



SVKM's

Shri Bhagubhai Mafatlal Polytechnic



MECH Adyant

- Beginning to End

Mechanical Engineering
e - Newsletter



A.Y. 2021-22

Volume - 1

आ..... आ..... आ.....

महाराष्ट्र की धरोहर का, गौरव है SBMP
ज्ञानसागर की उमड़ती, लहर है SBMP
SBMP.... SBMP.... SBMP....

SVKM का छत्र धरे, बने सारथी तंत्र के,
इंद्रधनुष के रंग में रंगे, हुए पारखी यंत्र के,
योगः कर्मसु कौशलम्, मंत्र मन में धरे,
असतो मा सदगमय के, राह पर हम चले,
SBMP.... SBMP.... SBMP....

प्रकाश की परिभाषा, और ज्ञान की अभिलाषा,
जगाए मन में कुछ नया, सीखने की जिज्ञासा,
हो चाहे गुरुकुल कोई, या नालंदा तक्षशिला,
हर रूप का प्रतिरूप ये, शिक्षा की आधारशिला,
SBMP.... SBMP.... SBMP....

जाते हुए कल से सीखी, आते हुए कल की कहानी,
विविध राग से सजती सफलता की कई जुबानी,
निराशाओं को तोड़ती, आशाओं की संजीवनी,
गंगोत्री माँ भारती, यश कीर्ति मनपावनी,
SBMP.... SBMP.... SBMP....

महाराष्ट्र की धरोहर की, यशगाथा SBMP
बूंद बूंद से सागर सम, परिवार है SBMP
SBMP.... SBMP.... SBMP.... SBMP

EDITORS



MECHANICAL ENGINEERING DEPARTMENT

Mr. Virag A. Timbadia - Lecturer

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Master Vanshdeep Nanra
Miss Khushi Mistry
Master Swaraj Parab

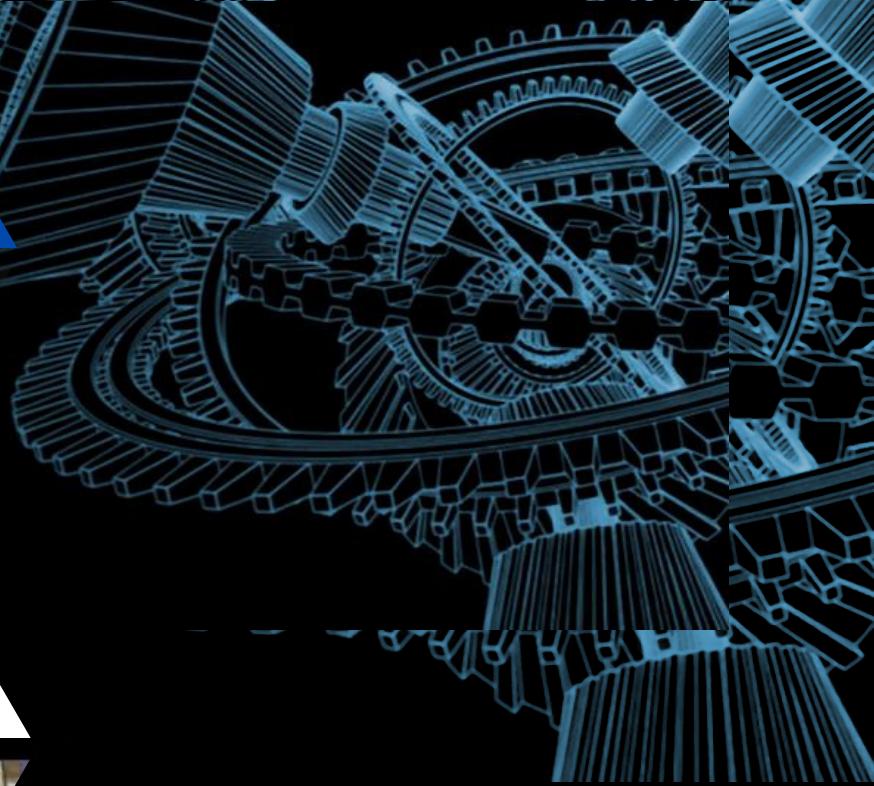
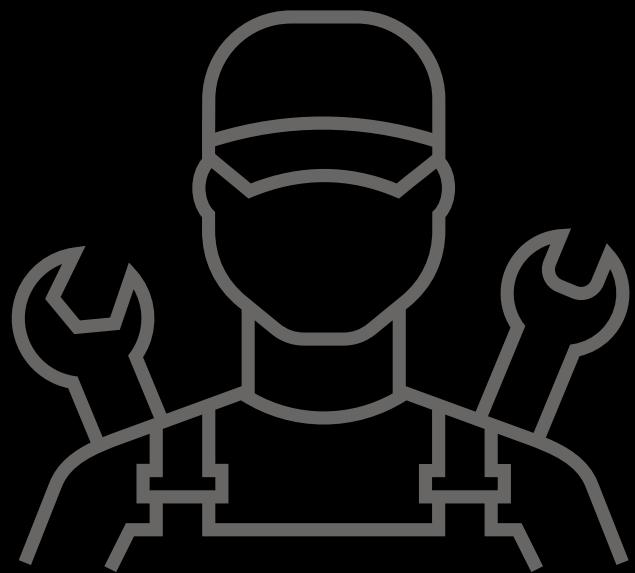


