

L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

# Report



on

# AICTE Training & Learning (ATAL) Sponsored

Faculty Development Program (FDP) on

"Design Thinking: From Insights to Viability for Engineers"

06th Dec. 2021 to 10th Dec. 2021



Department of Electronics and Communication Engineering (ECE), Lakireddy Bali Reddy College of Engineering (Autonomous) has organized AICTE Training & Learning (ATAL) Sponsored Faculty Development Program (FDP) on "Design Thinking: From Insights to Viability for Engineers" during 06<sup>th</sup> December 2021 to 10<sup>th</sup> December 2021. More than 90 participants from different AICTE recognized institutes were registered across various states of India.

Day 1: 06<sup>th</sup> Dec. 2021

#### **Inaugural Program:**

Inaugural session of Faculty Development Program was started at 9:10 AM on 06<sup>th</sup> December 2021 by **Sri D. Rama Krishna**, Managing Director, Efftronics Systems Private Limited, **Dr. P. Chenna Reddy**, Professor, Dept of CSE, JNTUA, Anantapur, **Dr. K. Appa Rao**, Principal, LBRCE (A), **Dr. E.V. Krishna Rao**, Coordinator of this FDP, Professor and Dean R&D, **Dr. Y. Amar Babu**, Convenor, HoD, Dept. of ECE, and all the Co-Coordinators, **Dr. A. Narendra Babu**, **Dr. T. Satyanarayana**, **Dr G. Srinivasulu**, **Dr. P. Rakesh Kumar**, **G. Venkata Rao** and **K. Sasi Bhushan**.

Mrs.M Ramya Harika has welcomed all the dignitaries and delegates and started with prayer song. She was started event as per the program schedule of inaugural session and reading about the profiles of dignitaries.

The Program Coordinator Dr. E.V. Krishna Rao has extended warm welcome to all the dignitaries and participants. Further, he has emphasized the need and importance of **Design** 



L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230 Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.

Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.

**Department of Electronics and Communication Engineering** 

**Thinking** aspects in carrying out innovative ideas and developing solutions in an optimized way. He has provided the details of all the resource persons along with complete Five day schedule and necessary information that is required like Attendance, Feedback, and Assessment Test for completing successfully of this FDP.

**Dr. Y. Amar Babu**, Convenor, HoD expressed that ECE dept is organising this FDP, all the resource persons will energise all the participants through this event and it will be very useful to all the faculty to enhance their skills. He thanked AICTE and all the organisers.

**Dr. K. Appa Rao**, Principal thanked AICTE for sponsoring this FDP and expressed his wishes all the participants to enhance their skill-set and to transform the same knowledge to the students to do their projects etc. He also informed this will be very beneficial to apply sponsored projects by gaining the skills to be applied for various societal problems. He also thanked to our chief guest Sri D Rama Krishna and guest of honour Dr P Chenna Reddy for accepting the invitation to attend this program.

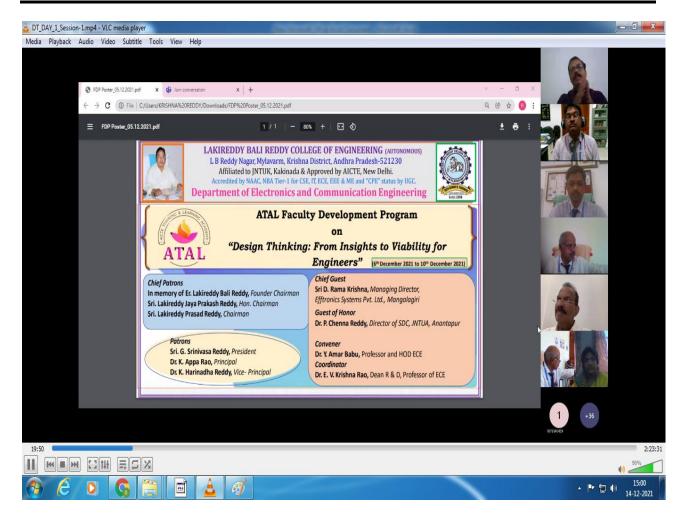
Our Guest of honour Dr. P. Chenna Reddy, Professor, Dept of CSE, JNTUA, Anantapur thanked all the people and expressed that everyone has to think to do the things from home by design thinking, creative thinking critical thinking to become entrepreneurs after observing all these pandemic situations

