

Volume 4

Issue 04 - Oct to Dec, 2021



**Dr.M.G.R.**  
**Educational and Research Institute**  
**(DEEMED TO BE UNIVERSITY)**  
(An ISO Certified Institution)  
University with Graded Autonomy Status  
Maduravoyal, Chennai - 600 095



## **FACULTY OF ENGINEERING AND TECHNOLOGY** **DEPARTMENT OF MECHANICAL ENGINEERING**

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**ME X PRESS**



# HOD-DESK

## MESSAGE



by,  
Dr.K.RAJAN  
HOD / Mech

Greetings!!

I am glad that Dr.MGR University has provided us an opportunity and vision to support the release of Newsletter series through all the quarters of each academic year. It's a forum to connect with all stakeholders. I am very happy that the department is releasing the News letter for the period October 2021- to December 2021.Wishing for many more series and happy reading.

# MESSAGE



by,  
Dr.K.R.VIJAYAKUMAR,  
Deputy HOD/Mech.

The Newsletter is a platform exhibiting the activities of the department besides bring out the creative literary and artistic talents of our faculties and student community I congratulate the team behind and wish them all the success. Wishing, the Newsletter series, would bring the desired results sooner than expected and pave the way for new ideas to surface.

# MESSAGE



by,  
Dr.A.MANOJ BABU,  
Deputy HOD/Mech.

The Newsletter is a mirror that reflects the activities of the department. Students from all walks of life find their voices heard in this space that welcomes and encourages diversity of thoughts and perspectives with open arm. Pleased to see that our department is releasing its fourth quarter Newsletter for 2021. I wish the purpose is realized and achieved.



# MESSAGE

It gives us immense pleasure to be an integral part of this news letter, a communication method suited to the needs of the time which would carry messages to all concerned about important events, happenings and achievements. This certainly should play an effective role in creating a sense of belongingness amongst faculty team, alumni and students. Life can't have rewinds rather only flashbacks. Talented alumni will likely have a wealth of experience and skills to share with current students via talks and newsletters. We consider that our endeavors will be successful only when ,after reading these articles you get motivated to contribute more in future issues.

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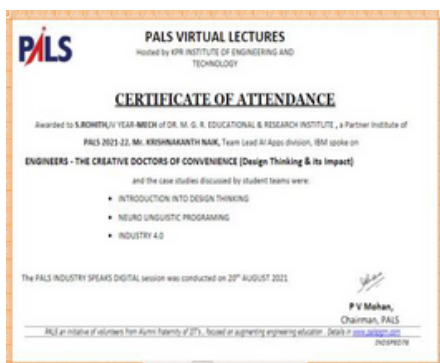
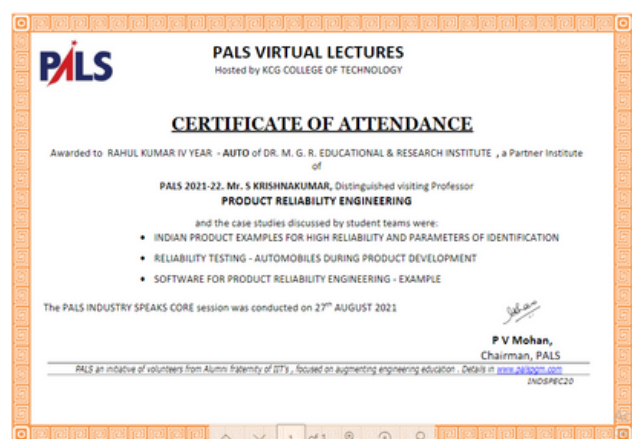
# ACTION CORNER

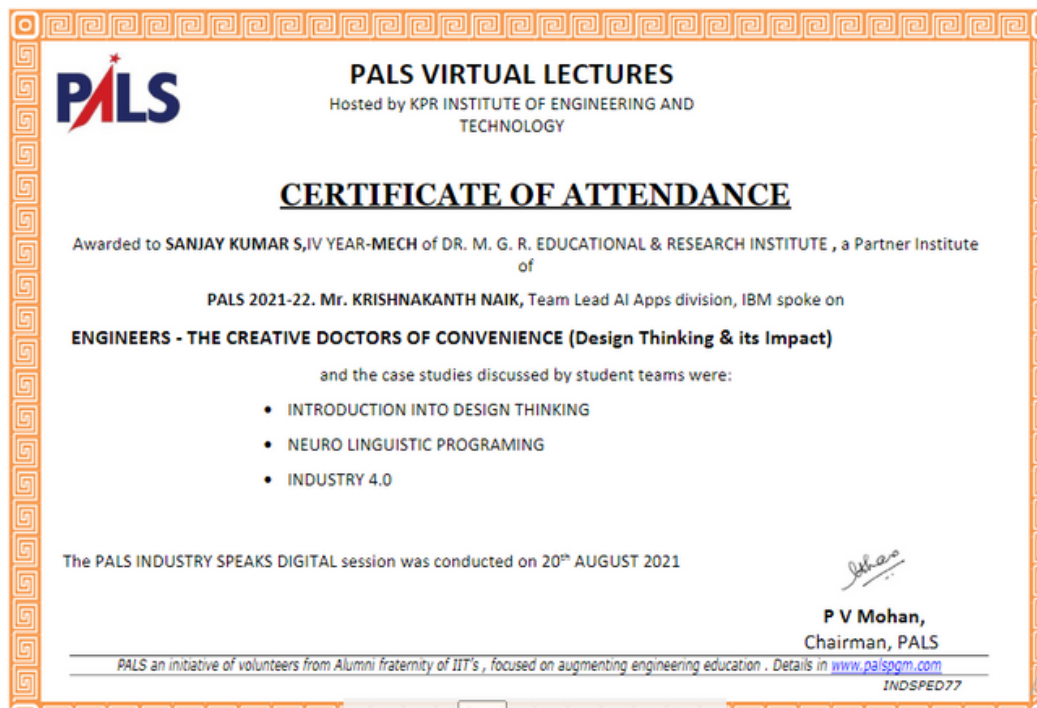
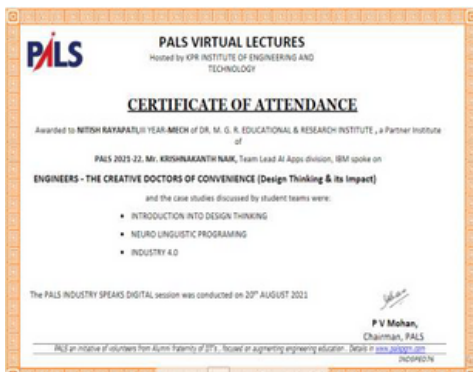
## SNIPPETS FROM PALS

