Webinar Title: Machine Learning Applicability in Energy Systems. Session-I

Expert Speaker (Name & Designation) – Shri B K Saha. Assistant Professor (BIET Hyderabad)

Webinar Date: 31st May 2021 (1st Session) | **Duration:** *1 hour 30 minutes. (1130 to 1300 hrs.)*

About Webinar Series: An *Energy System* can be a combination of mechanical, chemical, and electrical components, and it can encompass a wide range of energy types, including renewables and other alternative energy sources. High-scale progress, on the other hand, is facing a crucial *decision-making crisis*, as most energy systems are unable to meet demand–supply ratios and *optimize performance*, do not understand how to deal with *performance quality*, have a limited understanding of the environmental effect of energy outcomes, and are not useful in the renewable energy sector. Energy companies generate massive amounts of structured and unstructured data. IoT and smart sensors are helping to gather large amount of data on energy output and use. When data grows in size, so does the number of problems, which is increasing at an unprecedented pace. To solve this issue in Energy Systems, Machine learning (ML) models have been widely used in the *modeling, design and prediction in Energy Systems*. During the past two decades, there has been a dramatic increase in the advancement and application of various types of ML models for Energy Systems.

Webinar Coverage (Sub-topics):
1. Energy Systems, Machine Learning & Models – Concepts
2. Optimization of renewable energy using machine learning and deep learning;
3. Machine learning and deep learning models for mitigation of wind power fluctuation and methods for power generation.

Speaker Profile (Brief-One Para & Photograph):
Shri B K Saha is Doctoral Candidate at the Indian Institute of Technology, Kharagpur researching on 'Organic Rankine Cycle based Power Generation Technology'. He has extensive experience of Energy Audits and ESCO Project executions in varied sectors like ISPs (Integrated Steel Plant), Municipal Corporations (MuDSM), Public Buildings and Public Water Pumping Systems etc. He also has more than ten years' experience in pedagogy in related areas of Energy Systems and Smart Technology. Presently, he is teaching M.Tech Course on 'Smart Grid Technology' and B.Tech Course on 'Power system protection'. He has several publications in Technical Journals of international repute and is a regular reviewer in indexed journals of Elsevier and Springer.

Register to learn ('Key Learnings' in bullet points):
- What is Machine Learning?
- What is Driving Performance?
- What are the Key Challenges?
- Machine Learning and Energy Systems – Present situation
- Future prospects of Energy Systems and Machine Learning