Our Chief Guest Sri D. Rama Krishna, Managing Director, Efftronics Systems Private Limited expressed that this design thinking is very important to success any organisation. Due to computerisation, computing technology and IOT technology nowadays everything is becoming digital. He emphasised the importance of how to develop the cost effective products and value based products. It is also very important to predict the future with this kind technology to make use of design thinking appropriately. He thanked all the people for conducting the event which is very useful to the society.

Finally Mrs M .Ramya Harika has given vote of thanks for all the dignitaries, delegates, management and AICTE



L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering



Inaugural Speech by Sri D. Rama Krishna, Managing Director, Efftronics Systems Private Limited,

Dr. P. Chenna Reddy, Professor Dept of CSE, JNTUA, Anantapur,

Dr. K. Appa Rao, Principal, LBRCE (A),

Dr. E.V. Krishna Rao, Coordinator of FDP, Dean R&D,

Dr. Y. Amar Babu, Convenor, HoD, Dept. of ECE.



L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 1: 06<sup>th</sup> Dec. 2021

**Session – 1: Topic : Cognitive Skills** 

Resource Person: Dr P Chenna Reddy, Professor CSE, JNTUA, Anantpur

**Prof. Chenna Reddy** has presented the impact of cognitive skills on finding and developing solution to various technological challenges. He has given deep insights about cognitive science and its role on doing things with suitable live examples. Further, he emphasized the role of cognitive skills in implementing ideas by considering design strategies in a systematic way. He also attempted to test the cognitive skills of the participants by giving live example hands on test and attention span test



Presentation by
Dr. P. Chenna Reddy
Professor, Dept of CSE, JNTUA, Anantapur



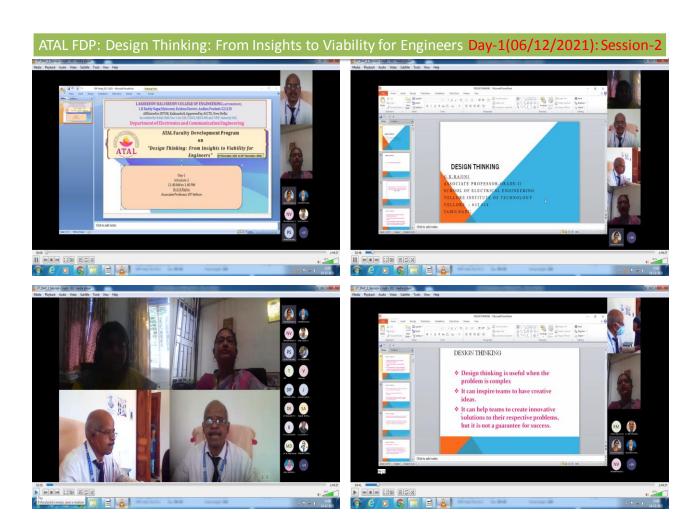
L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 1: 06<sup>th</sup> Dec. 2021

Session – 2: Topic: Defining the problem statement

Resource Person: Dr G K Rajini, Associate Professor, VIT, Vellore

**Dr. G.K. Rajini** has delivered a talk on how to formulate a problem. She has discussed on engineering design and project based learning. She emphasized on current technologies and their inability to find solutions to the real time problems. Further, she addressed the identification of limitations and challenges that occur with ongoing technological trends and in what way those can be overcome with potential approaches.