1. FACULTY DEVELOPMENT PROGRAM (Virtual):  
ASHOK LEYLAND LTD -25.10.2021- 27.10.2021
2. FACULTY STUDENT DEVELOPMENT PROGRAM (Virtual):  
ON INDUSTRIAL SAFETY -22.11.2021 -23.11.2021

## IITPALS E-CERTIFICATES-2021-22



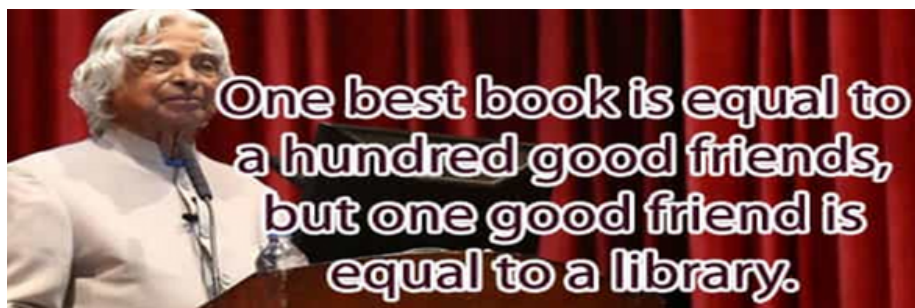
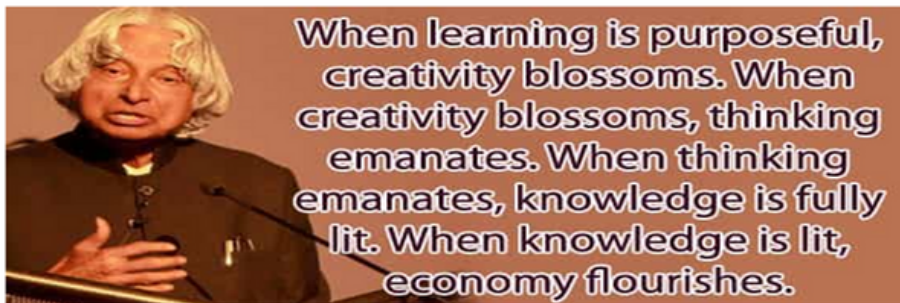


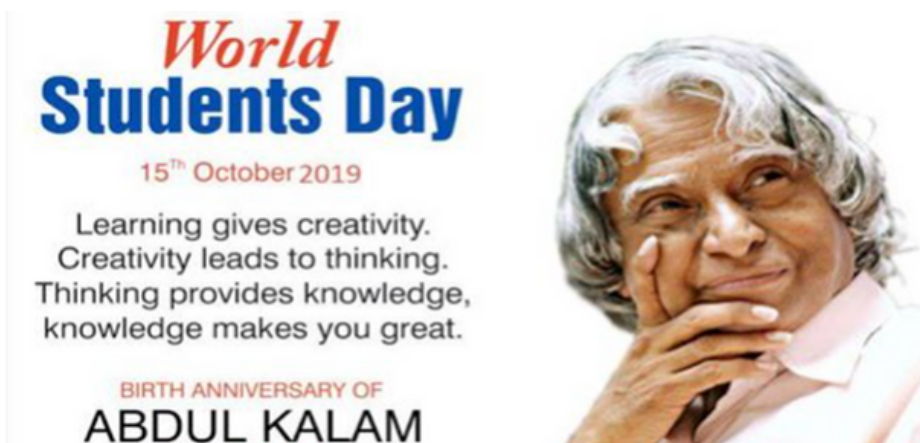
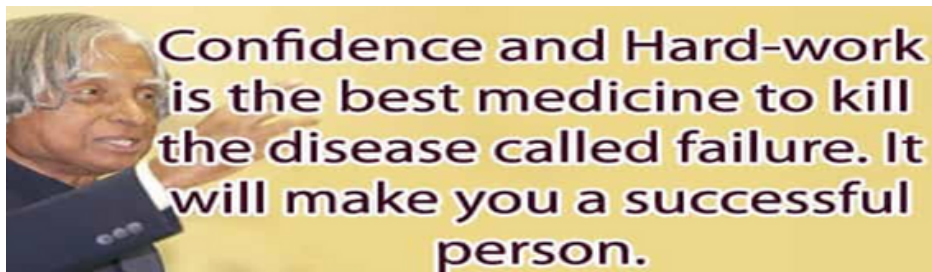
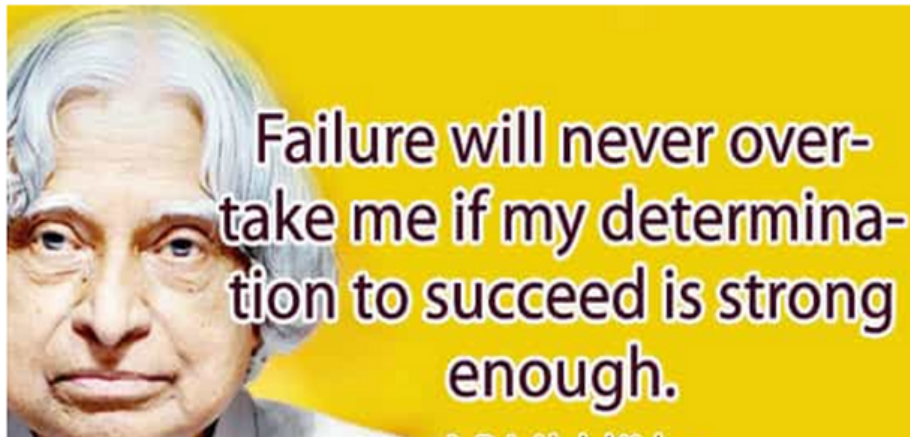




# ARTICLES CORNER

## INSPIRING QUOTES FROM INDIA'S FAVOURITE BHARAT RATNA





# EMERGING TRENDS IN SUPPLY CHAIN NETWORK

by,

Dr. J.Jayaprakash., Prof, OR| SCM|  
FEA|CFD|



Supply chain is a regulating mechanism of balancing Demand and Supply of any product. Demand is decided by the end customer/user and Supply is decided by manufacturer. Any shortfall in demand or supply, have heavy disturbance in supply chain network which will reflect an unpleasant situations in the market.

After COVID-19 most of the International traditional business model has been distributed and nearly 20% change in the customer consumable behavior pattern, particularly supply chain network also been changed. Example, during first wave there is a heavy shortage of medical ventilator in all developed countries like USA, UK and all European countries and global market for both critical care and transport ventilators demand has increased by over 300%. In the second wave, Oxygen cylinder shortage has given heavy impact in all the levels. The following figures showing the supply chain network problems.



