

# INDEX

## UNIT I

### Chapter 1 : Thermal Power Plants (Coal, Gas, Diesel and Nuclear Based)

1-1 to 1-56

**Syllabus :** Layout and working of a typical thermal power plant with steam turbines and electric generators. Properties of conventional fuels used in the energy conversion equipment used in thermal power plants : Coal, Gas/diesel, Nuclear fuels – fusion and fission action., Safe practices and working of various thermal power plants : coal-based, gas-based, diesel-based, nuclear-based., Functions of the following types of thermal power plants and their major auxiliaries : (a) Coal fired boilers : fire tube and water tube (b) Gas/diesel based combustion engines, (c) Types of nuclear reactors : Disposal of nuclear waste and nuclear shielding, Thermal power plants in Maharashtra.

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**Chapter 4 : Wind Power Plants** 4-1 to 4-25

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**UNIT V**

**Chapter 5 : Economics of Power Generation and Interconnected Power System 5-1 to 5-31**

**Syllabus : Related terms :** connected load, firm power, cold reserve, hot reserve, spinning reserve. Base load and peak load plants; Load curve, load duration curve, integrated duration curve., **Cost of generation :** Average demand, maximum demand, demand factor, plant capacity factor, plant use factor, diversity factor, load factor and plant load factor. Choice of size and number of generator units, combined operation of power station. **Causes and Impact and reasons of grid system fault :** State grid, national grid, brownout and blackout; sample blackouts at national and international level.

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➤ **Appendix A : Solved MSBTE Question Paper of Summer - 2019..... A-1 to A-13**

