

INTRODUCTION OF PROPOSAL

Electricity is greatly serving the mankind right from health sector to transportation through lighting and communication. Electrical power system is at the forefront of today's exciting innovations by breaking all the barriers. The recent innovations in solar photovoltaics (PV), alternating current and direct current (AC and DC) transmission and e-mobility have led to more energy efficient equipment with better control techniques. Global electricity demand rose by 5.54% (i.e. a total of 54,833 TWh) in 2021 over the preceding year, nearly twice as fast as overall energy demand which is mostly taken care by renewables @ 38% of total demand. In the same time, developing countries like India, the electrical energy demand was 3,394 TWh, an 8.75% rise from previous year. The total installed capacity of electrical power in India as in March 2022 is 392 GW from all the sources in which solar power is @ 13.52%. The Indian grid electricity demand is expected to be around 2040 to 15,820 TWh by 2040. Government of India has made an ambitious plan of 175 GW (out of which 100 GW from Solar) from renewables by 2022. To meet this requirement, huge investments in power sector are required with participation from both public and private. Also, lot of work is being done in power transmission side to maintain balance among all the geographical regions of country. In addition to massive financial investments, improving the infrastructure and utilising the latest technologies is essential including encouragement of research work in electrical and electronic engineering fields.