

CERTIFICATE

Date:

This is to certify that report entitled “**Experimental Investigation and Statistical Analysis of Turning Parameters of EN-24 Tool Steel**” by Mr. **DINESH YADAV**, is the requirement of the partial fulfillment for the award of Degree of Master of Technology in Production Engineering at Delhi Technological University. This work was completed under my supervision and guidance. He has completed his work with utmost sincerity diligence. The work embodied in this project has not been submitted for the award of any other degree to the best of my knowledge.



(Guide)

Mr. M.S. NIRANJAN

(ASSISTANT PROFESSOR)

(Co-Guide)

Dr. QASIM MURTAZA

(ASSOCIATE PROFESSOR)

DEPARTMENT OF MECHANICAL ENGINEERING

DELHI TECHNOLOGICAL UNIVERSITY

BAWANA ROAD, NEW DELHI

JUNE 2015

ACKNOWLEDGEMENT

I would like to acknowledge my obligation to my Guide **Shri. M.S. Niranjana Assistant Professor** Department of Mechanical Engineering who giving me the opportunity to work on this topic. In new world of machining Processes I saw many splendid scenes with his help which would otherwise have escaped my vision. At each and every step He provided the necessary help to identify the potential targets. He gave me accurate direction. He gave me constant and continuous encouragement during my high and low times, and tricky persuasions that led me to discover many basic facts related to the project. Their enormous knowledge always helped me unconditionally to solve various problems.

I am also greatly thankful to **Prof. R. S. Mishra**, Professor and Head, **Dr.Qasim Murtaza**, Associate Professor Mechanical Engineering Department, Delhi Technological University, for their encouragement and inspiration for execution of the this work. A major pie of the thanks is for the entire team at the Mechanical Engineering Department, who made their time and resources available for my works.

DINESH YADAV

(2K12/PRD/28)

ABSTRACT

In the present work, experimental study and statistical analysis have been conducted on EN-24 tool steel using CNC turning lathe machine to optimize the effect of turning parameters i.e. cutting speed, Feed and depth of cut on surface roughness (Ra), MRR and maximum cutting Temperature generated at work-piece tool interface(Tmax).In this work Response Surface Methodology have been applied to determine the optimum machining parameters leading to minimum surface roughness, maximum MRR and minimum machining temperature in turning process. The design of experiments have been done by considering three controllable input machining variables namely cutting speed, feed and depth of cut and the response such as material removal rate (MRR), Surface roughness (Ra) and maximum temperature (Tmax) of cutting work-piece surface have been optimized.

Keywords: CNC, turning parameters, EN-24, RSM, Ra, MRR, Tmax

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