Presentation by Dr. G.K. Rajini, Associate Professor, VIT, Vellore



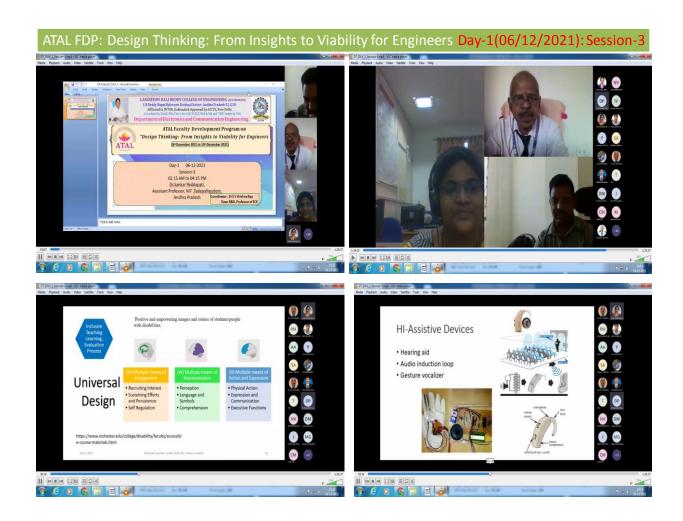
L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 1: 06<sup>th</sup> Dec. 2021

Session – 3: Role of Assistive Technology in inclusive education

Resource Person: Dr. Sankar Peddapati, Asst. Professor, NIT, Tadepalligudem, Andhra Pradesh

**Dr. Sankar Peddapati** has given lucid lecture that covers various aspects pertaining to assistive technology and its role in inclusive education. He has given wide variety of examples to make participants better understandable. He was presented on sense of organs, disability, visual impairment learning and design thinking. He also presented the several case studies. Further, he emphasized the need for and importance of assistive technology in education.



Presentation by
Dr. Sankar Peddapati,
Asst.Professor,NIT, Tadepalligudem, Andhra Pradesh



L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

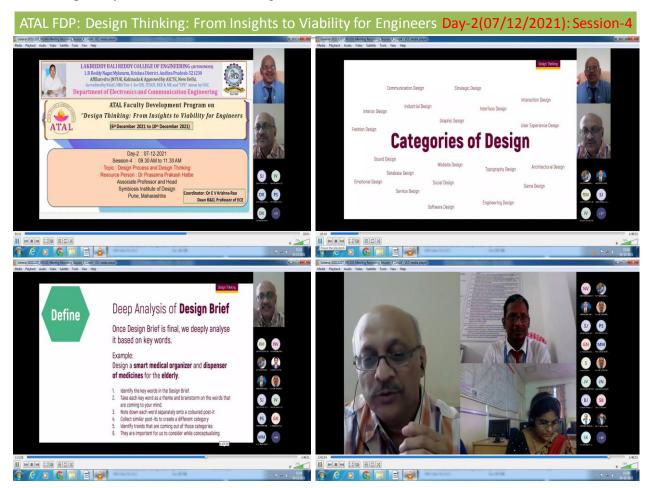
Day 2: 07th Dec. 2021

Session – 4: Design Process and Design Thinking

Resource Person: Prof. Prasanna Prakash Halbe,

Associate Professor and Head of Department (Industrial Design) Symbiosis Institute of Design, Pune

**Prof. Prasanna Prakash Halbe** has given fundamental aspects of design process and design thinking. He has covered several examples and made session very interactive. He was also given simple assignments / queries to the participants and made session active. The types of design categories were discussed during his presentation with appropriate examples. Also he presented about deep analysis with critical thinking.



