

(24<sup>th</sup> to 25<sup>th</sup> March 2023)

C: Edited By ::

Prof. Dharmendra Pathak, Prof. Shailendra K Mishra, and Dr. Manish Shrivastava



:: Organized By ::

The Institution of Engineers (India) Indore Local Centre in association with (Department of Computer Science & Engineering and Mechanical Engineering) Chameli Devi Group of Institutions, Indore

GANGA PUBLISHERS & DISTRIBUTORS Khajuri Bazar, Indore (M.P.)

#### Publisher

#### **GANGA PUBLISHERS & DISTRIBUTORS**

43 Manik Chowk Behind Dave Coaching Class Near Khajuri Bazar INDORE - 452 002 (M.P.) Mobile : 70004-32007, 79876-21811 E-mail : gangapublishersdistributors@gmail.com

©: Eidors: Chameli Devi Group of Institutions, Indore, M.P., India

**ISBN : 978-81-942918-8-6** 

**Edition : 2023** 

**Type Setting** SANIYA GRAPHICS 29, Iqbal Colony Square, Ahilya Paltan Main Raod, Indore

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# **ABOUT INSTITUTE**

The renowned Agarwal Group of Indore laid a solid foundation for CDGI in the year 2006, when there was a dire necessity of quality technical education in Central India. Chameli Devi Group of Institutions was therefore established as a philanthropic initiative to nurture innovative and committed technocrats who could provide some value addition to the society.



Shri. Vinod Kumar Agarwal, the Honourable Chairman of CDGI, a great visionary dreamt of offering quality professional education to students of this region, so that they could be globally competent. Shri. Vinod Kumar Agarwal firmly believes in the integrated development of students and moulding them into responsible professionals who can bring about a positive social transformation.

CDGI is playing a significant role in the holistic development of young professionals in addition to bridging the gap between all levels of quality education. The institute has a greater responsibility of making the student fraternity to be competent at national and international levels.

At present, CDGI is also RGPV Nodal Exam Centre as well as RGPV Indore Nodal Sports Centre.

CDGI is accredited "A+" Grade with CGPA 3.39 by NAAC.





# **ABOUT NATIONAL CONFERENCE**

The National Conference on Start-up, Patents & Copyrights (NCSPC - 2023) is organized by the IEI, Indore Local Centre, in association with department of CSE & ME at CDGI, Indore, with the objective of bringing together innovative minds from the fraternity of scientists, professors, research scholars, students and industrial experts in the field of Technology and Management on a common platform. The primary goal of the conference is to bring together the innovative brains of researchers, developers, engineers, students, and practitioners at one forum for exchange of their innovation, ideas and scientific information amongst a selected pool of researchers, developers, engineers, students, and practitioners which can be transformed into Copyrights and Patents. NCSPC also aims to provide a fillip to the idea of promoting intellectual property rights (IPR) amongst the creative masses towards overall growth of the society. NCSPC-2023 will be held at Chameli Devi Group of Institutions, Indore, India. All the accepted patents and designs will be published in Indian Patent Journal. Copyright articles will be registered in Copyright Office, Govt. of India, New Delhi.

### **Objective of Conference :**

- To provide a platform where Inventors, Researchers, Engineers, Managers, Academicians as well as Industrial Professionals from across India can take up the advantage of securing their novel/uncommon work through Intellectual Property Rights. These Legal Rights ensures that Inventors are protected from theft of their invention and prevents others from using their invention without permission.
- To provide a common platform to share research innovations, new ideas & products, and research findings.
- To provide an international forum for the exchange of research and ideas on patents.
- Discussions on research tools, trends, and technologies moreover on product development.







# **CHIEF PATRON MESSAGE**

It gives me immense pleasure and satisfaction that Chameli Devi Group of Institutions is hosting a two-days National Conference on "Start-up, Patents & Copyrights" (NCSPC-2023) from March 24<sup>th</sup> to 25<sup>th</sup>, 2023. I am thrilled about this event and believe it will bring together numerous inventors for fruitful face-to-face conversations, building research relationships, and identifying international partners for future cooperation. The conference's topics and sub-themes are meticulously selected to address relevant research fields and provide aspiring inventors with innovative ideas to explore.

My warmest wishes go out to the organizers and attendees of the National Conference. I hope the event will be a resounding success.

