# EVALUATION OF GEAR MANUFACTURE BY GENERATION METHODS

Project Report Submitted by

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## SUMMARY

This project has been divided into five chapters.

Chapter one deals basically with an introduction on gears. It describes the four basic types of gears i.e. spur, helical bevel and worm gears. The three groups that gear are classified and also the involute shape of a tooth is explained. Then the various design parameters that are use in the gears are explained.

Chapter two, is referring about the two important generating methods i.e.
Shaping and Hobbing. Each method is describe separately and in each method is describe the principles of operations, the various types of cutters and their advantages and disadvantages.

Chapter three, deals with the various manufacturing method of gears i.e. milling, broaching, planning, hobbing, shaping. Also it is referring on the various finishing process, (burnishing, shaving, grinding, lapping and honning, and the various heat treatments, carburizing, nitriding, flame hardening, induction hardening.

At last, the various materials which are use for manufacturing of gear are referring.

Chapter four, is about the manufacturing of gears on the two machines (shaping and hobbing) and the accuracy test on the two manufactured gears. These tests were carried out at H.T.I. Metrology Laboratory.

At last, chapter five is referring for two experiments
One for manufacturing a spur gear on a shaping machine, and the other for the manufacturing a helical gear on a hobbing machine.
Sample calculations are given, and instructions for the setting up of the machines.

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CHARTER 2.

METHOD OF MANUFACTURE GEARS BY SHAPING AND HOBBING METHODS.



CHARTER 3

MANUFACTURING PROCESS

CHAPTER 4.

GEAR CUTTING AND ACCURACY TESTS