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NATIONAL CONFERENCE ON
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Vidyardhini's College of
Engineering & Technology
New Vasal Road - 401202.

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Engineering and Technology
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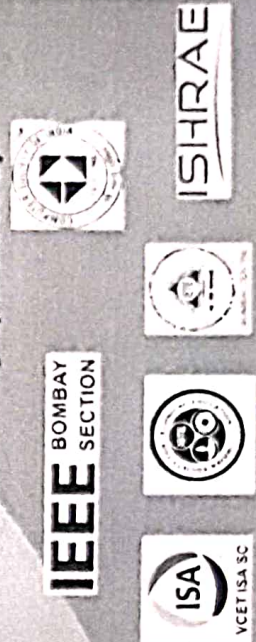
**VIDYAVARDHINI'S
NATIONAL CONFERENCE ON
TECHNICAL ADVANCEMENTS FOR
SOCIAL UPLIFTMENT
VNC - 2020 TASU
4TH APRIL, 2020**



Organized by:
Vidyardhini's College of
Engineering & Technology
K.T. Marg, Vasal (W) - 401202
Affiliated to University of Mumbai
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BJIT - BVICAM's International Journal of Information
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145_Optimization of variable compression ratio accompanied with variable injector location in DI diesel engine using renewable fuels

About us:

Vidyavardhini means a Body committed to enhancement of Knowledge. Vidyavardhini was established as a registered society in 1970 by late Padmashri H. G. alias Bhausaheb Vartak for the noble cause of education in rural areas.

Vidyavardhini's College of Engineering and Technology, Vasai is located on the sprawling campus of Vidyavardhini, spread over an area of 12.27 acres. It is a short, two minutes walk from Vasai Road (W) Railway Station. The college is also accessible by road from Mumbai.

Vidyavardhini Society received approval from AICTE to start the new college of Engineering & Technology with effect from July, 1994. The college is affiliated to the University of Mumbai for the four year degree program leading to the degree of Bachelor of Engineering in six branches.

Objective of VNC 2020 TASU

Technology has always been potential tool for simplifying the way we do things. Present time demands directing the technological advancements towards addressing societal challenges such as improving health care, education environment, sanitation, agriculture, smart city, etc., VNC 2020 TASU aims to provide an opportunity to researchers, academicians, Industrialist and students to interact and share their ideologies and contributions made for social upliftment with the aid of technological advancements.

Call for paper

We welcome submission in following area

1. Sustainable Computing
 2. High Performance Computing
 3. High Speed Networking and Information Security
 4. Software Engineering and Emerging Technologies
 5. Mathematical, Experimental, Computational and AI, IoT Techniques in Mechanical Engg.
 6. Industrial Engg., ERP, MRP, SCM
 7. Renewable Energy Technologies
 8. Pollution control and Waste Management
 9. Advances in Structural engineering
 10. Present geotechnical practices
 11. Present practices in construction management
 12. Recent developments in Instrumentation, control and automation
 13. Embedded Systems, IoT and VLSI Design
 14. Optical and Wireless Communication for NGN
 15. Antenna and Microwave Devices
- Any other relevant topics

Publication Information

Proceedings of VNC - 2020 TASU will be published with ISBN number

1. Selected Papers will be published in International Journal of Information Technology, Published by Springer Nature, ISSN: 2511-2104 (Print Version), ISSN: 2511-2112 (Electronic Version)
2. All papers will be published in IJERT, ISSN: 2278-0181

Important Dates:

- Submission of full length paper 15TH Feb 2020
- Paper Acceptance Notification 22ND Feb 2020
- Submission of Final Version of Paper 29TH Feb 2020
- Registration Deadline 5TH March 2020
- PPT Submission 20TH March 2020
- Conference 4TH April 2020

Registration Fee Details:

Category of Delegates / Authors	Indian Authors & Delegates (in INR)
Full Time Students (UG)	1,500.00
Teachers/ Research Scholars/ PG students	2,500.00
Industry	3,500.00

Paper Submission:

Paper submission should be made strictly via Easy Chair the submission link for VNC 2020 "TASU":

www.easychair.org/conferences/?conf=vnc2020

Download paper template from:

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***Best paper award
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Optimization of Variable Compression Ratio Accompanied with Variable Injector Location In DI Diesel Engine Using Renewable Fuels

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Abstract

Owing to the depletion of non-renewable fuels by the next fifty years, world energy outlook 2018 emphasis on the search of alternative fuels to the conventional fuels such as petrol, diesel, LPG etc. Simultaneously there are lot of efforts put by researchers in improving the performance of the vehicle. The outcome of which, the technology such as CRDI, KAPPA, DTSI, VVT, GDI were evolved and commercially implemented in the engine. The technology improvement has been carried out keeping the objective of minimum fuel consumption with maximum power output. One of the technology of variable compression ratio was established in recent years by researchers and it improves the performance of the engine. In addition to this the variable injector location is a novel technique wherein the point of injection of diesel may be adjusted as per load and speed of the engine. By this way the fuel atomizes efficiently causing the uniform combustion inside combustion chamber. The combined study of variable compression ratio with variable injector location has been carried out prior on diesel fuel. Further the renewable fuels such as compressed biogas and raw producer gas will be utilized in the diesel engine in dual fuel mode. The selection of optimum compression ratio and optimum variable injector location based on load and speed of the engine will be the outcome of the study. The environment pollution components such as CO, NOx and HC due to diesel fuel combustion will be substantially reduced with use of renewable fuels.

Introduction

Biogas, an alternative fuel is derived from anaerobic process. To overcome these obstacles, we must look into some alternative options for the fossil fuels. Alternating to the renewable energy resources (biomass, biogas, wind, hydro power, etc.,) is the only way to cope up with the increasing demand and pollution. Existing stationary diesel engines can be retrofitted fairly easily for operation with alternative gaseous fuels, such as natural gas and biogas. Natural gas is now being widely used to fuel combustion engines, however its reserves limited in many areas of the world. Hence, biogas is a potential alternative fuel that is renewable in nature and thereby does not contribute to the net atmospheric concentration of the greenhouse gas carbon dioxide. The performance studies, both experimental and modeling, of a direct injection diesel engine for two modes of operations – one with straight diesel fueling and another in dual-fuel mode using natural gas and biogas.

Experimental setup

A variable CR engine head is installed at the top of engine which has an auxiliary piston. The position of auxiliary piston can be adjusted as required to change the clearance volume. Diesel fuel was introduced in various proportions which helped us to know that the engine will not run when 50% fuel is cut off. By changing the position of auxiliary piston various CR were obtained.