**Background:**
Development of Electrical Smart Grid involves numerous technologies, devices, and systems that will be deployed throughout the electric system to make the grid ‘Smart’. Microgrids are essentially smaller versions of the larger electric grid and are designed to serve localized electric loads. Developments in Smart Grid Technologies have gained momentum in recent years. It brings various issues starting from Wide Area monitoring, Control, Protection, Communication and Security for effective and reliable operation of the electrical power networks.

**Objectives of the programme:**
- To enable the participants to learn and conceptualize Smart grid and Microgrid technologies.
- To enhance the learning capabilities of the participants in Communication, Wide Area Measurement, Protection and Storage Technologies.
- To empower the participants with the latest knowledge on monitoring, protection and control techniques of microgrids.
- To enable the participants to learn new methods in teaching the subject, ‘Techniques for Monitoring, Protection, and Control of Microgrids’.
- To enable the participants to learn new methods and practice and implement in Learning and Teaching.

**Resource Persons:**
Eminent faculty of the Electrical Engineering department and Faculty from IITs, other NITs & Industry who have the expertise in these areas will be delivering lectures as core faculty for the workshop.

**Registration is open to:**
- Faculty members working in Engineering Institutions.
- Research Scholars at senior level aspiring for faculty positions

**Topics of the Programme:**
- Microgrid Modeling and Control issues
- Phasor Measurement Unit (PMU) and Wide-Area Monitoring in Microgrid.
- Advanced Protection and Controls for hybrid AC-DC and DC microgrids.
- Coordinated protection and control in Smart-Microgrids.
- Closed loop control of Drives used in Microgrid.
- Electric Vehicles and Charging Stations in Smart Grids.
- Learning Microgrid Monitoring, Protection and Control Techniques through hands on experience.
- Learning concepts of Microgrid through group activities.

**How to Apply:**
Eligible candidates may apply by submitting the scanned copy of the filled-in registration form (attached with this mail/brochure) by Email to: chandrayammani@nitw.ac.in on or before 16-02-2021. The programme is conducted online. The number of participants in the workshop is limited to 50. Candidates are advised to apply early to avoid disappointment.

**Registration Form:**
Faculty members can also complete their Registration Online by filling the Google Form given here under: [https://docs.google.com/forms/d/e/1FAIpQLScIT1ibYhAW569ECkbGj4xbU7z0rqYDpPq7TW0ijFEfU1G-w/viewform?vc=0&c=0&flr=0](https://docs.google.com/forms/d/e/1FAIpQLScIT1ibYhAW569ECkbGj4xbU7z0rqYDpPq7TW0ijFEfU1G-w/viewform?vc=0&c=0&flr=0)

Note: Keep the payment receipt ready as a PDF file (size < 1 MB)

**Payment of Registration Fee:**
The applicant has to pay the required registration fee as per details given in the table on or before 17-02-2021. The mode of payment is given under the head “Bank Details”. Only after receiving the payment of registration fee, the applicants will be confirmed of their participation. The applicants will receive an e-mail for the same by 17-02-2021.
Coordinator, Teaching Learning Centre (TLC)
Prof. A. Ramachandraiah
Coordinator, Teaching Learning Centre (TLC)

About Warangal:
Warangal is the second largest city of the new state of Telangana. It is situated at a distance of 140 km from the state capital Hyderabad (Nearest Airport). It is well connected by Rail (Kazipet Junction is two km away and Warangal Station is 12 km away) and by Road (NH 202). Warangal is renowned for its rich historical and cultural heritage. It was the seat of erstwhile Kakatiya dynasty. It is a seat of tourist attractions with a number of historical monuments like Thousand Pillars Temple, Warangal Fort, Bhadrakali Temple, Ramappa Temple and Laknavaram Lake located in a radius of 30 kms.

Brief profile of the Department of Electrical Engineering:
The Department of Electrical Engineering was established as one of the major departments of NIT Warangal (RECW), in the year 1959. The Department is actively engaged in teaching and research in diverse fields of Electrical Engineering. It offers B.Tech in Electrical & Electronics Engineering, M.Tech program in Power Electronics & Drives, Power Systems and Smart Electric Grid (From AY 2010-21) and Ph.D program. Broad areas of expertise of the department include Design and development of Smart Grid/ Microgrid systems, Control and integration of Renewable Energy Sources, State Estimation and Real Time Control of Power Systems, AI Applications in Power Systems, Power System Deregulation, Power System Transients, Power Quality, Application of Power Electronics to Power Quality Improvement and Industrial Drives, DSP controlled Drives, Simulation of Power Electronic Converters and Drives Systems and Control of Special Machines. The Department has strong Industry interaction and is involved in various Research & Consultancy projects in coordination with industry, Governments of India, Telangana & Andhra Pradesh. The department has an MOU with Central Power Research Institute (CPRI) and PGCIL to carry out collaborative projects.

About NIT Warangal:
NIT Warangal, formerly known as Regional Engineering College was established in 1959. Over the years it has developed into a premier institute of higher learning and is ranked among the top technical education institutions in India. There are 14 Departments offering eight undergraduate and 31 post-graduate programmes besides doctoral programmes. About 5000 students across the country and about 500 international students study on the campus. It is a fully residential campus sprawling over 250 acres with excellent infrastructure in the form of state of the art Library, Seminar halls, Guest houses and Laboratories.

Teaching-Learning Centre of NIT Warangal: The Teaching-Learning Centre (TLC) is established at NIT Warangal with grants from the MHRD, GOI under the scheme, ‘Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching’ (PMMMNMTT). Many senior and young faculty members across various departments of the Institute are associated with this center as members of the Core-Team.
One of the important objectives of the TLC center is to conduct training programs for Aspiring, Newly Inducted and In-Service faculty in Science and Engineering disciplines. Other activities of the TLC include preparation of e-learning materials, offering courses on-line, curriculum development, carrying out research in pedagogy and integrating ICT into teaching-learning process.

For any queries regarding this workshop, please contact the Coordinators.

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