Table of Contents

- About SVKM & SBMP
- Journey- Let's Begin....
- Department Tour
- Our Stories
 - Success Stories
 - Alumni
- Blogs
 - Technical
 - Non - Technical





Shri Vile Parle Kelvani Mandal

SVKM started in 1934 when it took over the Rashtriya Shala, a school established in 1921, in the wake of the Swadeshi Movement and Indian Independence Movement.[1] Over the years, it has made the Mumbai suburb of Vile Parle into an educational hub with over 40 schools and colleges under its wing. It has now spread to other Indian cities like Bangalore, Hyderabad, Chandigarh, Ahmedabad, Indore, Navi Mumbai, among others

https://en.wikipedia.org/wiki/Shri_Vile_Parle_Kelavani_Mandal

Shri Bhagubhai Mafatlal Polytechnic.



Shri Vile Parle Kelavani Mandal is a Public Charitable Trust registered under the Society's Registration Act and Bombay Public Trust Act. From its humble beginnings in 1934, when it took over the Rashtriya Shala, a school established in 1921 in the wake of the National Movement, the Mandal today has grown into a big educational complex imparting high-level education to more than 35,000 students.

VOLUME 01

SVKM'S

**SHRI BHAGUBHAI
MAFATLAL POLYTECHNIC**



SVKM's
*Shri Bhagubhai Mafatlal
Polytechnic*

Esteem Institution
1963 to Till Date...

THE BEGINNING...

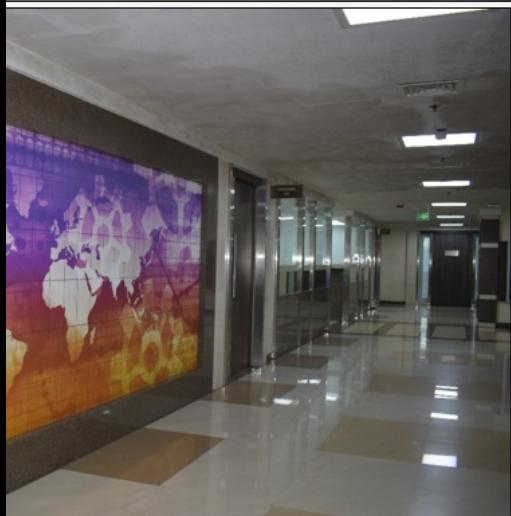
Shri Vile Parle Kelavani Mandal established this Polytechnic in 1963 with a munificent donation of Rs. 7,50,000/- from Shri Arvind N. Mafatlal and his brothers and named the same after their uncle Shri Bhagubhai Mafatlal. Mafatlal family and their industries have taken a keen interest in developing the same and given financial support.

