



# **FABRICATION OF COOLING TOWER WITH POWER GENERATION**

**A Project report submitted in partial fulfillment of the requirements for award of degree of**

**BACHELOR OF TECHNOLOGY  
IN  
MECHANICAL ENGINEERING**

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**DEPARTMENT OF MECHANICAL ENGINEERING**

**(PERMANENTLY AFFILIATED TO JNTU-KAKINADA, ACCREDITED BY NBA  
& NAAC B+ GRADE, APPROVED BY AICTE, RECOGNISED BY UGC 12f & 2b)**

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## CERTIFICATE

This is to certify that the thesis entitled “**FABRICATION OF COOLING TOWER WITH POWER GENERATION**” being submitted by **Y. JAYA KRISHNA PRASAD (14811A03D2), N. VIVEK KUMAR (14811A0382), N. DILLI RAO (14811A0384) and M.V.S.J. HEMANTH (14811A0372)** in partial fulfillment of the requirement for the award of the degree of **BACHELOR OF TECHNOLOGY in MECHANICAL ENGINEERING** is a record of bonafide work done by them under my supervision during the academic year 2017-18.

  
31/3/2018

**Shri A.PRADEEP KUMAR**

**PROJECT GUIDE**



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## ABSTRACT

A Cooling tower is a heat rejection device that rejects waste heat to the atmosphere through the cooling of a water stream to a lower temperature. Cooling towers originated in the 19th century through the development of condensers for use with the steam engine.

The main aim of the cooling tower is converting hot water input to the cold water outlet. The water pump is used to supply the hot water into the cooling tower. The cooling tower consists of cooling tube and fan. The hot water input is splitted into the various paths by using more cooling tube. The process of converting hot water into cold water is called cooling process. The cooling tube bottom is having holes, which is used to split the water into the water drapes. These water drapes is cooled by using fan, so that the hot water is converted into cold water. Cooling towers may either use the evaporation of water to remove process heat and cool the working fluid to near the wet- bulb air temperature or, in the case of closed circuit dry cooling towers, rely solely on air to cool the working fluid to near the dry-bulb air temperature. The hyperboloid cooling towers are often associated with nuclear power plants ,although they are also used in some coal-fired plants and to some extent in some large chemical and other industrial plants. Although these large towers are very prominent, the vast majority of cooling towers are much smaller, including many units installed on or near buildings to discharge heat from air conditioning. . A dynamo has been connected to turbine shaft in order to produce power as an additional source.

Common applications include cooling the circulating water used in oil refineries, petrochemical and other chemical plants, thermal power stations and HVAC systems for cooling buildings. The classification is based on the type of air induction into the tower: the main types of cooling towers are natural draft and cooling towers. Cooling tower is one of the important utility in chemical industries. Normally they are used to dissipate heat from heat sources to heat sink. The cooling of hot effluent and process water is required from reuse and environmental point of view.