

Editorial Board

Editor In Chief

Manish RK Sahu
Asst. Prof., Mech Dptt.

Photography

Nishant Mishra
Asst. Prof., Mech Dptt.

Designing & Layout

Ujala Dewangan
Mech 6th semester

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“DESIGN IS
NOT JUST
IT LOOKS LIKE
AND FEELS LIKE.
DESIGN IS HOW
IT WORKS”

Steve Jobs

Hybrid Vehicle

A hybrid vehicle uses two or more distinct types of power, such as internal combustion engine to drive an electric generator that powers an electric motor e.g. in diesel-electric trains using diesel engines to drive an electric generator that powers an electric motor, and submarines that use diesels when surfaced and batteries when submerged. Other means to store energy include pressurized fluid in hydraulic hybrids.



The basic principle with hybrid vehicles is that the different motors work better at different speeds; the electric motor is more efficient at producing torque, or turning power, and the combustion engine is better for maintaining high speed (better than typical electric motor). Switching from one to the other at the proper time while speeding up yields a win-win in terms of energy efficiency, as such that translates into greater fuel efficiency

Vehicle type

Two-wheeled and cycle-type vehicles Mopeds, electric bicycles, and even electric kick scooters are a simple form of a hybrid, powered by an internal combustion engine or electric motor and the rider's muscles. Early prototype motorcycles in the late 19th century used the same principle.

- In a parallel hybrid bicycle human and motor torques are mechanically coupled at the pedal or one of the wheels, e.g. using a hub motor, a roller pressing onto a tire, or a connection to a wheel using a transmission element. Most motorized bicycles, mopeds are of this type.

- In a series hybrid bicycle (SHB) (a kind of chainless bicycle) the user pedals a generator, charging a battery or feeding the motor, which delivers all of the torque required. They are commercially available, being simple in theory and manufacturing.

- A series hybrid electric-petroleum bicycle (SHEPB) is powered by pedals, batteries, a petrol generator, or plug-in charger - providing flexibility and range enhancements over electric-only bicycles.

Miniature Specimen Technology

Materials are subjected to various types of tests like tensile, impact and fatigue fracture characterization. Sub-sized conventional tests, which are essentially a scaled down version of conventional testing, utilize specimens of similar geometry loaded in a similar manner, to produce results equivalent to that obtained from larger specimens.

Miniature specimen tests are employed for determination of residual service life of the operating component, by extrapolating the results of evaluation of small specimen. For this purpose, a compact and non-invasive material sampling technique can be adopted for obtaining a small sample of appropriate size from the operating plant, without affecting its integrity. The following major steps are involved in miniature specimen technology:-

- 1- Retrieval of representative metallic sample.
- 2- Preparation of representative test specimen from the boat sample.
- 3- Modeling of test process and procedure for correlation to conventional tests.



Manish RK Sahu

Asst. professor
Dept. of Mechanical Engineering
SSIPMT

Alumni Section



Samarth M Jain
Hindustan Zinc Limited
(Batch 2012-2016)

WILL AND WAY

I am Currently working in Hindustan Zinc Limited (Department: CPP) as Mechanical + Power Engineer. When I passed from the college I was as confused as you all are out there. What should I do and from where to start, I had no idea. I had the degree of 80%, still jobless. Somehow I started working for a local company but was not satisfy with the graph of my life as I was not able to judge where my life will be going. I started searching for various options. In that mess I prepared for CET. It was tough to prepare for exam while working. Still I never leave my perseverance. My life changed the moment CET results (AIR -96) were out. I took admission in NPTI NAGPUR for PGDC course in Thermal Power System. I shall make a point as the time when I took admission in NPTI, Power Business was going down which directly implicates very less job opportunities in the power industry. Somehow I managed to keep myself motivate and started preparing for aptitude and reasoning. At the time of campus placement, initially I got rejected from 3 companies. It was very devastating feeling for me. Anyhow, I kept my hope floating and went on preparing harder and harder. At the end on 10TH JAN 2018 I got the reward of efforts and hard work & placed in VEDANTA.



EMERGING TRENDS IN MECHANICAL ENGINEERING

MULTIDISCIPLINARY STUDIES

Multidisciplinary studies are also an option for students who wish to combine completed course work from various disciplines into a single degree program. Some programs are even available entirely online. Students who seek an education in multidisciplinary studies typically combine courses from up to three disciplines.

At the same time it addresses students' individual differences and helps to develop important, transferable skills. These skills, such as critical thinking, communication and analysis are important and continually developing at all stages of life.