Mafatlal family and their industries have taken keen interest in developing the same and had given financial support. The Polytechnic receives Grants and Project fund from the State and Central Governments for establishing facilities and developing its infrastructures. The Polytechnic has developed excellent interaction and liaison with industries and has received financial support for a variety of projects and towards equipment support.

S.B.M. Polytechnic has created a name for itself by maintaining high standard of discipline and performance. The Polytechnic believes in organising needbased programmes and assisting inservice personnel in education and training activities. The Polytechnic has developed Sandwich Programmes and has diversified its conventional programmes initiated in 1963 into variety of discipline areas as First Level as well as Post-Diploma Level along with in-service programmes. The Polytechnic is a grant-in-aid autonomous institution affiliated to the Maharashtra State Board of Technical Education. The Polytechnic is being managed by the duly constituted Managing Council.

"The ideal engineer is a composit.... S/He is not a scientist, s/he is not a mathematician, s/he is not a sociologist or a writer; but s/he may use the knowledge and techniques of any or all of these disciplines in solving engineering problems."

— Nathan W. Dougherty



MECHANICAL ENGINEERING



**"To become a center of excellence in
the field of mechanical engineering
through need-based value education"**



M1-To impart quality education through continuous up-gradation of curriculum and faculty development

M2- To encourage students to solve mechanical engineering and real-life problems through industry-institute interaction.

M3- To develop entrepreneur qualities and concern for the society.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

PEO1 - Contribute to technological advancement through continuous learning in the field of mechanical engineering

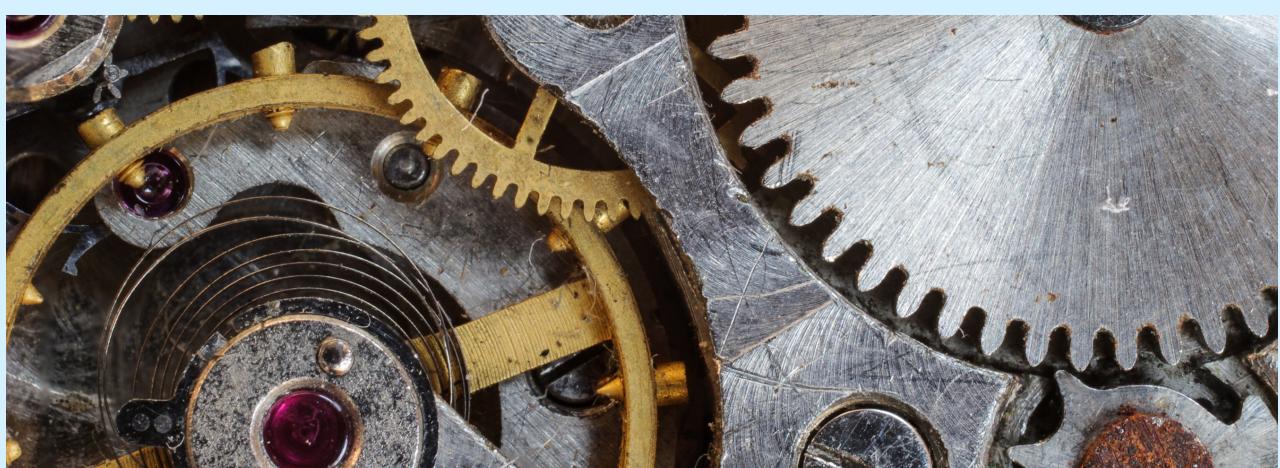
PEO2 - Apply technical knowledge and skills to find effective solutions for the problems in mechanical engineering and other related disciplines

PEO3 - Develop skills in diploma graduates to address concerns of society and environment by communicating effectively to lead an interdisciplinary diverse team

PROGRAM EDUCATIONAL OBJECTIVES (PSOs):

PSO1 - Diploma graduates will be able to apply basic principles in the area of Design and Manufacturing Engineering.

PSO2 - Equip diploma graduates with technical skills to provide solutions in the field of Thermal Engineering.



MESSAGE

FROM HEAD OF THE DEPARTMENT



Welcome to the Mechanical Engineering department. I hope that you are healthy and well. Our outstanding team of teachers, special/ related services personnel and administrative office staff have been working tirelessly in preparation for this year, in order to meet the needs of our students.

