

VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
BELAGAVI – 590 018



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A  
PROJECT REPORT  
ON

“Application of mass eccentricity as dynamic vibration using  
spring mass system ”

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

BACHELOR OF ENGINEERING

IN

MECHANICAL ENGINEERING

Submitted by:

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ESTD: 2002



## CERTIFICATE

This is to certify that the Project Work entitled "Application of mass eccentricity as dynamic vibration absorber using spring mass system" is carried out by Mr Athish Kumar Gowda (1SV19ME002), Mr Dheeraj J (1SV19ME005), bonafide students of the Department of Mechanical Engineering in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Mechanical Engineering of the Visvesvaraya Technological University, Belagavi during the year 2021 - 22. It is also certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

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Signature with date

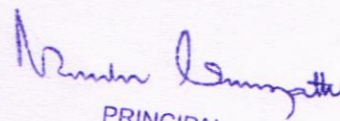
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## ABSTRACT

A Vibration Absorber is a simple yet important device employed in most of the machineries that experience vibrations. During working, a machine may be subjected to undesirable vibrations under various external excitations. To prevent resonance of the machinery and consequent failure due to breakdown and severe damages owing to harmful vibrations, the Dynamic vibration absorber is a necessity. It has the ability to either absorb or transmit the vibrations elsewhere, hence significantly reducing the vibrations of the machine to which it is coupled to, saving it from damage and preventing loss in terms of performance, capital, additional maintenance and working hours.

An undamped Dynamic Vibration Absorber works by transmitting the vibrations to an auxiliary system (usually comprising a spring-mass system) and thus bringing the main system to rest. It is extremely effective for constant speed machineries.

Since our laboratory lacked any apparatus to observe the phenomenon of dynamic vibration absorption, our project mainly dealt with the fabrication of such a system which generates vibrations due unbalance force excitation along with a dynamic vibration absorber and also to functionalize another apparatus subjected to base motion excitation fabricated by our seniors and equip it with dynamic vibration absorber to understand and observe the absorption of the concerned main machinery.

  
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