Vinod Kumar Agarwal Chairman CDGI Indore







# **PATRON MESSAGE**

It brings me great pleasure to learn that Chameli Devi Group of Institutions is hosting a two-days National Conference on "Start-up, Patents & Copyrights" (NCSPC-2023) on March 24th and 25th, 2023. I am also excited to hear about the release of a souvenir to commemorate this event. CDGI is a dynamic institution that has been actively involved in promoting academic research and development, meeting the needs and demands of society at large.

National conferences provide a unique opportunity to participate in break-out sessions and listen to highly respected professional speakers from across the country. Attending a national conference enables one to gain knowledge about common issues and concerns in the field of education, as well as how different states approach them. Such conferences serve as a platform to showcase the depth and breadth of the profession.

I extend my congratulations to the organizers of NCSPC-2023 for their initiative in attracting a diverse range of patents & copyrights experts in their respective fields. I wish all the speakers and delegates a highly informative and enjoyable conference. My best wishes go out for the success of the conference and the release of the souvenir.

> Sanjay Kumar Agarwal Vice-Chairman **CDGI Indore**







**PATRON MESSAGE** 

I am delighted that the Department of CS & ME at Chameli Devi Group of Institutions, Indore, is organizing a National Conference on Start-up, Patents & Copyrights (NCSPC-2023) on March 24<sup>th</sup> and 25<sup>th</sup>, 2023. The proceedings of the conference will feature a collection of various patents, designs and copyrights.

Research is crucial as it generates knowledge, provides valuable information, and aids decisionmaking. Without research, there can be no development in the nation. To promote a strong economy and ensure the nation's continued growth, we must focus on innovative ideas. CDGI is committed to providing quality education and promoting innovative ideas and analysis. Our institution encourages students to develop an interest in research by organizing various activities, quizzes, seminars, and conferences.

Conferences provide an excellent opportunity for innovators, researchers, teachers, parents, and students to come together to discuss academic and social progress. Participants can ask questions, share relevant information, set expectations, celebrate achievements, and establish short and long-term goals.

We extend a warm welcome to all participants and hope that this conference serves as a platform for everyone present to reflect on the topic of discussion, challenge ourselves to strive towards it, and inspire each other in the process.

Dr. Joy Banerjee Group Director CDGI Indore







# **CONFERENCE CHAIR MESSAGE**

I am delighted to announce that the IEI, Indore Local Centre in association with the Department of CSE & ME, CDGI, and Indore, will be hosting the National Conference on Start-up, Patents & Copyrights (NCSPC-2023) at the Chameli Devi Group of Institutions from 24th to 25th March 2023. The NCSPC-2023 will provide a platform for researchers, academicians, and practitioners from all around the country to come together and promote intellectual property rights (IPR) amongst the creative masses, ultimately contributing to the society's overall growth.

In today's fast-paced world, attending conferences has become crucial for survival in any academic discipline. The Chameli Devi Group of Institutions (CDGI) conference is an excellent opportunity for collaboration. National conferences tend to attract highly regarded professional speakers and offer a vast array of presentations and break-out sessions. You will get to meet people from across the nation and gain insights into the prevalent issues and concerns in education and how different states handle them. National conferences showcase the breadth and depth of the profession.

Attending academic conferences is an excellent way to stay updated on new findings and meet individuals with similar goals and mindsets. I wish you all the best and look forward to collaborating with you at the NCSPC-2023.

> Dr. Manish Shrivastava **Principal CDGI Indore**



# **CONFERENCE COMMITTEE**

### **Chief Patron :**

Hon'ble Shri Vinod Kumar Agrawal, Chairman, CDGI, Indore •

### **Patrons:**

- Hon'ble Shri Sanjay Kumar Agrawal, Vice-Chairman, CDGI, Indore •
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- Dr. Anil Kothari, Director General, MPCST, Bhopal •

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Dr. Manish Shrivastava, Principal, CDGI, Indore

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# National Conference on Start-Up, Patents & Copyrights



(NCSPC-2023)

- Dr. Deepak Singh Tomer, Member Execom, IEEE MP Section
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- Dr. Ashish Shrivastava, Presidency University Banglore, India
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#### **Experts** :

- Dr. N.K. Choube, Sr. Principal Scientist, In-charge PIC, MPCST, Bhopal, India
- Dr. Pankaj Kumar Jain, IPR Expert, IIT Dhanbad
- Mr. Vikas Asawat, Patent and Trademark Attorney and Advocate

#### