

School of Energy and Environmental Studies, DAVV, Indore

PhD Entrance Exam Syllabus (DET – 2014)

Solar: Solar Angles, Day length, Angle of Incidence on Tilted Surface, Sun path Diagram, shadow determination

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

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

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

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

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.