POWER PLANT DESIGN

(Elective – I)

Course Code: 15CE2108

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Course Outcomes: At the end of the course the student will be able to

CO1: Outline the basic knowledge of on different power plant layouts and design of chimneys.
CO2: Describe different types of cooling towers.
CO3: Demonstrate knowledge of design and analysis of foundations.
CO4: Assess the knowledge about intake towers.
CO5: Explain the knowledge about storage structures.

UNIT – I (10-Lectures)

Power Plants: Planning and Layout of different types of power plants.

UNIT – II (10-Lectures)

Cooling Towers: Induced draught and natural draught cooling towers.

UNIT – III (10-Lectures)

Foundation: Machine foundations & Turbo generator foundations.

UNIT – IV (10-Lectures)

Intake Towers: Dams, wells and Intake galleries

UNIT – V (10-Lectures)

Storage Structures: Analysis and Design of ware house structures.

TEXT BOOKS:

1. Vijay K. Puri and Shamsher Prakash, *"Foundations for Machines: Analysis and Design (Series in Geotechnical Engineering)",* 2nd Edition, John Wiley & Sons, 2000.
2. Krishna Raju N. *"Advanced Reinforced Concrete Design",* 2nd Edition, CBS Publishers and Distributors, 2006.

REFERENCES:

1. Eldey Mc. K., Naxey Brooke K.K. *"The Industrial Cooling Tower with special reference to design, construction, operation and maintenance of water cooling tower",* 1st Edition, Elsevier Publishing Company, 1990.
2. Smith, Bryan Stafford & Alex C., *"Tall Building Structures & Analysis Design",* 1st Edition, John Wiley, 2011.
3. Srinivasulu, P and Vaidyanathan, G.V., *"Handbook of Machine Foundations"*, 2ndEdition, Tata McGraw Hill, 1999.