When first faced with the pandemic crisis, our staff members came together and found new ways of supporting each other, during these difficult times.

We are committed to providing the level of connectivity and care, along with the academic excellence that is necessary for our students to achieve at higher levels.

Providing our students equitable access to high-quality learning remains a high priority to us. As a result, we have developed a comprehensive remote learning schedule support and coaching for students as needed. Regular attendance for daily lessons will be required to ensure our student's academic success.

Our curriculum covers the basic, core and theoretical concepts which focuses on real life applications that helps our students to stand firmly in the competitions faced in the world outside. Six months in-plant training is our strength , here students can apply their learnings . We have designed our syllabus in such a way that it helps our students to easily grasp and think creatively upon subjects like automation, mechatronics, world class manufacturing, Automobile and CAD/CAM/CAE.

Last but not least , I take this opportunity to sincerely thank Mr. Virag A. Timbadia and his team of students for their efforts to make this e-Newsletter.

Ashok Chore
HOD, Mechanical

Mechanical

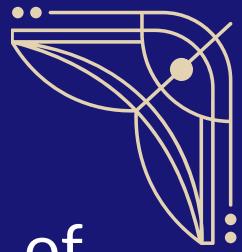
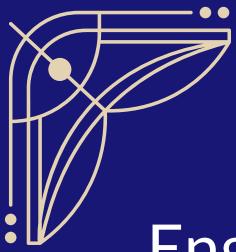
VOLUME 01



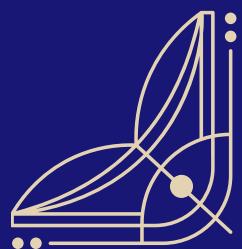
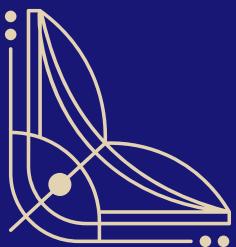
Our Department



The Diploma Course in Mechanical Engineering lays emphasis on manufacturing in engineering industries. The syllabus covers subjects such as Work Study, Production Management, Process Engineering, Tool Design, Mechanism, Power Engines, Refrigeration and Air-conditioning, Hydraulic Machinery, Machine Design Practice, and Entrepreneurship. Students can work in the Engineering Department, Inspection, Quality Control, Maintenance and Production Shops, and Industrial Engineering Department in Engineering Industries involved in the manufacture of Industrial Machinery, Machine Tools, Automobiles, Ancillary Industries, Electrical Machinery, etc.



Engineering means “any act of planning, designing, composing, evaluating, advising, reporting, directing or supervising that requires the application of engineering principles and concerns the safeguarding of life, health, property, economic interests, the public welfare or the environment, or the managing of any such act”. It is not gender specific. It is a good choice for both boys & girls. If you have sheer passion for something, you must not dwell into its consequences but give your best in it & leave the rest on your luck.





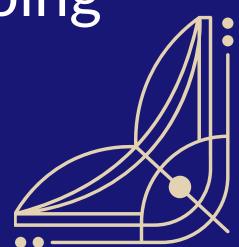
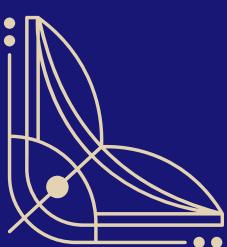
You should be willing to take risks & explore beyond what the "herd does".

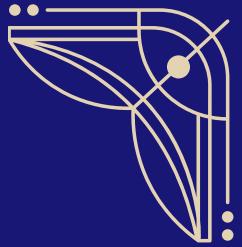
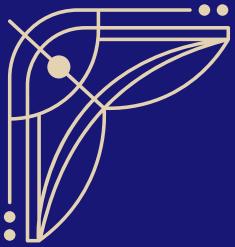
Being a mechanical engineer, you get to enjoy a wide variety of choices. It is an evergreen field. The better you are at it, the more you excel.

Mechanical engineers are the forefront of the future technologies. In other words, they are the heart of this process.

