

Special points of interest:

- THEME'S VIEW
- I SCHEME
- RESULT
- TRAINING
- ACHIEVEMENT
- LECTURE TALK
- INDUSTRIAL VISIT
- SOCIAL ACTIVITY
- CULTURAL ACTIVITY

THEME FOR CURRENT ISSUE:

“ARE TEXTBOOKS OBSOLETE IN THE PRESENT ERA OF LEARNING”

CHIEF EDITORS MESSAGE

Dear Readers,

It's a munificent moment to interact with you in this picturesque quarter of the year when all is green and nature blooms. The theme of this issue rakes in infinite thoughts leading to sizzling and strife discussions amongst our Stake holders, be it the student fraternity, the Teacher collegiums or the society at large.

Current utilization of books from college library is about 12% which has drastically increased in this month to 16% owing to the elimination of books given by local author. The main reason for elimination of local text books is due to their design

orientation related to the exam point of view, whereas the core reference books are so well written that theoretical concept for related subject are being cleared very well

Though the use of textbooks might be cheaper than electronic devices, students also get less for the price. Each textbook normally represents a single subject for each standard, thus necessitating it's purchase per student. However, this cannot be updated as per curriculum changes and hence can quickly become obsolete. Without mention, all of the ancillary materials and collaborating content, textbooks



become unable to offer. These being equally vital to the

modern teacher, the increasing need of the use of electronic devices proves the point. Further, access to wifi and devices are more affordable while the funding allocated to textbook purchases continues to wane

HEAD DEPT OF MECHANICAL

In the present date and age when every information that we want is just a few clicks away, the textbooks might seem redundant or obsolete to many. Any question that a student has will be solved in a jiffy as long as there is good internet connection. Textbooks are now obsolete in the sense that there are not many students pouring through

mountains of books just to learn about a single concept. A simple search and all literature related to the concept is available to them. Also, with the rapidly changing technology, it is difficult for the textbooks to keep up. It might take months or in some cases even years for technological changes to be reflected in it.



EDITORS VIEW



THEME FOR CURRENT ISSUE:

**“ARE
TEXTBOOKS
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IN THE PRE-
SENT ERA OF**

In today's Educational and Professional field, books have a very vital role to play. But now days a human being is getting habitual of technology and is developing this habit gradually as he can complete his/her task easily with the help of modern technology. That is the reason text books are getting replaced by e-books. Now on one click one can get any type of information easily. As we always say that change should be there and for our generation e-books can become a very good alternate, because it saves our time. Time is very valuable in our life and as a result every person wishes to prefer e-books. But we cannot deny the value of text books because every coin has two sides and if we take e-

books into consideration it is convenient for everyone. But in our education system it is not possible to make avail the e-books to each and every person at this stage, as the required gadgets for modern technology are not reached to grass root level and people cannot afford it easily. On the other side there is that much accuracy in text books and it saves electrical energy which is very essential for the modern technology. At the same time e-books or this technology can be affected by virus, as we face various problems due to virus and get disturbance in our routine work. So there are advantages and disadvantages of textbooks and technology. Both have the same work i.e. to provide knowledge. It is our choice

that what we have to prefer e-books or text books as per our convenience. Text book we can keep with us physically, we can keep it in our personal library, e-books virtually with us. We have to decide what we have to choose. So Text books cannot be obsolete directly in the 21st century because it has its own place at various level in every field of education and it will take too much time to get replaced it by e-books.

Prof Lokawar V.L



This is the 21st century and a lot of new learning technology has been developed for the use of students. They are very light & more advanced than textbooks and would open windows for students to new knowledge. A textbook is collection of the knowledge, concepts and principles of a selected topic or course. It is usually written by one or more teachers, college professors or education experts. The textbooks are really

important because you want to know about what happened in the past and how things have changed over the years. It is a waste of time because students don't like to read to begin with so they are not going to enjoy reading a big boring textbook. Students would not have to carry around tons of heavy books. We should have to take advantage of the technology we have today and use it for the better future. The textbooks are a

complete waste of space & paper too. We should switch to technology. Now day's we all have electronics & we can find textbooks through the internet. Technology is advancing all around us and with that colleges should make a technological change as well, but it would help eliminate the issue of the depleting source of trees.



