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## **CONTENTS TO BE COVERED:**

Evolution of Power systems Energy and Environment issues **Renewable Energy Sources Integration Renewable Promotion Policies** Deregulation of Power System Demand side management Transmission System Security **Energy Auditing Energy Efficiency** 

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On

## **CURRENT DEVELOPMENTS IN ENERGY & POWER SECTOR-RESEARCH SCOPE AND CHALLENGES**

(08-13 March 2021)

Organized By

# FACULTY OF ELECTRICAL **ENGINEERING**



Giani Zail Singh Campus College of Engg. & Tech. Bathinda & Punjab Institute of Tech. GTB Garh Moga **Constituent Colleges of MRSPTU** Bathinda-151001, Punjab, India fdpeegzs@mrsptu.ac.in

#### About The MRSPTU BATHINDA

Maharaja Ranjit Singh Punjab Technical University (MRSPTU), Bathinda is an affiliating Technical University, established by Govt. of Punjab vide Punjab Act No. 5 of 2015 notified through Punjab Government Gazette and registered with UGC u/s 2(f) and approved u/s 12B of UGC act 1956.

MRSPTU has signed a MoU with AICTE to conduct faculty development programs in the globally upcoming areas of Engg. & Tech. for the enhancement of skills of various stake holders in imparting technical education in AICTE approved institutes.



#### **About The Institutes**

Giani Zail Singh Campus College of Engineering & Technology (GZSCCET), Bathinda established by the State Government of Punjab in 1989, is an AICTE approved engineering institution. Today this eminent institute is a constituent college of Maharaja Ranjit Singh Punjab Technical University. Presently, Institute provides education leading to the awards of B.Tech, M.Tech and Ph.D in the various disciplines of Engineering including Electrical, Electronics and Communication, Computer Science, Civil, Textile and Mechanical Engg.

Punjab Institute of Technology (PIT),GTB Garh, Moga is a constituent college of MRSPTU Bathinda. Presently institute is offering M.Tech in Electrical Engg., B.Tech in Electrical Engg. & Computer Sci. & Engg., BBA,B.Com(Hons.),BCA and Skill certificate courses.



**About The Department** 

Department of Electrical Engineering established in 1989, offers AICTE approved regular course of B.Tech in Electrical Engineering at UG level, MRSPTU approved M.Tech course in Power System and Ph.D course in Electrical Engg. Currently 06 research scholars are pursuing for their Ph.D degrees. The department offers platform like 'ELECTECH' society for overall development of students. The department has 06 fully equipped laboratories including computer lab. Some of these labs are modernised under MODROB schemes of AICTE and TEQIP-II.

#### About the STTP

The electric energy is most important out of all forms of energy. Conventional electric energy is obtained by conversion from fossil fuels (coal, oil, natural gas), nuclear and hydro sources. The earth has fixed non-replenish able resources of fossil fuels and nuclear materials. Hydro energy is also limited in terms of power as ecological and biological factors place a limit on the use of hydro sources. So, we are forced to search for renewable sources of electric energy, such as solar, wind and tidal sources etc. In addition, the importance of power electronic devices has shown wide variety of applications in energy management and power system.

In recent years, the traditional electricity market was a Vertically Integrated Utility (VIU), in which the company serves as a producer, a transmission owner, a distributor and as the system operator in every geographical area. To prevent companies from abusing their market positions, this market structure was regulated by making certain rules and obligations.

Because of some drawbacks, VIU model of the power industry has been restructured to adopt deregulation. Main objectives of power system deregulation are to attract various investments to power industry to meet the fast growth of electric demand and in the meantime to reduce government commitment in power industry.

This STTP is an attempt to provide a common platform to the participants to deliberate and discuss the research issues in the important field of electric energy and power systems, exploration of renewable energy sources, energy auditing, deregulation of power systems, energy and environmental problems facing the world etc.