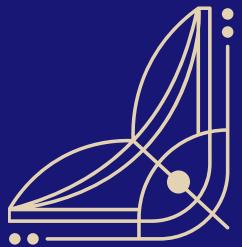
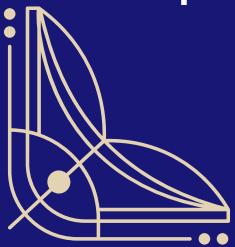
You get to have a wide range of skill such as:-

- Problem solving: Engineering has always been about finding innovative ways of doing things.





- Team spirit: You get to work in teams for many of your projects, which helps you to develop yourself with handling people around you.
- Good presentation: You will be doing a lot of projects where you will have to present your findings in a novel way.
- Decision making skills: Mechanical engineers are taught in such a way, where they are confidently willing to take risks for their decision under pressure.



MECHANICAL ENGINEERING FACTS

Engineering comes from a latin word *ingeniare*, meaning "to contrive, devise".

Developing new systems and technologies is the basic task for mechanical engineers. The aim is to extend the physical abilities and simplify our lives.

It is something that you find in everything at every point of life. It teaches you nothing is impossible to achieve if you know how much force you need to apply and where to apply.

Mechanical engineers are very important. Without them, we cannot use elevators, trains, cars, planes, buses, television, refrigerator, boats, etc. All of the things around us are made by Mechanical Engineers.

Many peple believe that all we do is repair works, but this is not true! There is a different batch for that altogether. You can learn to design a car that only uses energy of sun as fuel or you can design and test a bionic arm.

This is a world where we see lots of machines. Right from the invention of the wheel to today's space shuttles, all these are possible if one knows how to design, construct and use them which is possible through learning the concepts of mechanical engineering.

The first machines which were ever created are screw, wheel and axle, inclined plane and pulley system. The Greek and Chinese made them to make the tasks easier. Then, the simple machines were used to create tools such as carts, ancient seismograph and wheelbarrows..

The most exciting thing about being a mechanical engineering is to be given a requirement to design and build a new machine that will alleviate a production problem or relieve workers from having to do work that is dangerous or detrimental to their health.

SUCCESS STORIES

The Official Newsletter of Shri Bhagubhai Mafatlal Polytecnic



GAURAV SAWANTBHONSALE

MAXIMUM MEDALS FOR MARTIAL ART WON BY AN INDIVIDUAL

The record for winning the maximum number of medals for Martial Art was set by Gaurav Sawantbhonsale (born on March 31, 2000) of Thane Maharashtra. He won 65 medals in national and international championships, having been awarded 30 Gold, 20 Silver and 15 Bronze medals between April 2015 and July 2020, as confirmed on May 27, 2021.





By Heet Naik, Mechanical Department/ III Sem

One of my research paper was selected in the Global Space Exploration Conference(GLEX 2021) hosted by ROSCOSMOS and organized by the International Astronautical Federation(IAF) and I was invited to present the paper in the conference which was held in St. Petersburg, Russia where I met many Astronauts, scientists and industrialists.

4 of my research papers were selected in the world's largest space conference, International Astronautical Congress(IAC 2021) hosted by the UAE space agency and organized by IAF which is to be held in Dubai. There will be many astronauts, scientists and even industrialists like Elon Musk and Jeff Bezos at the conference.I also represented our college at district-level table tennis tournament where we secured the 2nd position.Our team also participated in the IPAS-UAV design challenge organized by South-Asia Mars Society, where we made a drone which was capable of carrying payload up to 100gm and fly on mars, we secured 4th position



The conference involved high level technical sessions by top space agencies, even by Mr. K. Sivan(chairman of ISRO).