Advantage :-

1. A Wider Audience as the Result of Interdisciplinary Research.
2. Better Explanatory and Predictive Work.
3. Better Normative Work.
4. Inspiration to Confront Questions That May Not Otherwise Occur to You.
5. A Response to the Hyper-specialization That Is Taking Over Many Academic Quarters.



AASHISH SAHU

6th Sem
Dept. of Mechanical
SSIPMT

CYBER AWARENESS



PRATYUSH JANGHEL

6th Sem
Dept. of Mechanical
SSIPMT

“Hacking is a spirit of Innovation and blooming with Technology”. So, hacking is a way to innovate and because of these, you are seeing various good and advanced things in your life.

Let's discuss some of the safety measures a common man should follow to become Cyber Safe and minimize the risk of getting hacked.

- Don't ever say that you can't be hacked. In short, don't become an attractive target for hackers.
- Never leave any of your devices like a computer, phone etc. without locking it up. If your flash drive and external hard drive have sensitive information, lock it up that too.
- Use a strong password. A strong password is a mixture of uppercase & lowercase letters, numerals and special characters.

- Don't share your passwords, OTP or pin to anyone and don't write your password anywhere.
- Always be careful when clicking on attachments or links in emails, websites etc. If it seems to be suspicious for any reason, don't click on it.
- Double check the URL of the website, hackers and phishers can take advantage of spelling mistakes to direct you to a harmful website.
- Whenever you have got an email from an organization, do check the spelling of the email address.
- Don't do sensitive browsing, like banking or shopping, in a device that doesn't belong to you and on a network that is not trustworthy. For example, a friend's phone, public computer, public WiFi.

Install antivirus in your devices and always make it up to date.

- Back up your data regularly.
- Be conscious about devices like pen drives, external hard drives etc. you plug into your computer. They can spread malware to your device.



UPSC PREPARATION

Having been interacted with several IAS officers and by my own experience since my first year, I found many ways which do not work for a civil service aspirant in his graduation year.

There are three stages comprising of 2+4 papers and interview. The pattern and syllabus needs rathless mindset and dedicated prolonged learning hours. Consider 3 aspect before starting :-

A) Introspection B) Emotional Equilibrium C) Exam oriented preparation

If you want to select Engineering as option, study from standard books of your engineering subject, see previous years question papers - you would be happy when you find 50% CSVTU questions in it.

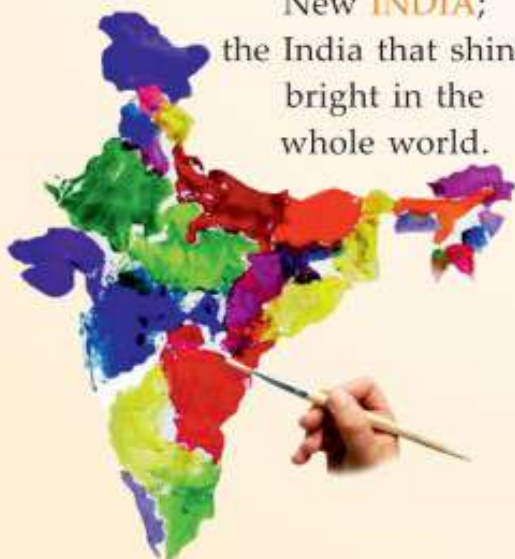


Sankalp Sharma
6th sem
Dept. of Mechanical

Events Organized by Mechanical Engineering Department

S.No	Name of Activity	Date	Duration	Conducted by
01	Campus Recruitment Training Program 2018	04/01/2018 - 26/03/2018	10 Days	Mr. Saurabh
02	Guest Lecture on Numerical Methods	29/01/2018	01 Day	Dr. V K Gaba
03	Training Summer Program on Industrial design- Creo Parametric 2017	Jan- June 2018	140 Hours	Mr. Pradeep Sahu,SSIPMT

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New **INDIA**;
the India that shines
bright in the
whole world.



Achievements

Name	Achievement(s)	Batch
Ajinkya Meshram	ME, IISc, Banglore Tata Steels	2009-2013
Ankit Rawat	M.Tech, IIT, Kharagpur TVS Motors	2000-2013
Mukesh Patel	Statistical Officer, Govt. of India	2010-2014
Amit Ganguly	AGM, Godrej & BoyceLtd.	2010-2014

SHRI SHANKARACHARYA INSTITUTE OF PROFESSIONAL MANAGEMENT & TECHNOLOGY, RAIPUR

Old Dhamtari Road, Sejbahar, Raipur, Chhattisgarh, 492015

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