Presentation by
Prof. Prasanna Prakash Halbe,
Associate Professor and Head of Department (Industrial Design)
Symbiosis Institute of Design, Pune



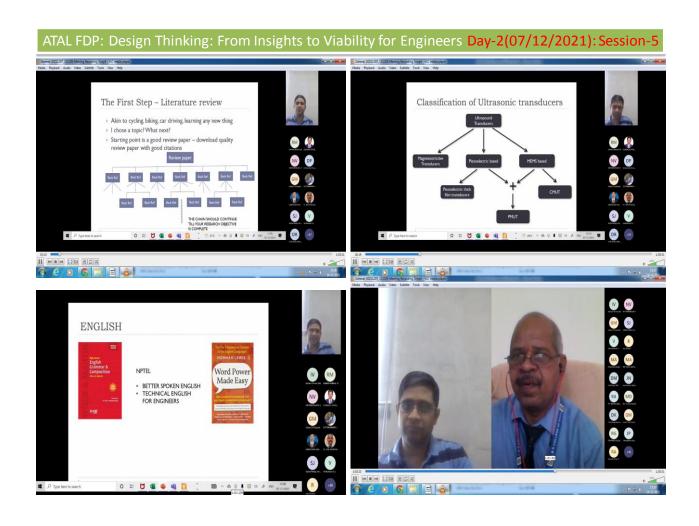
L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 2: 07th Dec. 2021

Session – 5: Risk Free Ready to Fail- Core essence of Research

Resource Person: Dr. Siva Rama Krishna, Associate Professor, IIT, Hyderabad

**Dr. Siva Rama Krishna** was presented about design learning methods to develop new ideas by taking reviews of literature. He was also presented on various sensors, silk piezoelectric sensors and bio-compatible sensors. He was discussed on queries how to move forward to finalise the design criterions with the help statistical data.



Presentation by Dr. Siva Rama Krishna, Associate Professor, IIT, Hyderabad



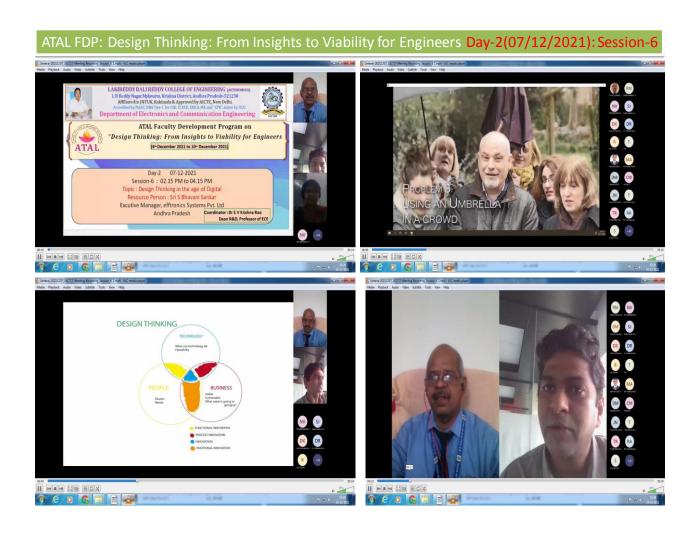
L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 2: 07<sup>th</sup> Dec. 2021

Session – 6: Design Thinking in the Age of Digital

Resource Person: Sri. S. B. Shankar, Design Engineer, Efftronics Systems Pvt. Ltd, Guntur, A.P.

**Sri. S. B. Shankar** was presented the design approaches by observing the day to day events like usage of umbrella during rain the obstacle raised while entering into the car with the help of videos. And also he elaborated the how to come up with design of Lift for various end-users by identifying the various parameters. Customer based design of products broadly discussed.



Presentation by Sri. S. B. Shankar, Design Engineer, Efftronics Systems Pvt. Ltd, Guntur, A.P



L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 3: 08th Dec. 2021

**Session – 7: Tools for Design Thinking** 

Resource Person: Dr. Prashant Pawar, Professor and Dean of Academics, SVERI's College of Engineering, Pandharpur, Maharashtra.