Figure 1. Businesses Have Little Inventory to Sell  
(Inventory for sale is the slope of sales in inventory)

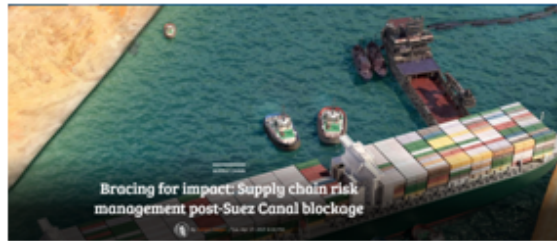
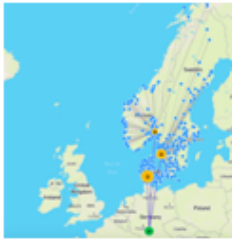


What is causing the UK crisis in petrol supplies?

(Lack of 100% delivery is hitting supply chains across the country, but is there any answer to this?)







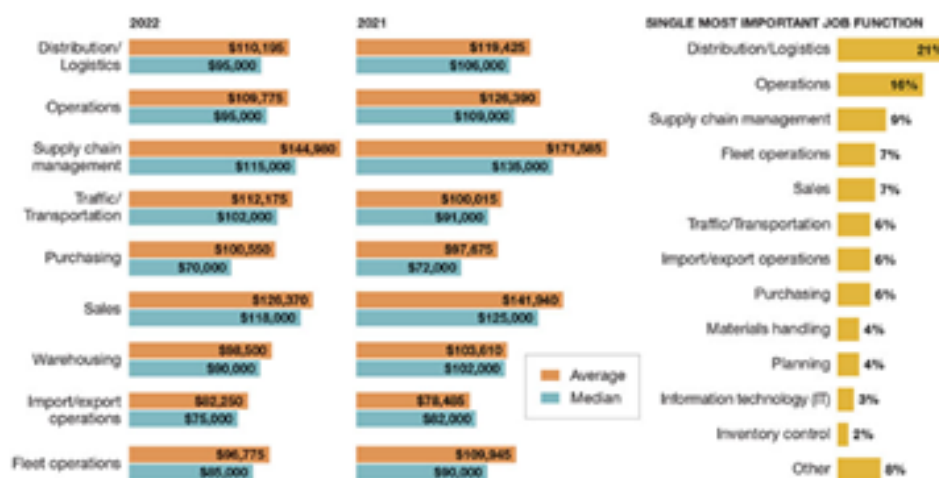
## FACT SHEET: Biden-Harris Administration Announces Supply Chain Disruptions Task Force to Address Short-Term Supply Chain Discontinuities

JUNE 06, 2021 • STATEMENTS AND RELEASES

Dear readers, next 10 to 20 years from my experience, supply chain network will play a major role in all industrial sectors and have high demand for supply chain network engineering. Most of the International Universities are having exclusive for logistics and supply chain in UG, PG and PhD programs. Because, near future there is a need of experts having any engineering background with logistics and supply chain with artificial Intelligence specialization.

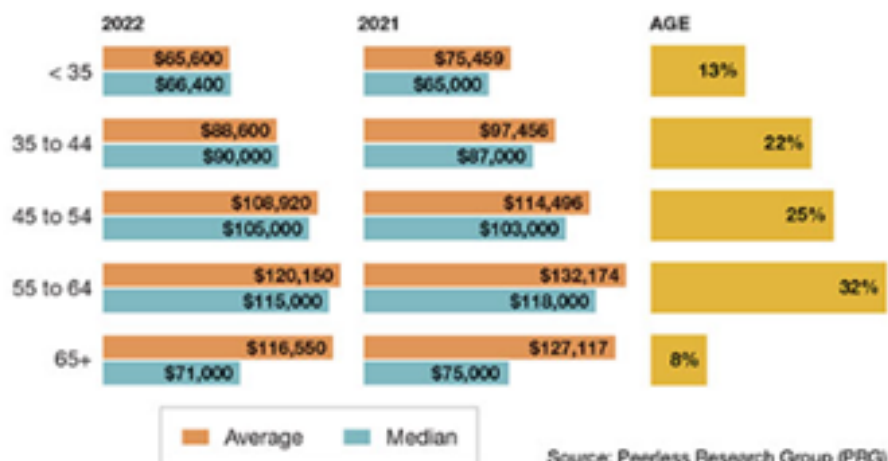
Salary point of view, 2022 salaries are up across the board. On avg, supply chain pros are making \$126,215/yr, an increase from \$112,779 in 2021, but on par w/ 2020's avg of \$126,475. The median salary in 2022 is now \$108K. 20% earn \$150K - \$249,999/yr, while 16% earn \$120K - \$149,999. 12% earn between \$90K-\$99,999,& 10% earn \$100K-\$119,999. The following figure list out salary packages of supply chain experts. List of World top ranked Universities.

Salary by most important job function





### Logistics Salary by Age



 <b>Massachusetts Institute of Technology (MIT); Master in Global Supply Chain Management</b> Cambridge (MA), United States	 <b>Erasmus (RSM); Master of Science in Supply Chain Management</b> Rotterdam, Netherlands	 <b>Politecnico di Milano; International Master in Supply Chain and Procurement Management -IMSCPM</b> Milan, Italy
 <b>Michigan (Ross); Master of Supply Chain Management</b> Ann Arbor (MI), United States	 <b>Manchester (Alliance); MSc Operations, Projects &amp; Supply Chain Management</b> Manchester, United Kingdom	 <b>Purdue (Krannert); MS Global Supply Chain Management</b> West Lafayette (IN), United States
 <b>WU Vienna University of Economics and Business; Master of Science in Supply Chain Management</b> Vienna, Austria	 <b>USC (Marshall); Master of Science in Global Supply Chain Management Program</b> Los Angeles (CA), United States	 <b>Washington (Foster); Master of Supply Chain Management</b> Seattle, WA, United States

\* Rank based on 2021 survey.

# MECHANICAL ENGINEERING – CAREER PATHWAYS

by,

Nitish Rayapati ,  
3rd yr/ Mech Dept.



Mechanical Engineering plays a crucial role in building the world, providing manufacturing solutions at every walk of life bringing home solace and sophistication. Mechanical engineering aims on designing, analyzing, manufacturing, testing, and enhancement of technical systems which we use every day, like automobiles, tools, appliances, modern warfare, machinery, etc., with its prime contribution through mechanics, thermodynamics, structural analysis, electricity, and material science.



