



Faculty of Technology and Engineering
Department of Mechanical Engineering
CERTIFICATE

This is to certify that the thesis entitled “**Numerical modelling of cavitation and its effect on spray characteristics in the fuel injector for bio-diesel**” submitted by **Mehul Pravinbhai Bambhania** to The Maharaja Sayajirao University of Baroda, Vadodara in the Faculty of Technology and Engineering for the award degree of “**Doctor of Philosophy**” in the Department of Mechanical Engineering is a record of Bonafide research work carried out by him. **Mr. Mehul Pravinbhai Bambhania** has worked under my supervision and guidance and has fulfilled all the requirements for the submission of this thesis. The matter embodied in this thesis has not been submitted in part or full to any other University or Institution for award of any degree.

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Faculty of Technology and Engineering
Department of Mechanical Engineering

EXAMINER CERTIFICATE

It is to certify that thesis entitled “**Numerical modelling of cavitation and its effect on spray characteristics in the fuel injector for bio-diesel**” is submitted by **Mehul Pravinbhai Bambhania (FOTE-1066)** in fulfilment for the award degree of “**Doctor of Philosophy**” in the Department of Mechanical Engineering, Faculty of Technology and Engineering, The Maharaja Sayajirao University of Baroda, Vadodara is hereby approved.

Date:

Examiner’s Signature



Faculty of Technology and Engineering
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CERTIFICATE FOR ANTI-PLAGIARISM

This is to certify that Ph.D thesis entitled “**Numerical modelling of cavitation and its effect on spray characteristics in the fuel injector for bio-diesel**” submitted by **Mr. Mehul Pravinbhai Bambhania** has been checked for anti-plagiarism test by iThenticate software provided by The Maharaja Syajirao University of Baroda. After checking, it is found 7% similarity which is below the allowable plagiarism notified by the University Grant Commission. This research work has been carried out by **Mr. Mehul Pravinbhai Bambhania** under my supervision at the department of Mechanical Engineering, Faculty of Technology & Engineering, The Maharaja Syajirao University of Baroda

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