I SCHEME IMPLEMENTATION

MSBTE has always been robustly on the pioneering front regarding concerns of its stakeholders and the requisites of industry in delivering the anticipated product as essential for the betterment of the individuals and the nation at large. With the able guidance and directions of Hon. Shri Vinod Tawde,

Minister, Higher & Technical Education, M.S. to integrate the technological up gradations in industries in the revised curricula so as to make students skill ready, MSBTE has taken strides ahead. The diploma curriculum has been on regular basis revised with new concepts, theories, techno-

logical innovations & altering techniques incorporated into. Accordingly, the 'G' curriculum for AICTE approved Diploma programs of MSBTE implemented from academic year 2012-13 has been revised & shall be replaced by the "Outcome based education" curricula designated as the 'I'

**MGM's
POLYTECHNIC**

RESULTS

Maharashtra Technical Education conducted the

Winter 2017 the month of December. We announce that outstanding with mathematics and subjects as well as mechanical engineering and metrology control



State Board of Education (MSBTE) conducted

examination in November and are proud to result overall 100 marks in many more subjects 100% result of engineering drawing and quality control



TOPPERS

FIRST YEAR	SECOND YEAR	THIRD YEAR
PURVESH MEHTA (83.29)	SIDHANSHU	UTKARSH DESARDA
	BAMBRATKAR (91.88)	(90.33)
DARSHAN BALSHETE (82.29)	HARSHWARDHAN DADE (83.25)	NAVANTH MANKAPE (82.89)
SANKET DANCE (82.29)	AJIT PRASAD (80.38)	BANARASI HUZEFA JUZER (82.89)



Prof. Javed Siddiqui



Heat transfer characteristics

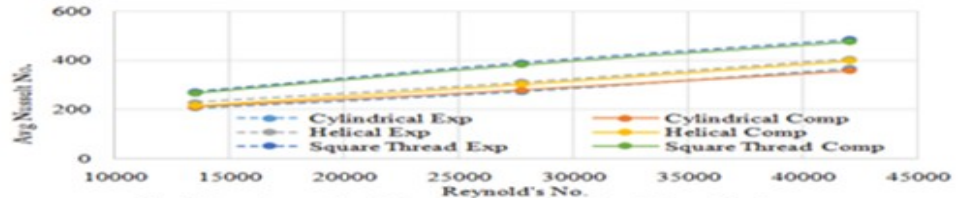


Fig. 4 Experimental and Computational results of $N_{avg} V \propto Re$

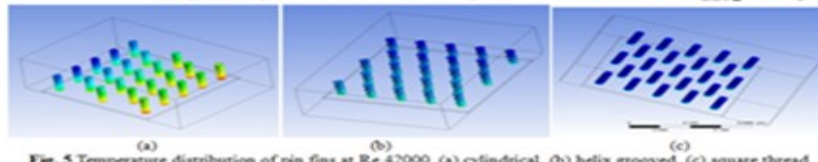


Fig. 5 Temperature distribution of pin fins at Re 42000, (a) cylindrical, (b) helix grooved, (c) square thread

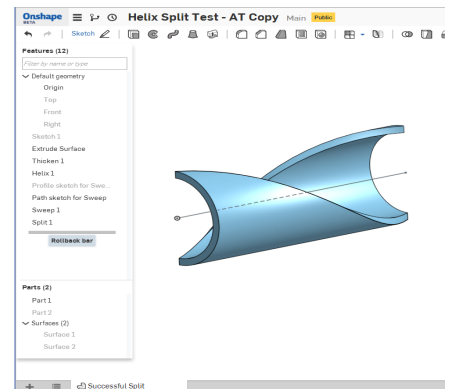
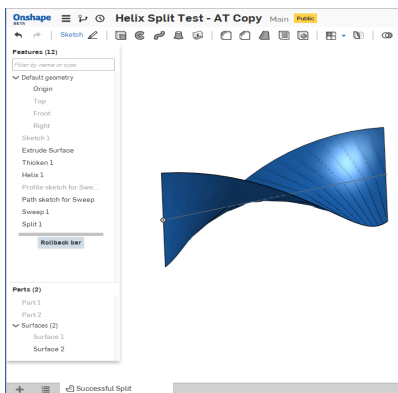
Paper Presentation At IIT Bombay

“Experimental and Computational Evaluation of Pressure Drop and Heat Transfer Characteristics in Rectangular Channel with Helix Grooved Profile Pin Fins”

Abstract: The heat transfer characteristics along with pressure drop inside a rectangular channel embedded with pin fins are numerically and experimentally investigated. The geometry of the problem, meshing and models have been solved by ANSYS Fluent 17 solver to find the optimum pin fin shape based on maximizing the heat transfer. Several geometrical shaped pin fins (i.e. circular, square threaded, and helix grooved) with the identical cross sectional areas are compared in staggered arrangement.



