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Project Report
on
**“ADVANCES AND OUTLOOKS OF HEAT TRANSFER
ENHANCEMENT BY LONGITUDANAL VORTEX GENERATOR”**

Submitted in partial fulfillment for the award of

B.E
MECHANICAL ENGINEERING

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NOVEMBER2018

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(UG Mechanical Engineering Program is Provisionally Accredited by NBA for 3 years from 2017-18)



CERTIFICATE



Certified that the project entitled **“ADVANCES AND OUTLOOKS OF HEAT TRANSFER ENHANCEMENT BY LONGITUDANAL VORTEX GENERATOR”** carried out by **YASHWANTH ARADHYA H R (INT15ME201) SHASHI KIRAN (INT15M157) PURUSHOTHAMA (INT15ME118) SAGAR R (INT15ME142)** a bonafide student of **Nitte Meenakshi Institute of Technology, Bengaluru** in partial fulfillment for the award of **B.E Degree in Mechanical Engineering** of the **Visvesvaraya Technological University**, Belgaum during the year **2018-19**. It is certified that all corrections/suggestions indicated have been incorporated in the report deposited in the department library. The project work report has been approved as it satisfies the academic requirements in respect of project work prescribed for the said degree.

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ACKNOWLEDGMENT

I would express our gratitude to our principal **Dr. H C Nagaraj** for doing the seminar.

I would express our gratitude to our **HOD Dr.Sudheer Reddy** for his valuable support without which the seminar would not have been successful.

I would express our gratitude to our Asst. prof **Mr. RACHITH** *for doing the seminar.*

I would like to mention a special thanks to staff of ME department, NMIT for their support.

ABSTRACT

In the last several decades, heat transfer enhancements using extended surface (fins) has received considerable attentions. A new heat transfer enhancement technique – longitudinal vortex generator (LVG) – received more and more attentions since the 1990s. It is a special type of extended surface that can generate vortices with axes parallel to the main flow direction. The vortices are generated as a result of strong swirling secondary flow caused by flow separation and friction. The state-of-the-art on the researches of LVG for its applications in heat transfer enhancement in straight channels, plate and wavy fin-and-tube heat exchangers, fin-and-oval-tube heat exchanger, and fin-and-tube heat exchangers with multiple rows of tubes. The trends and future directions on heat transfer enhancement LVG are discussed.