**Dr. Prashant Pawar** has delivered wonderful lecture on tools for design thinking. In particular, he has shown variety of technological developments made at their institution that facilitates participants to understand the bringing technology close to the normal public. Various design strategies have been implemented in developing products for variety of technological solutions for thorough understanding. Creative thinking and analysis is required to arrive the new ideas. Numerous projects have displayed and emphasized the need of design thinking for optimum solutions.



Presentation by
Dr. Prashant Pawar,
Professor and Dean of Academics,
SVERI's College of Engineering, Pandharpur, Maharashtra.



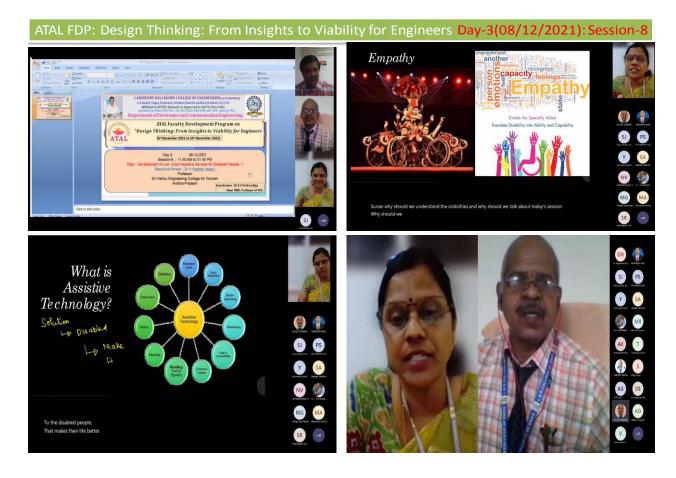
L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 3: 08th Dec. 2021

Session – 8: Development of Low-Cost Assistive Devices for disabled People-I

Resource Person: Dr. K. Padma Vasavi, Professor, Shri Vishnu Engg. College for Women, Bhimavaram, A.P.

**Dr. K. Padma Vasavi** handled both the sessions 8 and 9. She has presented Design technology of different Low-Cost Assistive devices like Electronic Walking Stick and, Telugu word trainer for mentally challenged and Self-Handled Braille-Character Printer for Blind People which are very useful to disabled people.



Presentation by
Dr. K. Padma Vasavi,
Professor, Shri Vishnu Engg. College for Women, Bhimavaram, A.P



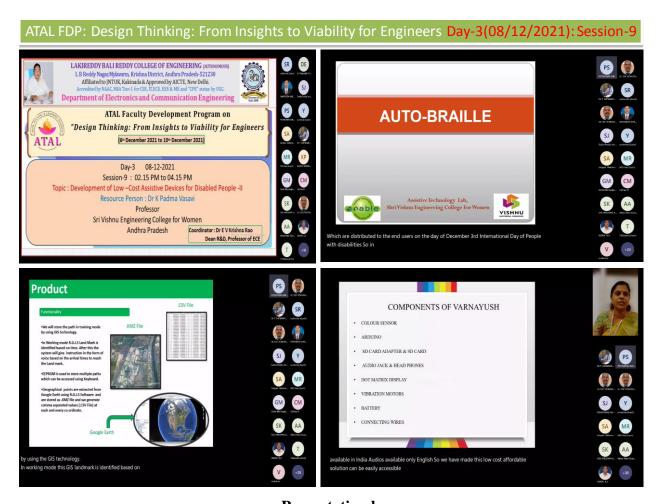
L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 3: 08th Dec. 2021

Session – 9: Development of Low-Cost Assistive Devices for disabled People--II

Resource Person: Dr. K. Padma Vasavi, Professor, Shri Vishnu Engg. College for Women, Bhimavaram, A.P.

**Dr. K. Padma Vasavi,** In continuation of her previous session, she has displayed the videos of four innovative prototypes developed by their research group targeting the significant advantage of physically challenged people. Later, she has delivered the method of developing solution to real time problems by implementing systematic approach of design thinking strategies.



