JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

R22 B.Tech. List of SWAYAM MOOCS Courses as Electives for AY 2025-26

(January – June 2026 Batch)

R22 B.Tech. III Year II Semester

Name of the Department	MOOCS Course (s) (Professional Elective – I)	MOOCS Course (s) (Professional Elective – II)	MOOCS Course (s) (Professional Elective – III)
CE	1. Smart Cities (IITM 12W)	--	--
EEE	--	1. Integrated Circuits and Applications (IITG 12W) 2. EV - Vehicle Dynamics and Electric Motor Drives (IITD 12W) 3. Energy and the Climate Crisis: The Path to Net-Zero Emissions (IITK 12W)	--
ME	1. Advanced Machining Processes (IITK 12W)	--	--
ECE	--	1. Neural Networks for Computer Vision and Natural Language Processing (IITG 12W) 2. Computer Vision and Image Processing – Fundamentals and Applications (IITG 12W) 3. Deep Learning for Visual Computing (IITKGP 12W) 4. Modern Computer Vision (IITM 12W) 5. Communication Networks (IITKGP 12W) 6. Optical Wireless Communications for Beyond 5G Networks and IoT (IITD 12W) 7. Introduction to Embedded System Design (IITD 12W) 8. Embedded Systems Design (IITKGP 12W)	--
EIE	--	4. Introduction to Industry 4.0 and Industrial Internet of Things (IITKGP 12W) 5. Introduction to Embedded System Design (IITD 12W) 6. Embedded Systems Design (IITKGP 12W)	--
CSE	--	--	1. Introduction to Internet of Things (IITKGP 12W)
IT	--	--	Since PE – III & PE – III Lab are linked, No MOOCS course is given.

CSE (Cyber Security)			Since PE – III & PE – III Lab are linked, No MOOCS course is given.
CSE (Data Science)	--	--	1. Cryptography and Network Security (IITKGP 12W)
CSE (IOT)		1. Introduction to Machine Learning (IITM 12W) 2. Embedded Systems Design (IITKGP 12W)	
CSE (Networks)			Since PE – III & PE – III Lab are linked, No MOOCS course is given.
CE (SE)			Since PE – III & PE – III Lab are linked, No MOOCS course is given.
AI & DS	--	1. Introduction to Information Retrieval (IITM 12W) 2. Computer Vision and Image Processing – Fundamentals and Applications (IITG 12W)	--
AI & ML/ CSE (AI&ML)	--	1. Introduction to Information Retrieval (IITM 12W) 2. Computer Vision and Image Processing – Fundamentals and Applications (IITG 12W)	--
CSBS	--	--	Since PE – III & PE – III Lab are linked, No MOOCS course is given.
CSD	--	--	1. Introduction to Internet of Things (IITKGP 12W)
CSIT	--	--	Since PE – III & PE – III Lab are linked, No MOOCS course is given.

R22 B.Tech. IV Year II Semester

Name of the Department	MOOCS Course(s) (Professional Elective – V)	MOOCS Course(s) (Professional Elective – VI)
CE	1. Air Pollution and Control (IITR 12W) 2. Analysis and Design of Bituminous Pavements (IITM 12W)	1. Urban Transportation Systems Planning (IITKGP 12W) 2. Retrofitting and Rehabilitation of Civil Infrastructure (IITKGP 12W)
EEE	1. Power Quality (IITD 12W) 2. Memory Device Technology for AI/ML Computing (IITM 12W) 3. Deep Learning (IITKGP 12W)	1. Smart Grid: Basics to Advanced Technologies (IIT Roorkee 12W) 2. Operation and Planning of Power Distribution Systems (IITG 12W)
ME	1. Mechanics of Fiber Reinforced Polymer Composite Structures (IITG 12W)	1. Introduction to Industry 4.0 and Industrial Internet of Things (IITKGP 12W)
ECE	1. Artificial Intelligence: Knowledge Representation and Reasoning (IITM 12W) 2. Artificial Intelligence for Management (IITM 12W) 3. Optical Wireless Communications for Beyond 5G Networks and IoT (IITD 12W) 4. Introduction to Machine Learning (IITM 12W) 5. Machine Learning for Engineering and Science Applications (IITM 12W) 6. Mathematical Foundations of Machine Learning (IISc 12W)	1. Introduction to Database Systems (IITM 12W)

EIE	1. Introduction to Machine Learning (IITM 12W) 2. Machine Learning for Engineering and Science Applications (IITM 12W) 3. Mathematical Foundations of Machine Learning (IISc 12W) 4. Computer Vision and Image Processing – Fundamentals and Applications (IITG 12W) 5. Deep Learning for Visual Computing (IITKGP 12W) 6. Neural Networks for Computer Vision and Natural Language Processing (IITG 12W) 7. Modern Computer Vision (IITM 12W) 8. VLSI Physical Design (IITKGP 12W) 9. VLSI Physical Design with Timing Analysis (IITR 12W)	1. Control Engineering for Robotics (IITG 12W)
CSE	--	1. Basics of Computational Complexity (IITK 12W) 2. Deep Learning (IITM 12W) 3. Human Computer Interaction (IITM 12W)
IT	--	1. Natural Language Processing (IITKGP 12W) 2. Foundation for Virtual and Augmented Reality Systems (IITG 12W)
CSE (Cyber Security)	--	1. Cloud Computing (IITKGP 12W) 2. Quantum Computing: Algorithms and Limitations Through the Query Model (IITK 12W)
CSE (Data Science)	--	1. Blockchain and its Applications (IITKGP 12W) 2. Parallel Computer Architecture (IITG 12W)
CSE (IOT)	--	1. Introduction to Industry 4.0 and Industrial Internet of Things (IITKGP 12W) 2. Blockchain and its Applications (IITKGP 12W)
CSE (Networks)	--	1. Introduction to Internet of Things (IITKGP 12W) 2. Computer Networks and Internet Protocol (IITKGP 12W)
CE (SE)		1. Blockchain and its Applications (IITKGP 12W) 2. Parallel Computer Architecture (IITG 12W)
AI & DS	1. Social Networks (IITM 12W) 2. Reinforcement Learning (IITM 12W) 3. Foundation for Virtual and Augmented Reality Systems (IITG 12W) 4. Advanced Computer Networks (IITM 12W)	1. Selected Topics in Algorithms (IITKGP 12W) 2. Affective Computing (IITM 12W)
AI&ML/ CSE (AI&ML)	1. Social Networks (IITM 12W) 2. Reinforcement Learning (IITM 12W) 3. Foundation for Virtual and Augmented Reality Systems (IITG 12W) 4. Advanced Computer Networks (IITM 12W)	1. Selected Topics in Algorithms (IITKGP 12W) 2. Affective Computing (IITM 12W) 3. Artificial Intelligence for Management (IITM 12W)
CSD	--	1. Computer Vision and Image Processing – Fundamentals and Applications (IITG 12W) 2. Introduction to Machine Learning (IITM 12W) 3. Human Computer Interaction (IITM 12W)
CSIT	--	1. Natural Language Processing (IITKGP 12W) 2. Foundation for Virtual and Augmented Reality Systems (IITG 12W)

CSBS	--	1. Foundation for Virtual and Augmented Reality Systems (IITG 12W) 2. Deep Learning (IITM12W)

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.

REGISTRAR