Prof. Vikas Lokawar



**“ART WITHOUT
ENGINEERING IS
DREAMING
ENGINEERING
WITHOUT
ART IS
CALCULATING ”**



**“EDUCATION IS NOT
ABOUT LEARNING OF
FACTS, BUT THE
TRAINING OF THE
MIND TO THINK”**

-ALBERT EINSTEIN.

FACULTY TRAINING



FACULTY AT CIPET TRAINING CENTRE



FACULTY AT FESTO TRAINING CENTRE



FACULTY AT JNEC CNC TRAINING

“EDUCATION IS THE PASSPORT TO THE FUTURE, FOR TOMMORROW BELONGS TO THOSE WHO PREPARE FOR IT TODAY “

-
MALCALM X

“THE ROOTS OF EDUCATION ARE BITTER, BUT THE FRUIT IS SWEET”
-ARISTOTLE

INDUSTRIAL VISIT



Corner stone of Lokmat press



Industrial visit at Lokmat Press



All students and staff gathered at Lokmat hall

“THE MIND
IS NOT A
VESSEL TO
BE FILLED
BUT A FIRE
TO BE
KINDLED”



INDUSTRIAL VISIT



Industrial visit at IGTR



All students at Patankar diesel service centre

“EDUCATION
IS THE
MOVEMENT
FROM
DARKNESS
TO LIGHT “

“THE PURPOSE OF EDUCATION IS TO REPLACE AN EMPTY MIND WITH AN OPEN ONE”



“ENTERPRE NURSHIP IS A HAND-SHAKE BETWEEN JOY AND SUFFERING, RISK AND REWARD ”

MCED ENTERPRENURSHIP CAMP



Felicitation done by principal to guest arrived at MCED camp



Faculty participation in MCED camp



Faculty participation in MCED camp



MCED Trainers giving presentation



Honourable chief guest doing



Before cleaning



Student cleaning the streets of Aurangabad



All students and faculty of MGM Polytechnic for Swachh Bharat Abhiyan



Faculty and student for cleanliness drive



Respected Principal actively parti-

BLOOD DONATION CAMP

DONATE BLOOD SAVE LIVES



Students filling medical information



Students donating blood in camp



Certificate provided for blood donation camp



Social activity



FACULTY OF MECHANICAL DEPT CONDUCTING SOCIAL ACTIVITY WITH STUDENTS

“THE GREAT DIFFICULTY IN EDUCATION IS TO GET EXPERIENCE OUT OF IDEAS”



DONATION OF FOOD GRAINS FOR SOCIAL CAUSE



“IF YOU'RE WILLING TO LEARN, NO ONE CAN HELP YOU, IF YOU'RE DETERMINED TO LEARN, NO ONE CAN STOP YOU”



ORPHANS WITH FACULTY AND STUDENTS OF MECHANICAL DEPARMNET

Cultural activity



Mechanical student casting different characters



Mechanical student doing drama



Students doing fashion show on the theme of Bahubali



“A
NATION’S
CULTURE
RESIDES IN
THE HEART
AND IN
THE SOUL
OF ITS
PEOPLE”

Sports



Kho-kho team Mgm Polytechnic vs GP Aurangabad



Mechanical student playing Kho-Kho & Judges examining the same



Student won the first prize in badminton



Faculty Achievement

STRESS INTENSITY FACTORS IN CENTRAL CRACKED PLATES USING DEAD ZONE STRESS CONCEPT

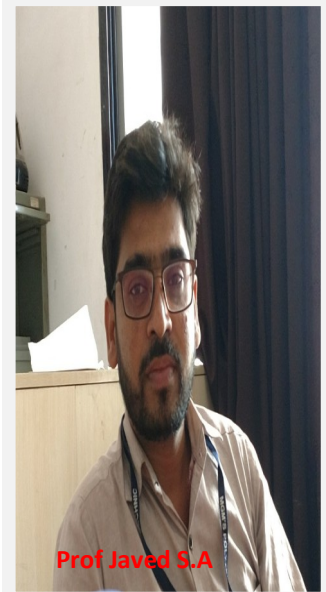
This work presents an alternative tool in the evaluation of the stress intensity factors in a plate having a central through crack subjected to uniform remote tensile stress. Though this is a classical problem where the simple and effective solution for the SIF exists, this case study is very useful in the verification of the accuracy of large number of solutions, either bearing the analytical methods or with finite element techniques. Stress distribution was analyzed in the central cracked plate having realized the existence of well-defined geometry zone where stresses are much smaller than other values close to the crack tip or the remote stress edge, practically could be neglected. This could suggest the suppression of material with the so mentioned small stress values giving rise to an equivalent compliance associated with the so mentioned dead zone for stress distribution. Practical expressions dealing with simple structural mechanics could lead to the calculation of the compliance and the stress intensity factor. Cases analyzed have showed a good agreement with available research literatures.