Before digging deep into the career options and key factors that can make the aspirants stand out from the crowd, it is quite important to know the skills and traits a Mechanical Engineer should focus to build – Problem solving, Creativity, Computation and Mathematics, Communication Skills, and Teamwork. Problem solving, Creativity and Versatility are the core skills required to excel in mechanical field to develop solutions and designs. Engineer with good mathematics skills is an asset who can solve problems with calculus or statistics. Communication skills are a must to exchange ideas and progress within the team, to communicate with stakeholders and business. Teamwork, as mechanical engineers happen to work in groups, participate in brainstorming, comparing the ideas and solutions, optimizing and build the product.

### Career:

Mechanical Engineers are much in demand, besides the job being profitable. According to the US Bureau of Labor Statistics, there can be 4% raise in demand for the Mechanical Engineers through 2028. There are multiple career options that can be opted for, after the bachelor's in mechanical engineering.

#### 1. Government Jobs:

Aspirants can apply for different roles in private sectors like Automobiles, Tool Design, Research and Development, Manufacturing, etc., through several job portals like seek, indeed. Besides this, top Government public sector companies like BHEL, BEL, Coal India, HPCL, EIL, BPCL, Mazagon Dock, MECON, NACL, NLC, NMDC, SAIL, NTPC, IOCL, ONGC, Power Grid, Railtel, RITES and Railway & Banking sector offers huge employment opportunities for engineering fresher's and experienced engineers.

**Jobs through GATE:** Every year, an IIT or an IISc conducts the Graduate Aptitude Test in Engineering (GATE) for admission to master's degree programs at the IITs, NITs, and a few other universities. Many public sector organizations have begun to hire based on GATE scores. To name a few, ONGC, BHEL, Power Grid, NTPC, BARC, and SAIL are among them. PSU's selection process entails a decent score (ideally high) and an interview, after which you will be offered a Graduate Engineer Trainee (GET) post.



### Jobs through ESE:

The Union Public Service Commission (UPSC) conducts the Indian Engineering Service (IES) or Engineering Services Examination (ESE) for entry into the renowned officer cadres at PWD, NHAI, Metro Rail Corporation, and many other public sector companies. This exam necessitates a significant amount of effort because the papers contain General Knowledge and Aptitude questions at the UPSC level. Also, because the locations span from major cities to remote hilly areas, the engineers selected for the service cannot be certain that they would be provided with adequate lodging.



### Jobs through SSC and RRB:

Tests are also conducted by the Staff Selection Commission (SSC) and the Railway Recruitment Board (RRB) for apprentice and graduate level posts with full-time or part-time contracts. Junior Engineer (JE), Customs Grade Level (CGL), and others are among them. They serve the same cadres as IES, but with fewer resources and at lower levels.

Other government exams and banking: In addition, various institutions (DRDO, ISRO, and others) hold their own self-styled recruiting processes for induction into the services. These positions feature a small number of openings and huge volume of applicants. However, it has some advantages, such as directly contributing to national progress. Aside from that, exams for clerk and officer posts are held in the banking industry. These exams do not require engineering expertise, but they do require a strong understanding of aptitude. i.e., answering questions in the shortest amount of time. As a result, there is a lot of competition in this field.

**Armed forces:** Entry into the armed forces (Army, Air Force, and Navy) is based on physical examinations and interviews (AFCAT, CDS, TGC) at various levels from secondary through college and beyond. These demand a bachelor's degree in engineering, and the services are highly recognized.



## 1.Private Sector Employers:

**TATA Group:** TATA Group, one of India's largest and most successful commercial conglomerates, is the industry leader in mechanical engineering. Tata Steel, Tata Motors, Tata Consultancy Services (TCS), Tata Power, and Tata Chemicals are all hiring mechanical engineering freshers.



**Thermax:** It is a well-known Indian energy and environmental engineering organization that specializes in boilers and toughened glass. Fresh mechanical engineering graduates will find plenty of job prospects in design, electronics, and information technology.

**Larsen and Toubro:** Every engineering student's desire is to work for the renowned L&T group. Mechanical engineering freshers will find plenty of career prospects at L&T's numerous operational areas, including L&T Technology Services, L&T Solar, L&T Infotech, and EWAC Alloys Limited.

**General Motors:** General Motors is India's fifth-largest automobile exporter. For operations in manufacturing, product design, IT, and production, GM India hires freshers from mechanical engineering institutions.

**Godrej Group:** The Godrej Group, the world's largest manufacturer of refrigerators and air conditioners, is great for mechanical engineering freshers. Mechanical engineers can work in the operations of the electrical and electronics division as well as the precision engineering division.

Besides these private sector key players, there is an endless list of manufacturing and designing organizations which has numerous opportunities for graduates in Mechanical Engineering. Boosting the profile, upskilling, gaining experience through internships can favor the chances of getting a job after graduation.

# MORAL STORIES

BY,  
ABISHEK.,  
4TH YEAR/MECH DEPT.



## 1. Don't Envy Others

Two tigers – one was in a cage and the other in the wilderness. Both thought that their own plight was bad, and each admired the other's situation and family decided to swap positions. Not long after, both tigers died, one of hunger, and another died of loneliness.

**Morale of the story:** We are always not satisfied with our own situation, and envy others when actually, other people are envious of your situation.

2. A mouse fell into half a tank of rice, and was delighted. After checking that there was no danger, he ate the rice and fell asleep immediately. Such is life, and he ate and slept in the tank for a while. But as life goes on, the rice is fast depleting, and finally, he finished all the rice. It was only then that he realized, that jumping out is only his dream, and everything is not within his control.

**Morale of the story:** Our life may seem peaceful, but there are actually dangers lurking everywhere.

## 3. Let Go

An old man dropped one of his new shoes out of a speeding train. When the other passengers thought it was quite a waste, he threw out the other shoe. The passengers were shocked. The old man explained, "No matter how expensive is this pair of shoes, the remaining one is now useless to me, so why not I just throw out the other shoe so whoever picks them up will have a pair of shoes to wear and use?"

**Morale of the story:** It is better to give up whatever is making you miserable in your life, rather than hang on to your problem and make yourself more miserable. Letting go could be a better solution.

#### **4. Think for others**

One day, a little rabbit went fishing, and caught nothing. The next day, he did the same thing, and also caught nothing. When he went on the third day, a big fish jumped out of the lake and shouted, "if you dare to use carrots as fish bait, I will kill you"

**Morale of the story:** If you use what you think is good for others, and not what others want, you are only living in your own worthless world.

# PRESERVING TECHNIQUES

BY,  
JERALD.,  
2 ND YEAR /MECH DEPT.



