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.

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DINESH YADAV

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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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