: EXPERIMENTAL INVESTIGATION AND CFD ANALYSIS OF SQUARE THREADED AND HELICALLY GROOVED PIN FINS FOR HEAT TRANSFER ENHANCEMENT

The heat transfer characteristics along with pressure drop inside a rectangular channel embedded with pin fins are numerically and experimentally investigated. The geometry of the problem and meshing of it have been made in ANSYS Workbench. The models have been solved by ANSYS Fluent solver to find the optimum pin fin shape based on maximizing the heat transfer. Several differently geometrical shaped pin fins (i.e., cylindrical, helically grooved and square threaded) with the identical cross sectional areas are compared in staggered arrangement. The channel had a rectangular cross-sectional area of 100*250 mm. The Reynolds number based on the obstructed section hydraulic diameter was varied from 13,500 to 42,000 with the clearance ratio $(C/H) = 1$ and the inter-fin spacing ratio $(S_y/D) = 3.417$. An adiabatic thermal condition is applied to the side walls of rectangular channel and a constant heat flux condition applied to the heated base plate. Air is used as the fluid. The thermal performance analysis is made under constant pumping power constraints by air blower at inlet. Nusselt number and Reynolds number are considered as performance parameters for the experiments. Correlation equations are developed for the heat transfer, friction factor and specific performance parameter. The experimental review shows that the modifications with square threaded geometries produces blockage to fluid flow which increases turbulence within a channel and lead to heat transfer enhancement and pressure drop by increasing thermal efficiency. The result of staggered configuration and different geometries are also compared with the result of pin fins with cylindrical geometry. In terms of specific performance parameters and heat transfer, the square threaded hollow cylindrical shaped pin fin is a promising alternative configuration to conventional geometrical pin fins.



Prof Bhalekar B.D



Prof Javed S.A

COMPARATIVE STUDY OF THERMAL ANALYSIS OF SOLID AND VENTILATED DISC BRAKE

The disc brake is a device for slowing or stopping the rotation of a wheel. Repetitive braking of the vehicle leads to heat generation during each braking event. Transient Thermal and Structural Analysis of the Rotor Disc of Disk Brake is aimed at evaluating the performance of disc brake rotor of a car under severe braking conditions and thereby assist in disc rotor design and analysis. The Disc is model in Creo Parametric 2.0 and analysis is done using ANSYS workbench 14.5. The main purpose of this study is to realize the purpose of holes on the disc brake. The thermal analysis is done for two different models of rotors disc. Study analyze the heat loss taking into account convection. The material used for both disc model is same i.e. structural steel. The results are compared for both the discs. A comparison between two disc is obtained from FEM and all the values obtained from the analysis. Hence best suitable design, material and rotor disc is suggested based on the performance, strength and rigidity criteria

DESIGN MODELING AND EXPERIMENTAL STRESS ANALYSIS OF CONNECTING ROD USING FEA AND

The connecting rod is most relevant part of an automotive engine and subjected to an extremely complex state of loading high compressive and tensile loads are due to combustion and the connecting rods mass of inertia respectively. This dissertation work investigate the failure analysis of connecting rod of two wheeler petrol engine, apart from the conventional material of two wheeler connecting rod I choose the connecting rod of 100cc petrol engine which is made of carbon steel 16MnCr5. This work deals with the stress analysis of two wheeler connecting rod by finite element method using Creo Wildfire 2.0 and Ansys 15.0 software, the comparison and verification of the results obtained in FEA is done by theoretically and experimentally by the method of Photo elasticity. The method of Photo elasticity includes the casting of Photo elastic sheet using Araldite AY103 Resin with hardener HY 991. In this static structural analysis modeling of the connecting rod is carried out using creo parameter 2.0 and finite element analysis using Ansys 15.0 and results of this analysis is compared to the theoretical results to identify the best material for connecting rod.



Prof Shingare R P



Prof Khan A H

Student achievement

APPLICATION OF NANOSCIENCE AND NANOTECHNOLOGY IN SOLAR ENERGY

Nano science is an interdisciplinary branch of science which deals with the study of not only chemistry but also quantum physics, biology, material science, molecular biology, etc. Nano science came into existence because of change in complete physical phenomenon of a material particle at extremely small scale i.e. Nano-metric scale. Generally, particle whose size is in between 1-100 nm is referred as nanoparticle. The application of Nano science is Nanotechnology which comprises of design, characterization, production and application of structures, etc. by controlling the shape and size of a material at Nano scale.

