



**DESIGN AND MANUFACTURING OF  
CAM PROFILE AND COMPARING  
GEOMETRICAL ACCURACY AND  
SURFACE FINISH**



**A PROJECT REPORT**

*Submitted by*

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*in partial fulfillment for the award of the degree  
of*

**BACHELOR OF ENGINEERING**

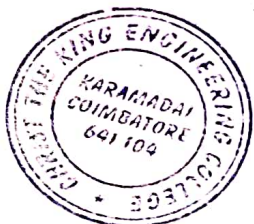
**In**

**MECHANICAL ENGINEERING**

**CHRIST THE KING ENGINEERING COLLEGE, KARAMADAI**

**ANNA UNIVERSITY: CHENNAI 600 025**

**MAY 2023**



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**BONAFIDE CERTIFICATE**

Certified that report “DESIGN AND MANUFACTURING OF CAM PROFILE AND COMPARING GEOMETRICAL ACCURACY AND SURFACE FINISH” is the bonafide work of AHAMMED HALITH A (710419114005), GOKULAPRAVEEN A (710419114021), MOHAMED JAREETH P (710419114040), NAVEEN KUMAR P (710419114042), who carried out the projectwork under my supervision.



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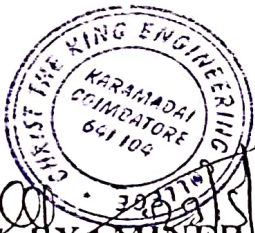
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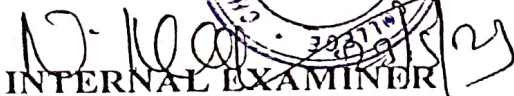



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Submitted for Anna university project viva- voice examination held on 23/05/23



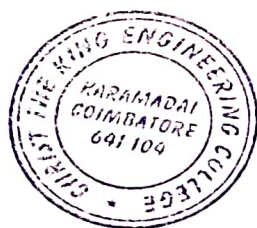
  
**INTERNAL EXAMINER**

  
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**EXTERNAL EXAMINER**

## ABSTRACT

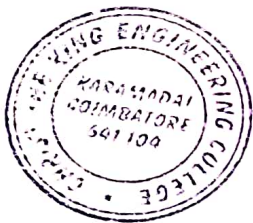
The paper presents the experimental analysis and multi-response optimization of EDM process parameters during machining of AA7075 work material. The experiment has been conducted at different parametric setting considering discharge current, voltage and pulse- on-time as process parameters. Taguchi L9 orthogonal array has been used for experimental design. The effect of various parameters on response such as material removal rate, tool wear rate and surface roughness has been studied with the help of suitable plots and ANOVA table.



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## Conclusion

1. Increasing the current ( $I_p$ ) result in increased MRR, TWR. The increase in  $I_p$  produces larger spark which creates a higher temperature in the workpiece, which causes large amount of material removal from the workpiece. MRR, TWR increases and then decreases with rise in  $T_{ON}$ .
2. Increasing the current ( $I_p$ ) from 5A to 15A and  $T_{ON}$  from 150 $\mu$ s to 450  $\mu$ s result in decreased SR. Increased  $T_{ON}$  generates more amount of discharge energy that creates the larger crater on the work surface result in poor surface finish. The SR increases with decreases in voltage.



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