## PRESERVING TECHNIQUE

### EGYPTIAN TECHNIQUES

#### HISTORY

A mummy is a dead human or an animal whose soft tissues and organs have been preserved by either intentional or accidental exposure to chemicals, extreme cold, very low humidity, or lack of air, so that the recovered body does not decay further if kept in cool and dry conditions. Some authorities restrict the use of the term to bodies deliberately embalmed with chemicals, but the use of the word to cover accidentally desiccated bodies goes back to at least 1615 AD. Mummies of humans and animals have been found on every continent, both as a result of natural preservation through unusual conditions, and as cultural artifacts. Over one million animal mummies have been found in Egypt, many of which are cats. Many of the Egyptian animal mummies are sacred ibis, and radiocarbon dating suggests the Egyptian Ibis mummies that have been analyzed were from time frame that falls between approximately 450 and 250 BC.





During the 19th century, following the discovery of the first tombs and artifacts in Egypt, egyptology was a huge fad in Europe, especially in Victorian England. European aristocrats would occasionally entertain themselves by purchasing mummies, having them unwrapped, and holding observation sessions. The pioneer of this kind of entertainment in Britain was Thomas

Pettigrew known as "Mummy" Pettigrew due to his work. Such unrolling sessions destroyed hundreds of mummies, because the exposure to the air caused them to disintegrate.

The methods of embalming, or treating the dead body, that the ancient Egyptians used is called mummification. *Aspergillus niger*, a hardy species of fungus capable of living in a variety of environments, has been found in the mummies of ancient Egyptian tombs and can be inhaled when they are disturbed. About 2600 BCE, during the Fourth and Fifth Dynasties, Egyptians probably began to mummify the dead intentionally. The practice continued and developed for well over 2,000 years, into the Roman Period (ca. 30 BCE-CE 364). Within any one period the quality of the mummification varied, depending on the price paid for it.

# MOTIVATIONAL STORY - J.K. ROWLING

BY,  
MARTIN MANOJ.D  
2 ND YEAR, ROBOTICS & AUTOMATION DEPT.



"Life won't always be positive; circumstances won't allow you to smile. However, how you choose to react and the way you treat others and yourself can make or break your life"

Whether you love her or hate her, her story has inspired millions. J. K. Rowling is a British author, film producer, television producer, philanthropist, and screenwriter. She is one of the most successful authors of the century. She created a famous fantasy non-fiction series called Harry Potter.

It is because of her work that many of us can create an escape from this chaotic world. You may know the story of 'the boy who lived' but few know about the woman behind the story.

Joanne Rowling taught English in Portugal, was a single mother, and at one point she was on the verge of being homeless. In addition, she struggled with depression. She incorporated all the struggles she faced in the most brilliant ways throughout the Harry Potter series. From the failed relationship with her father to the death of her mother, each element of her life gave her an element to add to her book.

It took her five years from when she first thought of the idea of Harry Potter on the train to when she finished the first book. She turned all those dark and depressing moments in her life into something magical (pun intended).

"You fail to recognize that it matters not what someone is born but what they grow up to be."



-J. K. ROWLING

# NEED FOR HUMAN VALUES IN HIGHER EDUCATION

by,

. Mr. Andrew Nallayan,  
Asst. Professor/ Mech Engineering.



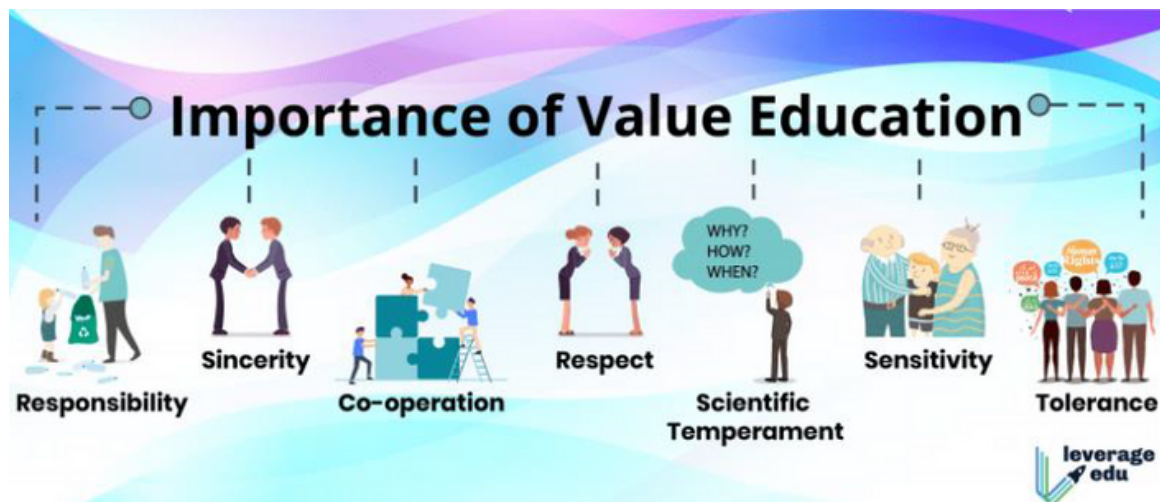
Human society may not significantly sustain without human values'. Education plays a vital role in the social and economic development of a society and the nation. The purpose of education in general and higher education in particular is to facilitate actualization of human potential, by making conscious of human values. There is no denying the fact that the present society is facing a lot of crises. Human values crises are a known fact of the modern society. Hence, it is necessary to talk on the subject and bring about awareness of human values into the present education system.

## Objective

1. Introduce value-based living: To facilitate the development of a Holistic perspective among students towards life and profession as well as towards happiness and prosperity based on a right understanding of the Human reality and the rest of existence. Such a holistic perspective forms the basis of Universal human values and movement towards value-based living in a natural way.

2. National educational policy: One of the fundamental principles of the N E P- 2020 is imparting ethics and human & Constitutional values like empathy, respect for others, democratic spirit, scientific temper, liberty, responsibility, pluralism, equality, and justice. Also to ensure dignity & integrity and high quality of practices supported with values.

3. The overall objective of higher education is to serve the mankind: That will not be met if students are not introduced to aesthetics, well-being & values of the human society. Therefore it is important to learn holistic approach a study on human values.



### Need of Human Values:

Human values inspire us to better put into practice our moral values, especially in conflict situations, when we tend to put them aside and become confrontational.

Value education is always essential to shape one's life and to give one an opportunity of performing on the global stage. Value education enables us to understand our needs and visualize our goals correctly and also indicate the direction for their fulfillment. It also helps remove our confusions and contradictions and enables us to rightly utilize the technological innovations. Value-based education aims at training the student to face the outer world with the right attitude and values.

(The need for value education among the parents, children, teachers etc, is constantly increasing as we continue to witness increasing violent activities, behavioural disorders and lack of unity in the society etc.)

Why is the human value relevant to Higher Education?

To understand Self & mutual developments.

To understand Inclusive & sustainable growth and Smooth function.