This paper will introduce Nano science and nanotechnology to the readers, its concept, Principle, and applications. Nanotechnology is embedded in every aspect of human life like medicine and healthcare, information and communication technology, environment, energy, etc. This paper particularly focuses on impact of this science on energy right from its generation to its storage and transportation. Imagine a self- repairing glass, metal that won't rust in any environment, clothes that aren't needed to wash, gloves that doesn't get wet, treating cancer without killing cells, and soon. This has become a reality due to Nanotechnology, an emerging science and one of the best discoveries till date. World population today (2016) is about 7.6 billion which estimated to grow to 9 billion by 2050. Consequently, there will be a great demand for energy in future, twice-thrice as compared to now. Like now, we cannot rely on fossil fuel which is going to extinct in future. So we have to look for new ways to cater this energy demand which would be achieved by Nanotechnology. This paper will give a glimpse of how this technology has opened new ways to look at energy.

USE OF HYDROGEN AS ALTERNATIVE FUEL TO POWER VEHICLES

Depleting fossil fuel reserves and increasing vehicular emission have forced the attention of various petroleum industries to find and alternate fuel that will power the vehicle in future based on the present day internal design as the deposits of crude oil is expected to last for another 50 years at the minimum utilization level .the proposed fuel should suitably replace the existing fuel and at the same time it should be renewable Hydrogen is one such fuel that has been proposed for the purpose which was suitable for spark ignition engines .hydrogen combines the properties of higher calorific value ,higher velocity of flame propagation ,non toxicity as well as lowest possible emission levels that do not affect the balance of the water of the hydrosphere.

The paper has contributed toward the use of Hydrogen as alternative to fuel cell . The use of Hydrogen is clean & safe so this paper has contribute towards the use of fuel cell . Because of the recent &previous researches it contributed towards the future development of fuel cell. More over the byproduct of combustion are devoid of carbon dioxide, carbon monoxide which is the major advantage of vehicles powered by fuel cell vehicles. Fuel cell vehicles represent one of the emerging technologies of the innovation age. An efficient, combustion less, virtually pollution free, free power source capable of being sited down town urban areas or in remote regions that runs almost silently, and has few moving parts but these vehicles are more reality than dreams. Fuel cells are one of the cleanest and most efficient technologies for generating electricity.



UTKARSH
DESARDA



BANARSI HUZefa



Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is a skill development initiative scheme of the **Government of India** for recognition and standardisation of skills. The aim of the pmkvy scheme is to encourage aptitude towards employable skills and to increase working efficiency of probable and existing daily wage earners, by giving monetary awards and rewards and by providing quality training to them. Average award amount per person has been kept

as ₹8,000. Those wage earners already possessing a standard level of skill will be given recognition as per scheme and average award amount for them is ₹2000 to ₹2500. In the initial year, a target to distribute ₹15 billion has been laid down for the scheme.

Successful batch of 25 students is being run by Prof. Ghule and another batch of 25 students got admission in the month of January.



Prof. Ghule P.K. explaining the students



N.S.D.C
National Skill Development Corporation



Skill India
कौशल भारत - कुशल भारत



Students of PMKY actively present in the class of Automobile

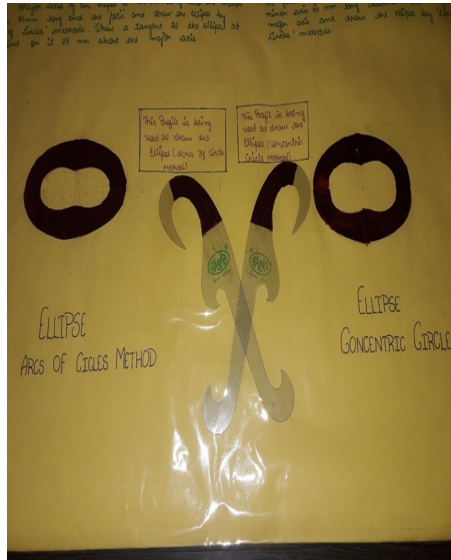
PMKVY
प्रधानमंत्री कौशल विकास योजना



All the students of PMKY with Prof. Ghule P.K.

“THE PURPOSE OF EDUCATION IS TO REPLACE AN EMPTY MIND WITH AN OPEN ONE”

I scheme projects



Different I-scheme projects done according to the subject



Glass box approach project

Wooden model project



Surface project by Mechanical Student