

# GIAN COURSE SCHEDULE

One Week Course on “**Cyber-security Control and Sensing Technology for Future Smart Grids**” 23<sup>rd</sup> May 2022 to 27<sup>th</sup> May 2022

**INAUGURAL CEREMONY:** May 23, 2022, Time: 9:30 AM to 11:00 AM, **VENUE:** All lectures will be conducted virtual mode



جامعہ ملیہ اسلامیہ  
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**Jamia Millia Islamia**  
A Central University  
( NAAC Accredited **A++** Grade )



UNIVERSITY OF TECHNOLOGY SYDNE



सत्यमेव जयते  
**Ministry of Education**  
Government of India



GLOBAL INITIATIVE OF ACADEMIC NETWORKS

Lecture No.	Date	Time	Topics to be covered	Instructor
1-2	May 23	11:00AM – 01:00PM-	Introduction to Smart Grids, Emerging Technologies and Cyber Issue: Security Requirements, Challenges of Upgradation of Existing Power System Controllers Including Security Issues and Detection Techniques.	<b>JH</b>
3-4		2:30 PM – 4:30 PM	Sensing Technology for Smart Grids: Sensors for condition monitoring of power system apparatus like T/F	<b>TI</b>
5-6	May 24	9:30 AM to 11:30 AM	Cyber-security and Power System Contingencies: Classification of Cyber-attacks in Power Systems, and their Analysis. Internet of Things (IOT) and Smart Grids: Architectures, Applications, Integrations of IoT in SG, Security Issues in IoT aided SG	<b>JH</b>
Hands-on Tutorial/Practical 1:		May 24, 11:30 PM to 12:30 PM		<b>JH</b>
7-8	May 24	2:30 PM to 4:30 PM	Sensing Technology for Smart Grids: Sensors for Density and Moisture Measurement in GIS	<b>TI</b>
9-10	May 25	9:15 AM to 11:15 AM	Detection of Cyber-attacks based on Power System Characteristics: Conventional Detection system and its Limitations, Intrusion detection systems in Computer Net., AI in Detecting Cyber-attacks and its limitations	<b>JH</b>
Hands-on Tutorial/practical 2:		11:30 pm – 1:00pm		<b>JH</b>
11-12	MAY 26	9:30 AM – 11:30 AM	Cyber-secure Control: DC Microgrid-Modeling, Controller Design, Implementation and Validation, distributedConsensus- based Cybersecure Control Design, Implementations, Security principle for renewable generators andsmart meters	<b>JH</b>
13		11:30 AM to 12:30 AM	Smart Sensors and Internet of Things for Smart Grids	<b>TI</b>
Hands-on Tutorial/practical of sensor design and simulation		MAY 26, 2:30 PM to 4:30 PM		<b>TI/AUK</b>
14-15	MAY 27	9:30 AM to 11:30 AM	Testbeds and Education Platforms: Existing Platforms and Their Inadequacies, Low-cost testbeds for Cybersecurity Research in India.	<b>JH</b>
16		11:30 AM to 12:30 AM	Writing research article with ethical practices	<b>TI</b>
Exam and Evaluation of Participants		May 27, 2:00 PM to 3:00 PM		

Course Link: <https://jamiamilliaislamia.webex.com/jamiamilliaislamia/j.php?MTID=mf51e7119a6b12b3d7da56217fd91fb9b>