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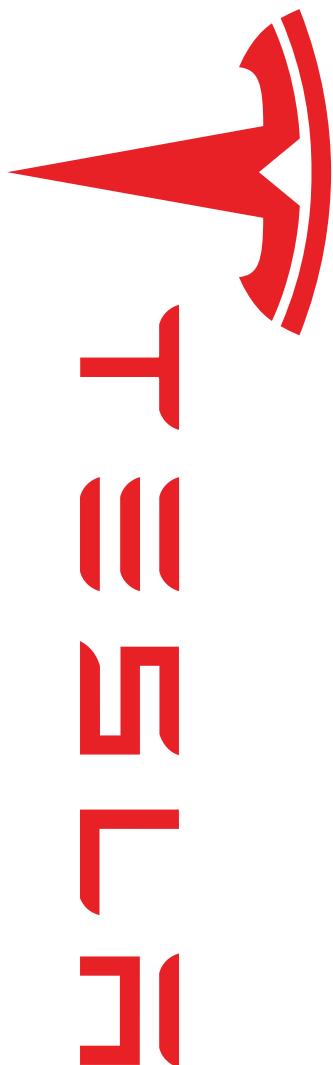
The conference involved high level technical sessions by top space agencies, even by Mr. K. Sivan(chairman of ISRO). Researchers like me got a chance to present our research papers at the conference and I got to learn alot from the research done by other researchers. Many astronauts from missions like the space shuttle, and even those who had been to the International Space Station lectured about their experiences and future of human space flights. Many CEOs of top space startups were also present who gave insights about the working of industry. Ministers from many countries even gave their speeches about the scenarios of space industry in their respective countries.

“

Excellence is not a skill. It is an attitude.

~Ralph Marston





Harpreet Singh (2012 - 2016 Batch)
MS in Automotive Engineering
Company : Tesla.Inc
Profile : Associate Test Engineer
Location : Fremont, California USA

*Do not
forget to
reward
yourself at
the end of
a long
school
week. It's
important
to take
breaks!*



About APH Tech

"Your Imagination is Our Creation"

By Amey Patel, Dinesh Raval, and Harshil Padia

Mechanical Department - 2010 Batch

We are a firm established in 2019, with highly skilled engineers who came together with a vision to provide sustainable solutions in the manufacturing sector. We conceptualize, design, and manufacture your imagination and bring it into life through our creation.

We are competent in the development of custom machinery solutions in the engineering & manufacturing industry to achieve higher production & productivity, better quality and improve the efficiency of the process. We bring to you the manual, semi-automatic, or full-automatic systems with integration of mechanical, electrical, and electronic systems such as Pneumatics, Hydraulics, Indexing systems, Conveyors, Drives, PLCs, and other systems and components are required.

We believe that SBMP's Mechanical department is the foundation of our success because our fundamentals were clear from the start, and we were able to turn ourselves into successful entrepreneurs.

ALUMNI

DEPARTMENT OF MECHANICAL ENGINEERING

**"If you don't go after what you want, you'll never have it. If you don't ask, the answer is always no.
If you don't step forward, you're always in the same place."**

~Nora Roberts

I'm Manisha Sampat, Batch 2012 - 2016 Mechanical Engineering student at SBMP and currently doing my double degree program in People and Robots for Sustainable work in Europe (Spain and Austria)

My Engineering journey started with SBMP and the four years spent there have been in total a very enriching journey. I developed as an individual and made some really true connections that I still cherish. May it be the cultural committee and its festivities or the paper presentations, the professors especially in the Mechanical department helped me throughout to excel in academics and extra curricular activities. Today, when I were to look back at my foundation days with SBMP, I'd be going back into a very emotional ride that was worth everything. SBMP was and is a very close knit family and the time spent with all the professors was nothing short of amazing.

One thing I'd like to say is make the most of your time and the professors that you encounter in the Mechanical department are all that will build a strong foundation of you both technically and personally, so make sure you enjoy the process!