To build Confidence & mould themselves.

To understand relationship & environment





### Importance of Human Values

Basic human values which are expected in all human beings, (irrespective of positions of the person)

They are- Right Conduct, Peace, Truth, Peaceful co-existence, Discipline.

1. Right Conduct: Contains values like self-help skills (modesty, self-reliance, hygiene etc.) social skillsethical skills (courage, efficiency, initiative, punctuality etc.) and Ownership.
2. Peace: Contains values like equality, focus, humility, optimism, patience, self-confidence, self-control, self esteem etc.
3. Truth: Contains values like accuracy, fairness, honesty, justice, quest for knowledge, determination etc.
4. Peaceful co-existence: Contains values like psychological (benevolence, compassion, consideration, morality, forgiveness etc.) and social (brotherhood, equality, perseverance, respect for others,) environmental awareness etc.
5. Discipline: Contains values like regulation, direction, order etc

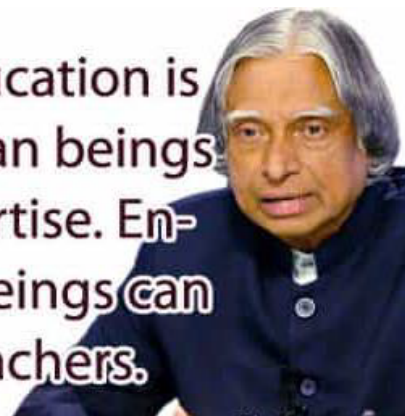
### Human Values Foundation Course in Higher Education

IIT Delhi since 2001 involving extensive consultations with various stalwarts. From 2005, IIIT Hyderabad started conducting full-scale implementation experiments to introduce a two-semester course on human values for the engineering students In 2009, UP Technical University (now called AKTU),

Lucknow decided to launch the foundation course in 'Human Values and Professional Ethics' in all its affiliated professional institutions which provided a sort of breakthrough in implementation of Human Values in Higher Technical Education. The first edition of this book was brought out at this juncture. It was followed by Punjab Technical University (PTU), Jalandhar in 2010. The foundation course was initiated in about 300 professional institutions after extensive teacher training. The work at P.T.U subsequently also included development of a postgraduate diploma and an M. Tech. Programme in this domain.

By now, more than 40 universities, with more than 4000 institutions, across 10 states in India, are offering this foundation course as a core part of their academic curricula. Recently, the All India Council for Technical Education (AICTE) included Universal Human Values as an essential component of the model curriculum for technical education throughout India.

**The purpose of education is  
to make good human beings  
with skill and expertise. En-  
lightened human beings can  
be created by teachers.**



Human Values play a very leading role in Present Educational Institutions. Human values are now withering very fast for which we humans are most responsible. Value based education should be emphasized ranging from school to university level of education. Human value is generally known to be a moral standard of human behaviour. Therefore, human values should be preserved and protected. Human values may be treated as keys to the solution of the global problems., Already some universities prescribed human values and moral values syllabus for improve the humanity of the students. It's a great achievement to present and next society and educational institutions.

# CRYPTOCURRENCY

by,  
Mr. Shrikrishnan  
Asst. Professor/ Mech  
Engineering.



Human Values play a very leading role in Present Educational Institutions. Human values are now withering very fast for which we humans are most responsible. Value based education should be emphasized ranging from school to university level of education. Human value is generally known to be a moral standard of human behaviour. Therefore, human values should be preserved and protected. Human values may be treated as keys to the solution of the global problems., Already some universities prescribed human values and moral values syllabus for improve the humanity of the students. It's a great achievement to present and next society and educational institutions.



## **Advantages of Cryptocurrency :**

### **Protection from inflation -**

Inflation has caused many currencies to get their value declined with time. Almost every cryptocurrency, at the time of its launch, is released with a fixed amount. The source code specifies the amount of any coin; like, there are only 21 million Bitcoins released in the world. So, as the demand increases, its value will increase which will keep up with the market and, in the long run, prevent inflation.

### **Self-governed and managed -**

Governance and maintenance of any currency is a major factor for its development. The cryptocurrency transactions are stored by developers/miners on their hardware, and they get the transaction fee as a reward for doing so. Since the miners are getting paid for it, they keep transaction records accurate and up-to-date, keeping the integrity of the cryptocurrency and the records decentralized.

### **Secure and private -**

Privacy and security have always been a major concern for cryptocurrencies. The blockchain ledger is based on different mathematical puzzles, which are hard to decode. This makes a cryptocurrency more secure than ordinary electronic transactions. Cryptocurrencies, for better security and privacy, use pseudonyms that are unconnected to any user, account or stored data that could be linked to a profile.

### **Currency exchanges can be done easily -**

Cryptocurrency can be bought using many currencies like the US dollar, European euro, British pound, Indian rupee or Japanese yen. With the help of different cryptocurrency wallets and exchanges, one currency can be converted into the other by trading in cryptocurrency, across different wallets, and with minimal transaction fees.

### **Decentralized -**

A major pro of cryptocurrency is that they are mainly decentralized. A lot of cryptocurrencies are controlled by the developers using it and the people who have a significant amount of the coin, or by an organization to develop it before it is released into the market.

The decentralization helps keep the currency monopoly free and in check so that no one organization can determine the flow and the value of the coin, which, in turn, will keep it stable and secure, unlike fiat currencies which are controlled by the government.

#### **Cost-effective mode of transaction -**

One of the major uses of cryptocurrencies is to send money across borders. With the help of cryptocurrency, the transaction fees paid by a user is reduced to a negligible or zero amount. It does so by eliminating the need for third parties, like VISA or PayPal, to verify a transaction. This removes the need to pay any extra transaction fees.

#### **A fast way to transfer funds -**

Cryptocurrencies have always kept itself as an optimal solution for transactions. Transactions, whether international or domestic in cryptocurrencies, are lightning-fast. This is because the verification requires very little time to process as there are very few barriers to cross.

### **Disadvantages of Cryptocurrency :**

#### **Can be used for illegal transactions -**

Since the privacy and security of cryptocurrency transactions are high, it's hard for the government to track down any user by their wallet address or keep tabs on their data. Bitcoin has been used as a mode of exchanging money in a lot of illegal deals in the past, such as buying drugs on the dark web. Cryptocurrencies are also used by some to convert their illicitly obtained money through a clean intermediary, to hide its source.

#### **Data losses can cause financial losses -**

The developers wanted to create virtually untraceable source code, strong hacking defenses, and impenetrable authentication protocols. This would make it safer to put money in cryptocurrencies than physical cash or bank vaults. But if any user loses the private key to their wallet, there's no getting it back. The wallet will remain locked away along with the number of coins inside it. This will result in the financial loss of the user.

