

**EFFECT OF INLET PRESSURES AND ANGLE OF
DIVERGENCE ON CONVERGENT DIVERGENT NOZZLE
USING CFD**

A project report submitted in partial fulfillment of the requirements for
the award of the degree of

BACHELOR OF ENGINEERING

IN

MECHANICAL ENGINEERING

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CERTIFICATE

This is to certify that the project entitled "EFFECT OF INLET PRESSURES AND ANGLE OF DIVERGENCE ON CONVERGENT DIVERGENT NOZZLE USING CFD" describes the bonafide work done by K.SATISH KUMAR (314126520084), M.TEJESWARA RAO (314126520102), K.SANDEEP KUMAR (314126520074), KETHANI BONELA (314126520079), R.VIJAY SINGH (314126520131) in partial fulfilment for the award of Degree in BACHELOR OF ENGINEERING in MECHANICAL ENGINEERING under my supervision and guidance during the academic year 2017-2018.


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ABSTRACT

The effect of varying nozzle inlet pressures of convergent divergent nozzle on various significant flow parameters like Mach number, Density , Mass flow rate, temperatures and Velocity . The angle of divergence for the divergent portion is also varied and its effect on generating shock waves is also studied using Computational Fluid Dynamics (CFD) . The classical one dimensional inviscid theory does not completely reveal the complex flow features in a convergent divergent nozzle accurately. The code fluent had been used to compute various flow parameters using an axisymmetric Convergent Divergent nozzle (DE LAVAL) for different nozzle delivery pressures and angle of divergence.

Keywords: Nozzle inlet pressures, Mach number, Convergent-Divergent Nozzle, CFD

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