I miss SBMP, hope can visit it soon ❤



Manisha Sampat

Mechanical Department
2012 - 2016 Batch



Shreya Lohar

Mechanical Department
2013 - 2017 Batch

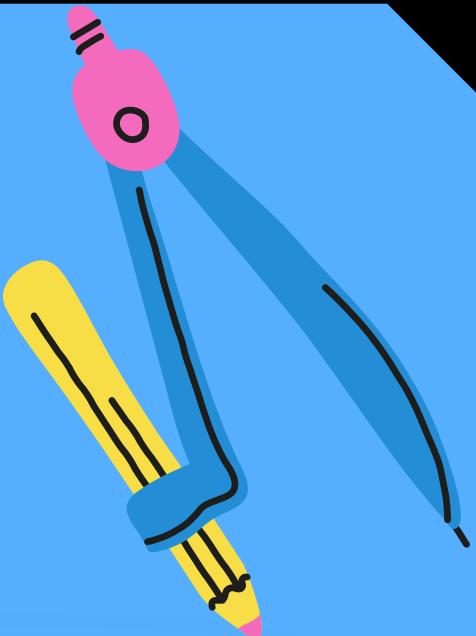
Masters in System Engineering and Engineering Management (UNCC, May 2022)

B. Technology in Mechanical Engineering (COEP, 2020)
Diploma in Mechanical Engineering (Shri Bhagubhai Mafatlal Polytechnic, 2017)

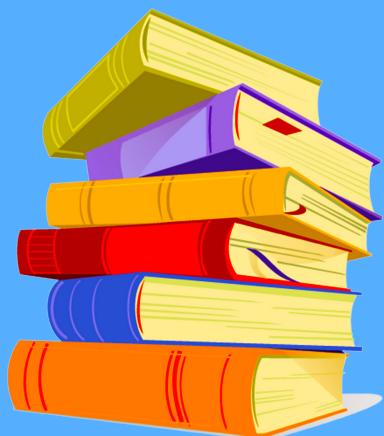
It's been 7 years studying mechanical engineering. This field is said to be the core field of engineering. It's the fact and yes being core of something is the toughest thing to work upon. So indeed being the tougher engineering field to study, it has made man to ease its journey from walking to flying in the air. The revolution in engineering by inventing heat engines have changed the world's mobility system and have brought the world closer. To make this world better place to stay, this engineering field is transitioning to the greener side. Hence, for the future generations to come, I would recommend each engineer to think how we can have sustainable engineering in practice. Each one of us need to be advanced and be smart by integrating core engineering and the information technology. My advice for the future generations of mechanical engineers is to understand the core dynamics of this steam and implement it through the any of the programming language.

To make Smart technology be smart enough to integrate it with the core technology

**SPEND ON YOUR
PRIORITIES FIRST.**



BLOGS



Aluminium Profile framework over steel Structure



Whether you are assembling a large production line, installing automation equipment, building the machine structure, T- slotted aluminium extrusion is a good option. Many choose traditional welded steel structures to enhance their strength and durability. However, aluminium extrusion frames are becoming increasingly popular for several reasons.

Aluminium extrusion framework is a modular solution that consists of Aluminium extrusion profile with a unique T slot design and series of specialized connectors and fasteners, which allows designer or purchaser to adjust the structure frame according their own needs. Because the framework is aluminium, it often has a higher price tag than steel. But it offers distinct advantages as below.

Extensive Application Range

With its unique decoration, good sound insulation, heat preservation and recyclability are widely used in construction field, and with extrusion molding and high mechanical and physical properties, good thermal conductivity and high specific strngt. Suitable for machine frame, bracket door, industrial automation equipment, factory and office workbenches, shelves, containers, ladders, conveyor systems etc.

Aluminium Profile framework over steel Structure



Hydropneumatic presses are initially driven by compressed air only, and then they activate the hydraulic power stroke automatically. These presses combine the benefits of pneumatic systems and hydraulic presses, taking the pneumatically driven fast stroke, which approaches the workpiece with low force, and combining it with the automatically-activated hydraulic power stroke that engages when it encounters resistance. As a result of this combination, the applied energy is used to the most economic effect. Hydropneumatic presses do not need a hydraulic power pack, and they can also be used where space is at a premium.

- These presses use compressed air as their primary source of power, and it results in the inexpensive and reliable implementation of piping systems and components. This completely eliminates the need for expensive hydraulic components such as hydraulic oil.
- Force and Speed of the cylinder can be infinitely adjusted.
- Rapid, pneumatically operated approach stroke and return stroke. The design of the cylinder is such that return force is larger than the approach force, resulting in the loading of heavier tools for respective tonnages.