#### **Decentralized but still operated by some organization -**

The cryptocurrencies are known for its feature of being decentralized. But, the flow and amount of some currencies in the market are still controlled by their creators and some organizations.



These holders can manipulate the coin for large swings in its price. Even hugely traded coins are susceptible to these manipulations like Bitcoin, whose value doubled several times in 2017.

### **Some coins not available in other fiat currencies -**

Some cryptocurrencies can only be traded in one or a few fiat currencies. This forces the user to convert these currencies into one of the major currencies, like Bitcoin or Ethereum first and then through other exchanges, to their desired currency. This applies to only a few cryptocurrencies. By doing this, the extra transaction fees are added in the process, costing unnecessary money.

### **Adverse Effects of mining on the environment -**

Mining cryptocurrencies require a lot of computational power and electricity input, making it highly energy-intensive. The biggest culprit in this is Bitcoin. Mining Bitcoin requires advanced computers and a lot of energy. It cannot be done on ordinary computers. Major Bitcoin miners are in countries like China that use coal to produce electricity. This has increased China's carbon footprint tremendously.

### **Susceptible to hacks -**

Although cryptocurrencies are very secure, exchanges are not that secure. Most exchanges store the wallet data of users to operate their user ID properly. This data can be stolen by hackers, giving them access to a lot of accounts. After getting access, these hackers can easily transfer funds from those accounts. Some exchanges, like Bitfinex or Mt Gox, have been hacked in the past years and Bitcoin has been stolen in thousands and millions of US dollars. Most exchanges are highly secure nowadays, but there is always a potential for another hack.

### **No refund or cancellation policy -**

If there is a dispute between concerning parties, or if someone mistakenly sends funds to a wrong wallet address, the coin cannot be retrieved by the sender. This can be used by many people to cheat others out of their money. Since there are no refunds, one can easily be created for a transaction whose product or services they never received.

# ACHIEVER'S CORNER

## DR.N.ETHIRAJ DEAN E&T



Dr.N.Ethiraj , senior professor and currently serving as Dean –Academics of the university is a dedicated ,energetic ,positive and conscientious person in whatever he undertakes to do. Well known for his appetite for research, he has involved himself in many funded projects in the past and present.

His contribution towards publications will amaze the research fraternity and it is aptly reflected in the International publications listed as represented here, for the year 2021 alone. By being a technical committee member across the globe in various conferences, he has found his niche in the field of International conferences.

A student friendly professor and a person, very much reachable in the campus for his fellow colleagues, should always be an achiever.

### **Publications and association in International conferences for the year 2021**

#### **Publications – International:**

- 1) R.Srinivasan, S.Manivannan, S.Prasanna Devi, S.Nallusamy, N.Ethiraj, "Predictive Analysis of Time to Failure for Sustainable Development in an Automobile Component Manufacturing Industry", Journal of Green Engineering, Vol.11, Issue 2, 1088-1105 (2021).
- 2) S.Meikeerthy, N.Ethiraj, "Characterization of Submerged Friction Stir Welded Joints of Titanium", Design Engineering (Toronto), Vol.2021, Issue 5, 2312-2325 (2021).
- 3) J.Sofia, T.Sivabalan, N,Ethiraj, M.P.Nikolova, "A review of Additive Manufacturing for Synthetic Bone Crafts and Dental Implants", Journal of Manufacturing Technology Research, Vol.13, Issue (1-2), 29-52 (2021).

- 4) D.Suresh Kumar, N.Ethiraj, "Experimental and Finite Element Analysis Single Stage Single Point Incremental Forming" International Journal of Engineering Transactions A:Basics, Vol.34. Issue 10, 2259-2265 (2021).
- 5) N.Ethiraj, T.Sivabalan, Saibal Chatterjee, Seeramsetti Mahesh, Mrityunjay Kumar Chandravanshi, "Investigation on Material Removal Rate and Surface Finish in Electrical Discharge Machining of AA6061-B4C Composite Material", Journal of University of Shanghai for Science and Technology, Vol.23, Issue 12, 224-235 (2021).
- 6) N.Ethiraj, T.Sivabalan, J.Vineth Kumar, R.Vikram, C.Manikandan, S.Vignesh, S.Meikeerthy, "Investigation on Properties of the Welded Joints by Friction Stir Welding of Titanium under Air and Water", Suranaree Journal of Science and Technology, Vol.28, Issue 6, 010086(1-7) (2021).

### **Committee Member:**

#### **International:**

- 1) Technical Programme Committee Member - 2021 6th International Conference on Mechanical, Manufacturing, Modeling and Mechatronics (IC4M 2021), Guilin, China, Organized by Hong Kong Society of Mechanical Engineers (HKSME).
- 2) Technical Committee Member - 2021 12th International Conference on Mechatronics and Manufacturing (ICMM 2021), Singapore.
- 3) Technical Committee Member- The 5th International Conference on Mechanical, Aeronautical and Automotive Engineering (ICMAA2021), Singapore.
- 4) International Scientific Committee Member, Asia -2021 5th International Conference on Aerospace, Mechanical and Mechatronics Engineering (CAMME 2021), Shenzhen, China.
- 5) Programme Committee Member-2021 9th International Conference on Metallurgy Technology and Materials (ICMTM 2021), Zhengzhou, China.
- 6) Technical Committee Member-4th International Conference on Metal Material Processes and Manufacturing (ICMMPM2021), Sanya, China.
- 7) International Technical Committee Member-2021 6th International Conference on Advanced Materials Research and Manufacturing Technologies (AMRMT2021), Xi'an, China.
- 8) Technical Committee Member (Asia)- 2021 5th International Conference on Material Engineering and Advanced Manufacturing Technology (MEAMT 2021), Oslo, Norway
- 9) Technical Committee Member- 2021 5th International Conference on Materials and Intelligent Manufacturing (ICMIM 2021), Harbin, China..

- 10) Technical Committee Member - 2021 10th International Conference on Advanced Materials and Engineering Materials (ICAMEM 2021), Bangkok, Thailand.
- 11) Technical Program Committee Member- 2021 8th Global Conference on Polymer and Composite Materials (PCM2021), Macau, China.
- 12) Reviewer-The 10th International Conference on Materials Science and Engineering (CMSE 2021), Online.

**Guest Lecture:**

- 1) Webinar on "Additive Manufacturing" organized by LathaMathavan Engineering College, Alagarkovil, Madurai on 25-11-2021.

