. Introduction to Machine Learning (IITM 12W) 2. Embedded Systems Design (IITKGP 12W)	--

### R18 B.Tech. IV Year II Semester

Name of the Dept.	MOOCS Course(s) (Professional Elective – V)	MOOCS Course(s) (Professional Elective – VI)
CE	1. Environmental Impact Assessment (IITR 12W) 2. Air Pollution and Control (IITR 12W)	1. Urban Transportation Systems Planning (IITKGP 12W) 2. Finite Element Method (IITKGP 12W)
EEE	1. Design and Analysis of VLSI Subsystems (IIIT Bangalore 12W)	1. Industrial Automation and Control (IITKGP 12W) 2. Embedded Sensing, Actuation and Interface Systems (IITKGP 12W)
ME	1. Industrial Hydraulics and Automation (IIT-ISM 12W) 2. Design of Mechanical Transmission Systems (IITM 12W)	1. Product Design and Manufacturing (IITK 12W)
ECE	1. Digital Communication using GNU Radio (IITB 12W) 2. RF and Microwave Networks (IITKGP 12W)	1. Semiconductor Device Modelling and Simulation (IITKGP 12W) 2. Digital Design with Verilog (IITG 12W) 3. Digital VLSI Testing (IITKGP 12W) 4. VLSI Physical Design with Timing Analysis (IITR 12W) 5. VLSI Physical Design (IITKGP 12W)
EIE	1. Computer Vision and Image Processing – Fundamentals and Applications (IITG 12W) 2. Design and Analysis of VLSI Subsystems (IIIT Bangalore 12W) 3. Digital IC Design (IITM 12W)	1. Industrial Automation and Control (IITKGP 12W) 2. Introduction to Internet of Things (IITKGP 12W) 3. Machine Learning for Engineering and Science Applications (IITM 12W) 4. Introduction to Industry 4.0 and Industrial Internet of Things (IITKGP 12W)
AI & DS	--	1. Selected Topics in Algorithms (IITKGP 12W)

<b>CSD</b>	--	1. Artificial Intelligence: Knowledge Representation and Reasoning (IITM 12W)
<b>CSE</b>	--	1. Basics of Computational Complexity (IITK 12W) 2. Foundations of Cyber Physical Systems (IITKGP 12W)
<b>CSE (AI&amp;ML), AI &amp; ML</b>		1. Selected Topics in Algorithms (IITKGP 12W) 2. Social Networks (IIT Ropar 12W)
<b>CSE (Cyber Security)</b>	--	1. Reinforcement Learning (IITM 12W)
<b>CSE (IOT)/ CSE (DS)/ CE (SE)</b>	--	1. Blockchain and its Applications (IITKGP 12W)
<b>CSE (Networks)</b>	--	1. Introduction to Internet of Things (IITKGP 12W)
<b>CSIT</b>		1. Reinforcement Learning (IITM 12W) 2. Embedded System Design (IITKGP 12W)
<b>CSBS</b>	--	1. Artificial Intelligence: Knowledge Representation and Reasoning (IITM 12W) 2. Deep Learning (IIT Ropar 12W)
<b>IT</b>	--	1. Natural Language Processing (IITKGP 12W) 2. Foundations of Cyber Physical Systems (IITKGP 12W)

**Note:** Principals are requested to instruct the students not to repeat courses/subjects with the same title. **All Courses are of 12 Weeks duration only.**

A student has to take the approval of the allocated mentor (by the HOD) before finalization of MOOCS Courses. The mentor has to thoroughly verify and ensure that

1. All the pre-requisites for the MOOCS courses are satisfied,
2. The titles of the subjects in the forthcoming semesters are not similar to the subjects studied under MOOCS in the current semesters.

**Sd. xxx/-  
REGISTRAR**