Teachers are not the ones who care,
They are the ones who teach us how to care.

Teachers are not the ones who make us start our beginning,
They are the ones who prepare us for the ending.

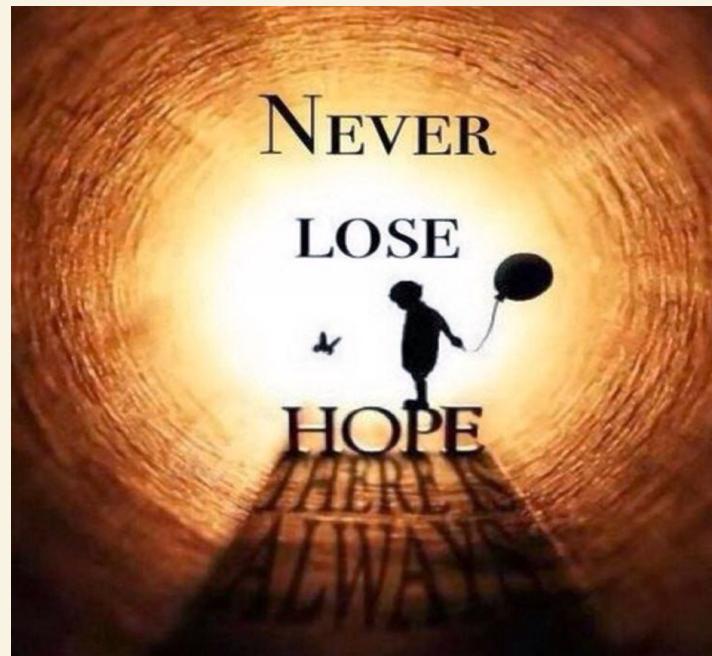
They don't misjudge our talent,
Rather they make our talent judged.

Their aim is not to make their disciples the first,
Their aim is just to evacuate them and start their journey
of achieving excellence.

Actually the true teachers aren't the problem solvers,
They are the problem creators for the sake of the
improvement of their disciples.....

One good teacher, even with just a single ability, if
determined,
Could not only change the lives but is also able to create
the lives.....





Hope for the best, prepare for the worst – this is something what every other person's action on this planet shows (even motto for everyone when they feel situation is getting out of hands!). But is hope meant only for future or does it have something to do with present moments we have in our hands? All my life till now, I have only seen people around me associating hope to the future. Like, for instance, "I hope to finish my work and reach my home early someday and not be stuck at office beyond working hours", or statements somewhat similar. This makes me wonder, what if we don't have that "someday", just today and this very moment with us, then will we hope to make the best out of today or will have something for tomorrow? And if so, how can we do that?

Anyhow, since I never got an acceptable answer to my question, I came to a conclusion or we can say an ideology of my very own- Future. It is something which is uncertain and holds a beautiful mystery. I try not to think about it and just go on making the best out of the present day, by spreading and being happy in the best way possible for me. Or in other words, rather than leaving something for my future, I try my best to do it the very same day.

Well, that was about me, but does Hope stand for you in your life? Or does it stand only for your future?

As this was my very first attempt to put down my messy thoughts in a manner somewhat understandable by others,

I hope "aap meri bhavnae samajh jaenge"



Rocking Mechanicals



Cultural Events

Rass Event



Teacher's Day

Carnival Festival

Marathi Bhasha Gaurav Day

Engineer's Day

Hindi Divas

FesTum - Rejoicing Carnival

Celebrations Of Various Days:

Tri-Color Day

Traditional Day

Formal Day

Rose And Chocolate Day

Mismatch Day

Black Day

Twinning Day

State Day

Red And White

Nakshatra - Annual Day



Academics: 2020-21

1st Year

- Hariom Yadav - 2020 batch

2nd Year

- Dhrumil Mojdra - 2019 batch

3rd Year

- Vatsal Parikh - 2018 batch



Sport Activities

Few Indoor and Outdoor Sports events in SBMP



- Carrom

- Table Tennis

- Chess

- Cricket

- Football

- Annual Sports Day

