

## NBA ACCREDITATION...!!



National Board of Accreditation (NBA) Accredited

### B.Tech Mechanical Engineering

Academic Year 2019-2020, 2020-2021 and  
2021-2022 i.e. upto 30.06.2022

The Year 2019 ushers in another coveted recognition for SSIPMT Raipur.

Now, our B.Tech (Mechanical Engineering) program is also NBA Accredited for 3 years.

Congratulations to all the stakeholders for their support and trust.

## INNOVATION

### MANUALLY OPERATED SEED SOWING MACHINE

The hand tools used for land cultivation is predominant in India since early ages. But as population rises, production demand increases, which can only be achieved through some mechanization methods. Manual seed planting method, results in low seed placement, low spacing efficiencies & series back ache for the farmer which results in limited size of the field that can be planted.

With appropriate planting equipment, seed may be distributed according to any of the following methods or patterns:

- a) Broadcasting, b) Drill seeding, c) Precision planting, &
- d) Hill dropping

By the use of manually operated seed planter farmers can easily plants their seeds in the field. The planter will go a long way increasing the agriculture output. All parts of the planter are fabricated from mild steel material.

**Team Members : Parth Patel, Himanshu Verma, Bhaskar Verma**



**ANUBHA SINHA**  
8th Sem. Mechanical



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**“ SCIENCE IS ABOUT  
KNOWING;  
ENGINEERING IS ABOUT  
DOING.”**

**HENRY PETROSKI**

## ALUMNI SECTION

### FROM LOW GRADES TO CORPORATE....!!

There are many guys out there, who at some point of life may have obtained low grades and were confused on how to achieve their goals.

Let me share with you, the fact that if you are skilled, you can grab a lot of opportunities.

I can this because I have gone through this situation during my journey.

I will be sharing my implementations and learnings from my college journey at some points.



**PRATYUSH JANGHEL**

Batch : 2015-2019  
Artificial Intelligence  
Engineer  
(Maximess Pvt Ltd.)

- 1. Motivate Yourself**  
If you believe in yourself and are confident about your goals, it will be an easy task for you to follow up your dreams. You are the only one who knows your motto the best.
- 2. A Hobby is the Key to Success**  
The things which we love to do, if it becomes your profession, it will fetch you bigger heights in your career. So, have such good hobbies which you can turn into a profession. Everyone has a one, find it out.
- 3. Explore Yourself**  
This point is somewhat related to the previous point. My love for technology is well known by me, but I wasn't sure about the section I would love to work, so I started exploring myself from the initial days of my college, and this made me explore many fields. So, in short, exploring yourself, can make you know the better you.
- 4. Participate in Competitions**  
Participate in many international, national and college level competitions, which will groom you in many aspects and will let you know your weak points. As per my experience, winning prestigious competitions, from the start to the end of my college life, has helped me fetch good fame from top MNCs of the world to the local ones.
- 5. Find Yourself a Mentor**  
For your journey to be better, it's also important to have mentors in your life, who can guide you to work efficiently. I am glad that I got good mentors in my college and city. A mentor can be a professor, an industrialist, a senior or a junior and of course your family.
- 6. Learning is Earning**  
Whenever you find an opportunity to learn, just grab it. Learn the things which you love. Don't restrict yourself to a particular domain. My college provides an opportunity to learn in multidisciplinary domains like mechatronics, which helped us to succeed in the national level competition.
- 7. Do Internships & Freelancing**  
Freelancing and internships provide you with great learnings as per industry norms. Which is a plus point to get into corporate.
- 8. Make Unique Projects & do Researches**  
It's important to open your mind and have creative thinking. Make unique projects or do some great research in your college life. Our college has helped us much with resources in getting our ideas to shape. This made us win college level and national level competitions.
- 9. Do Volunteer**  
Volunteer in activities, which will groom your managerial skills. I have coordinated/presided over many events in our college which helped me to groom myself.
- 10. Showcase Yourself**  
It is important to showcase yourself to the world, have a good profile which can be easily seen by others. Post about your achievements timely. It has helped me to get many big opportunities from all over the world.
- 11. Help Others to Learn**  
It is a great attitude to help others to learn what you have already excelled with. This had let me take workshops on various topics in different platforms.
- 12. Minimize or Remove Distractions**  
Just minimize or remove those distractions which comes between you and your goals. Be focused on your goals.

So, this was all, that kept me aligned to my goals. In today's era it is all about the skills you have. As an engineer you are known by your practically applicable skills. So, start developing skills. If you have any queries, you can ping me, I will try to respond as soon as possible.



# EMERGING TRENDS IN MECHANICAL ENGINEERING MULTIDISCIPLINARY STUDIES

## AQUAPONICS FARMING

The aquaponics system focusses on increasing sustainability of indoor and outdoor fish farming. For the aspects like sustainability, development, economic efficiency and improvement in the farmer health we must reconsider the agriculture sciences, by this we refer to the development of environment friendly technologies. On combining aquaculture with hydroponics we obtain a new innovation named aquaponics which respects the principles of sustainable agriculture (wastewater bio filtration by plants) and increases the possibility of greater economic efficiency with an additional feature (organic vegetables) of producing nutrient rich food.

Aquaponics may be regarded as the integration of two relatively well established production technologies :- recirculating aquaculture systems where fish tank effluent is treated and cleaned before re-introduction to the fish tank; and hydroponic (or soil-less) nutrient solution based horticulture systems. Bringing them together allows the plants to utilize the waste nutrients produced by the fish. In terms of principle it is very similar to a freshwater aquarium in which both plants and fish are grown.

### Strengths of aquaponics :-

1. Efficient use of water.
2. Increase in use of nutrients.
3. Hydroponic systems also capture a high proportion of nutrients.



**ANUJ KR. SINGH**  
6th Sem. Mechanical

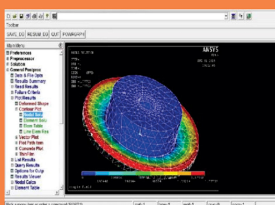


**SEEMANT SONI**  
6th Sem. Mechanical

## DESIGN AND FABRICATION OF MAGNETIC BRAKE WITH AUTOMATION

The idea of using an electromagnet as a brake has been mainly used in large vehicles and machines. However, this process is rather inefficient. Electromagnets can also be used to make frictionless brakes. In theory, if a magnetic field is induced in a rotating disc, it will produce eddy currents within the disc. These currents will then oppose the rotation of the disc by dissipating kinetic energy in the form of heat (causing the temperature of the disc to increase). Here are a few points we will lay emphasis on:

- a) Setting up of electromagnet in a wheel of an automobile (say a car)
- b) Using an Arduino Uno module to measure the angular velocity and acceleration of a rotating wheel of the automobile
- c) Using HC-SR04 Ultrasonic sensor for obstacle detection
- d) Using PTC Creo 3.0 software for designing and Ansys for analysis,
- e) using ANOVAs and excel to conduct tests. These brakes will also be provided with regenerative braking in its later modification, once the above points are completed and this will prove to be of great importance for the upcoming e-vehicles era.



**PRATEEK SHARMA**  
8th Sem. Mechanical

### Team Members :-

**K. Sai Kumar**  
**Nitesh Kumar**  
**Laxmikant Verma**



# Events Organized by Mechanical Engineering Department



VISHWAKARMA PUJA



WORKSHOP ON IOT & MICROCONTROLLER



INDUSTRIAL VISIT TO CIPET, RAIPUR



WORKSHOP ON I.C.ENGINE

## PLACEMENTS

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	HARSHIT SONI
	PARTH PATEL
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COGNIZANT	HITESH DEWANGAN
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