

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
BELAGAVI – 590 018**



**A**

**PROJECT REPORT**

**ON**

**Machinability analysis of Al 8011 alloy and Nano Zirconium Oxide Composites ”**

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

**BACHELOR OF ENGINEERING**

**IN**

**MECHANICAL ENGINEERING**

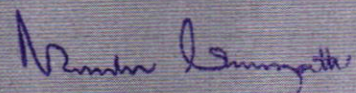
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**SHRIDEVI  
EDUCATION**

**Department of Mechanical Engineering**

**Shridevi Institute of Engineering and Technology**

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## DEPARTMENT OF MECHANICAL ENGINEERING

### CERTIFICATE

This is to certify that, the project entitled "MACHINABILITY OF AL8011 AND NANOZIRCONIUM OXIDE" has been successfully carried out by JAGADEESH G N (ISV15ME020), MANJUNATH N (ISV15ME031) in partial fulfillment for the award of Bachelor of Engineering in Mechanical Engineering of the Visvesvaraya Technological University, Belagavi during the academic year 2021-22. It is certified that all the corrections/suggestions indicated for internal assessments have been incorporated in the report. The project report has been approved as it certifies the academic requirements in respect of Project work-II prescribed for the Bachelor of Engineering Degree.

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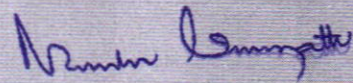
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Signature with date  
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## ABSTRACT

Composite materials are made from two or more constituents materials with significantly different physical or chemical properties. Composite materials are highly utilized in various fields like Aerospace structure, marine, Automobile, etc. The present study deals with investigation of effect of reinforcement Nano Zirconium oxide particulate on mechanical properties of A18011 alloy composites, fabricated by stir casting method, specimens were prepared by varying weight fraction of the Zirconium as 0wt%, 2wt% and 4wt%. By machining specimens we obtain good metal removal rate and good surface finish.

Keywords: stir casting, A18011 alloy, nano zirconiumoxide

  
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