Presentation by
Dr. K. Padma Vasavi,
Professor, Shri Vishnu Engg. College for Women, Bhimavaram, A.P



L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 4: 09th Dec. 2021

Session – 10: Design Methodology: Reverse to Forward Engineering Approach

Resource Person: Dr. Hitesh Shrimali, Associate Professor, IIT, Mandi, Himachal Pradesh

**Dr. Hitesh Shrimali** has presented the fundamental aspects of design methodology and its necessity in developing any prototype. During his session, he has several real time applications covering broad aspects of design thinking such as fan, pen, page lifting concept, Robomap. He has emphasized the impact of reverse to forward engineering approach by displaying some highly commercialized products Vacuum cleaner, wall climber. Session went on well and participants found it interesting and interaction session also highly appreciable.



Presentation by
Dr. Hitesh Shrimali,
Associate Professor, IIT, Mandi, Himachal Pradesh



L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 4: 09th Dec. 2021

Session – 11: The Entrepreneurs' mindset and their problem-solving approach – I

Resource Person:Dr. Pankaj Parashar, Founder, Cutting Edge Medical Device Pvt. Ltd., Indore, Madhya Pradesh

**Dr. Pankaj Parashar** presented the sessions 11 and 14. He has discussed about How Entrepreneurship Mindset should be and how to access the market. He discussed about the theoretical part of the Entrepreneurship and their Mindset. He elaborated about startups to become entrepreneur. Also presented how to design electric vehicle and validating the same.

## ATAL FDP: Design Thinking: From Insights to Viability for Engineers Day-4(09/12/2021): Session-11



# Presentation by Dr. Pankaj Parashar,

Founder, Cutting Edge Medical Device Pvt. Ltd., Indore, Madhya Pradesh



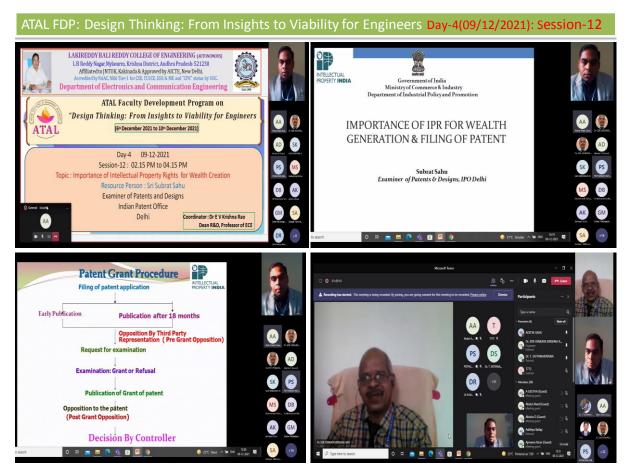
L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 4: 09th Dec. 2021

Session – 12: Importance of Intellectual Property Rights for Wealth Creation

Resource Person :Dr. Subrat Sahu, Examiner of Patents and Designs, Indian Patent office, Delhi

**Sri Subrat Sahu** has presented importance of retaining intellectual property rights and types of IPR. In addition, he has given deep insights to participants in filing an Indian patent covering all the necessary documents with suitable examples. He grabbed the attention of the participants with his complete lecture on how to file a patent. He also explained the difference between Trademark and copyright. Session went on well, and participants interacted with so many queries. He was also given clarification of granting status comparison with other countries also. He also talked about commercialization approaches after granting a patent.