# DISTINGUISHED

## ALUMNI

### HARISH BURMAN

### (2017-2021)



Examination	University/Board	Institute	Passing Year	CGPA / %
Graduation	Dr. MGR University	Dr.M.G.R. Educational and Research institute, Tamil Nadu.	2021	9.3
XII Std.	AHSEC	Lohit Dikrong, Assam.	2017	90
X Std.	CBSE	Abotani Vidya Niketan, Arunachal Pradesh.	2015	92

#### KEY PROJECTS

- Water Level Indicator, Project Expo-2018
- Thermal Battery Management System, Innawah Competition in PALS
- Negative Pressure Exhalation Purifier For Ventilators, Innawah Competition in PALS
- Design Analysis of Automobile Bumper, Final year project-2021

#### TRAINING AND CERTIFICATION

- Training Program on AutoCAD, Creo, Catia and Ansys.
  - Institute – Cadcam Solution, Chennai.
  - Duration – 2020-2021
- Certificate for Proficiency in the language of German



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### SEMINARS/CONFERENCES/WORKSHOPS ATTENDED

- Goodwin Motors ( BMW Training & Car Training )
- Cadcam solution ( Fire & Safety in Industry )
- Cadcam Solution ( solidwork software training )

### INTERSHIP TRAINING/INDUSTRIAL VISITS

- Thermal power plant
- TVS Training centre

### KEY SKILL

- AutoCAD,Creo,Solidwork,Catia and Ansys.
- Microsoft Office Suite

### AWARDS AND HONORS

- Certificate of appreciation for my Project Presentation on IIT pals held at December 2019.
- Certificate of Excellence for innowah competition PALS2021\_INNOWAH\_022

### LANGUAGE KNOWN

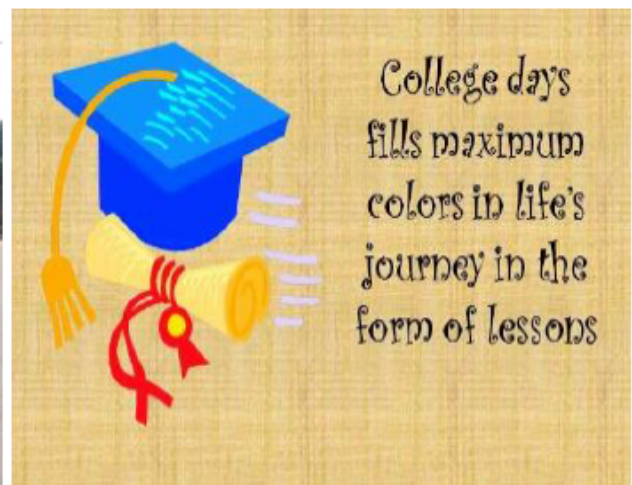
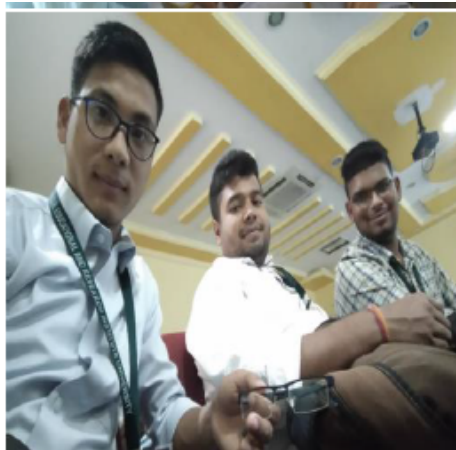
English,Hindi,Assamese and Bengali

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### EXTRA CURRICULAR ACTIVITIES

- Pencil Sketching
- Outdoor & Indoor Games





# PURNA SAI TEJA (2017-2021)



PURNA SAI TEJA PINNINTI





## EDUCATION

- **Dr M.G.R Educational & Research Institute, Chennai**

B.Tech - Mechanical Engineering ( University 2<sup>nd</sup> Rank )

9.3 CGPA ( First Class With Honors )

- **Sri Venkateswara Junior College, Guntur**

Intermediate - 92.7%

- **Live Public School, Guntur**

10<sup>th</sup> Standard - 9.2 GPA



## WORK EXPERIENCE

- **Chegg India Pvt. Limited**  
( Freelancer )

Subject Matter Expert in  
Mechanical Engineering

( Feb 2021 – Oct 2021 )





## INTERNSHIPS

- Central Institute of Tool Design, Hyderabad

Project Intern ( Jan 2021 – Feb 2021 )

Title : “Design and Analysis of Non Pneumatic Tyre with  
Honeycomb Structure”

- Kakatiya Thermal Power

Plant Intern ( June 2019 – July  
2019 )



## PROJECTS

- Final Year Project

Central Institute of Tool Design

Title : “Design and Analysis of Non Pneumatic Tyre with  
Honeycomb Structure”

- Mini Project

Dr. M.G.R University

Title : “Study of Regenerative Braking System in Hybrid  
Electric Vehicles”





## ONLINE CERTIFICATIONS

- Georgia Institute of Technology – Coursera  
“Mechanics of Mechanics I :  
Fundamentals of Stress, Strain & Axial Loading”
- University of Illinois –  
Coursera “3D Printing”  
(Revolution & Software)
- NPTEL – Elite Certification  
“Selection of Nanomaterials for Energy Harvesting  
& Storage Applications”



## ACTIVITIES

- Class Representative in 2<sup>nd</sup> year.
- Class Committee Member in 3<sup>rd</sup> & 4<sup>th</sup> years.
- Student Volunteer in Green9 Ensav Club.
- Student Organizer in Technical Symposiums and  
National Conferences conducted by Mechanical Dept.



## **PARTICIPATION** **(CAD COURSES)**

Certificate Training Programme

( Central Institute of Tool Design )

- Nx Unigraphics ( Feb 2021 )
- Ansys Workbench ( Feb 2021 )

( Cadd Cam Solutions )

- Solidworks ( Feb 2019 )



## **PARTICIPATION** **(WORKSHOPS)**

- Goodwin Motors ( Sep 2018 )

“Troubleshooting and Servicing of Two Wheeler and  
Four Wheeler”

- Aviocian Technologies ( March 2019 )  
“Design and Development of Quadcopter UAV”



## **CONTACT**



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# PUBLICATIONS

## STAFF PUBLICATIONS OCTOBER-DECEMBER 2021

OCTOBER - DECEMBER 2021

<b>TITLE OF THE PAPER</b>	<b>NAME OF THE AUTHOR</b>	<b>JOURNAL/ CONFERENCE</b>	<b>MONTH -YEAR OF PUBLICATION</b>
Investigation on Material Removal Rate and Surface Finish in Electrical Discharge Machining of AA6061-B4C Composite Material	N. Ethiraj, T.Sivabalan	Journal of University of Shanghai for Science and Technology DOI:10.51201/JUSST/21/121002	December - 2021

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