National Seminar on "Advancements in Power, Energy & Control Systems"

The Department of Electrical & Electronics Engineering of Maharaja Agrasen Institute of Technology organized a One-day National Seminar on "Advancements in Power, Energy & Control Systems" on May 2, 2016. It was successfully conducted by the Convener, Dr. Rajveer Mittal, HOD, EEE Department and attended by over 60 student delegates, more than 30 Assistant Professors & Associate Professors and 4 Professors of eminence.

The thrust area of the Seminar was the Power & Energy and their Control System with a view to meet the current challenges in these sectors. Despite the encouraging growth trajectory in the energy space over the last few years, the Indian Power Sector has still not been able to induce & sustain the required capacity addition, matching the ever-growing power demand of the country. Full security concerns, financial health of State Discoms, under procurement of Power by States, Inimical Financing Environment and Policy Paralysis are the main challenges in this sector. With a view to briefly discuss these aspects, Prof. D.K. Jain, Chairman of Electrical (DCRUST) and Prof. Parmod Kumar, Ex-HOD, DTU were the key speakers in the Seminar, which was sponsored by Defence Research & Development Organisation, Ministry of Defence, Government of India.

The Seminar was inaugurated by the Lighting of the lamp by distinguished guest speakers and host office bearers of EEE & ECE Departments. Dr. Rajveer Mittal, HOD, EEE Department and also the Convener of the Seminar, delivered the welcome address and emphasized the need for holding such a Seminar. The program was anchored and conducted by the Co-convener Ms. Lovely Goyal, Assistant Professor, EEE Department. Prof. M.L. Goyal, Director, MAIT shared his views and experiences with the august audience.

In the first session, Prof. D.K. Jain addressed the gathering with his vast experience in the field of Power & Energy scenario globally and in particular the demand and supply gap of Power Production in India and how to overcome it by increasing the non-conventional energy sources and making its contribution a sizable percentage of the total production. He laid emphasis on potential of solar energy, wind energy and other forms and the need for more and more contribution at house-hold and industries level to boost the same.

In the second session, speaker Prof. D.K. Jain gave the presentation on the topic “Smart Grids”. He talked about the differences of conventional and smart grids. He also discussed about the recent development in this field. Smart grids are those electrical grids which have a number of operational and energy measures like smart meters, smart appliances, renewable energy resources and energy-efficient resources. He said that the dominant forms such as wind power and solar power are highly variable (giving an example of the loss in power generation of solar plant in Europe due to one-week cloud-cover). So the need for more sophisticated control systems and smart power grids is the urgent need of the home. The following features of smart grid, namely (1) More Reliability, (2) Flexibility in Topology of Network (bidirectional), (3) Higher Efficiency, (4) Effective load balancing, (5) Peak Curtailment and Pricing, (6) Increased sustainability due to Solar & Wind, (7) Systematic communication between supplier & consumer, (8) Demand response support and provide plant form for advanced services.