Presentation by
Sri Subrat Sahu, Indian Patent Office, Delhi
Examiner of Patents and Designs,
Indian Patent office, Delhi

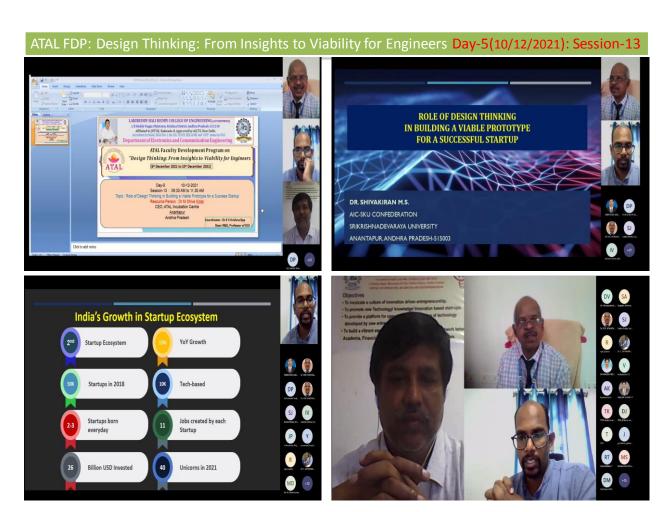


L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 5: 10<sup>th</sup> Dec. 2021

Session –13:Role of DesignThinking in Building a Viable Prototype for a Successful Start-up Resource Person: Dr. M.Shiva Kiran, CEO, Atal Incubation Centre, Anantapur

**Dr. M. Shiva Kiran** has highlighted the role of designing proper idea and thinking about the market, competitors, and promotion of the products. He has given quite good number of real time examples and applications with feasibility of going for start-ups. He also emphasized the importance of becoming of good entrepreneur by establishing Start-up.



Presentation by Dr. M.Shiva Kiran, CEO, Atal Incubation Centre, Anantapur



L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 5: 10<sup>th</sup> Dec. 2021

Session – 14: The Entrepreneurs' mindset and their problem-solving approach -II

Resource Person: Dr. Pankaj Parashar, Founder, Cutting Edge Medical Device Pvt. Ltd., Indore, Madhya Pradesh

**Dr. Pankaj Parashar,** In continuation of his previous 12<sup>th</sup> session, he was completely focused on practical analysis of the market with different examples. He also highlighted the need and development of products as per the demand of market and its succession possibilities based on future shortfalls. He has given deep insights on importance of multidisciplinary projects aiming at top-notch devices for societal applications. He has given hand on exercise for developing various apps like payment Gateway, E-Commerce portal and Electric scooter etc. and elaborated how to design such applications considering the necessary parameters.



Presentation by
Dr. Pankaj Parashar,
Founder, Cutting Edge Medical Device Pvt. Ltd., Indore, Madhya Pradesh



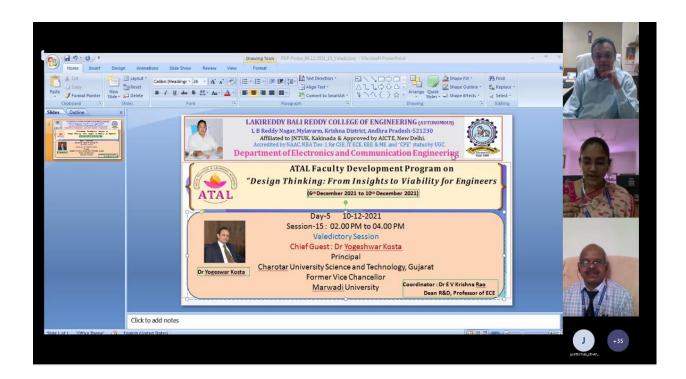
L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Day 5: 10<sup>th</sup> Dec. 2021

Valedictory Session – 15

On the Valedictory session, the Chief Guest of Valedictory session Dr Yogeshwar Kosta Former Vice Chancellor of Marwadi University, Gujarat was emphasised that the outcome of Design Thinking that the faculty interactions during this FDP will unleash lot of creative ideas that will contribute technologically for the human and social benefits at large for the growth and development of country. From this FDP it is not enough to learn ideas, it is very important to share the information to all the people, it is very much essential to inspire the people to reach out the design thinking approaches.

