

Energy

2021-22

Part B

PhD Entrance Exam Syllabus- ~~2018-19~~

Solar: Solar Angles, Day length, Angle of Incidence on Tilted Surface, Sun path Diagram, Shadow Determination, Present scenario of Solar Energy.

Biomass: Biomass availability, Characteristics of Biomass or organic wastes, waste biomass / Organic utilization Technology options, Potential, Process and technologies, aerobic and anaerobic bioconversion process, biogas production process, Present scenario of Bio-fuel Energy.

Wind: Wind potential in India and world, basic principle of wind energy Conservation characteristics of wind power, Extractable wind power, Site selection, wind data analysis and predictions, Present scenario of Wind Energy.

Hydro: Classification of Small Hydro Power Stations, Components of a Hydroelectric Scheme, Mini and Micro Hydel Projects, Present scenario of Hydro Energy.

Geothermal & Ocean: Potential geothermal Sites, Estimations of Geothermal Power, Nature of Geothermal Sites, Basic Theory of OTEC, Potential and application of Technologies, Present scenario of Geothermal & Ocean Energy.

Electrical & thermal Energy: Basis of Energy and its various forms: Electrical Basis-DC & AC, currents active power, reactive power and apparent power, star, delta connection, Socio-economic aspects of energy, Use of energy and their availability and overall energy demand.

Air & Noise Pollution: Definition of air pollution, air Quality, classification of air Pollutants, Definition of noise, classification of Noise, Noise Standards, Effects of Noise.

Water & Industrial Waste water: Sources of water pollution and its control, definition of waste water, Classification, sources of waste water, water quality standards

Air Conditioning & Refrigeration: Psychometrics, air conditioning processes, types of refrigeration systems, refrigerants and properties, compressor types, selection of refrigeration system.

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30-7-21

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