ATAL FDP: Design Thinking: From Insights to Viability for Engineers Day-5(10/12/2021): Session-15



Valedictory Speech by Chief Guest Dr Yogeshwar Kosta, Former Vice-Chancellor, Marwadi University



L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

Our **Principal Dr K Appa Rao** thanked all the organisers, participants and resource persons for making ATAL FDP grand success. He emphasized the importance of design thinking in developing the products and usage of these products by all the stakeholders. He was also expressed gratitude towards AICTE for sanctioning this FDP and expressed gratitude to the management for their kind support for organising the event successfully.

Dr E V Krishna Rao, Program Coordinator, Dean R&D, Professor of ECE highlighted about the program that was conducted very smoothly with the help AICTE Training and Learning Academy, eminent resource persons from IITs,NITs and Indistry. Then he thanked chief guest Dr Yogeshwar Kosta for his valuable and inspiring speech by attending in online even if he is in very busy schedule and then thanked all the resource persons Dr. P. Chenna Reddy, JNTUA, Anantapur, Dr. G.K. Rajini, VIT, Vellore, Dr.Sankar Peddapati, NIT, Tadepalligudem, Andhra Pradesh, Prof. Prasanna Prakash Halbe, Symbiosis Institute of Design, Pune, Dr. Siva Rama Krishna, IIT, Hyderabad, Sri. S. B. Shankar, Efftronics Systems Pvt. Ltd, Guntur, A.P, Dr. Prashant Pawar, SVERI's College of Engineering, Pandharpur, Maharashtra, Dr. K. Padma Vasavi, Shri Vishnu Engg. College for Women, Bhimavaram, A.P, Dr.Hitesh Shrimali, IIT, Mandi, Himachal Pradesh, Dr. Pankaj Parashar, Cutting Edge Medical Device Pvt. Ltd., Indore, Madhya Pradesh, Sri Subrat Sahu, Dr. M.Shiva Kiran, CEO, Atal Incubation Centre, Anantapur

All the Co-Coordinators of this FDP, Dr. T. Satyanarayana, Professor Dr. A. Narendra Babu, Professor Dr.G.Srinivasulu, Professor Dr. P.Rakesh Kumar, Associate Professor, Mr. Venkata Rao G., Associate Professor, Mr. Sasi Bhushan K., Associate Professor, Ms. Ramya Harika have attended for smooth conduct of the event all the five days.



L B Reddy Nagar, Mylavarm, Krishna District, Andhra Pradesh-521230
Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi.
Accredited by NAAC, NBA Tier-1 for CSE, IT, ECE, EEE & ME and "CPE" status by UGC.
Department of Electronics and Communication Engineering

## ATAL FDP: Design Thinking: From Insights to Viability for Engineers Day-5(10/12/2021): Session-15













#### Feedback by Participants in Valedictory Session

The Participants were given very **good feedback** as this FDP was well organised and covered all the contents covering cognitive skills, design thinking approach, entrepreneurship and patents etc., which requires all the components for getting knowledge of design thinking for engineers.

At the end valedictory session **vote of thanks** presented by **Ms Bharathi**, Assistant Professor, LBRCE in which she has been paid gratitude towards our **Chief Guest Dr Yogeshwar Kosta** for attending the valedictory session even in his busy schedule. She also expressed the gratitude to all the resource persons, Coordinator, Principal, Head of the department and Management for giving this valuable opportunity for the faculty from various institutions across the country.

She was also thanked to all the participants who have attended all the days by sparing their valuable time and acquiring knowledge.

Coordinator

(Dr E V Krishna Rao)

EV Krishne Ren.

Dr. E.V. KRISHNA RAO, M.Tech; Ph.D. Dean R&D, Professor of ECE Lakireddy Bali Reddy College of Engg. Mylavaram - 521230. Krishna Rt. A.R.

Principal

( Dr K Appa Rao)

PRINCIPAL

Lakireddy Bali Reddy College of Engs.

MYLAVARAM 521 230.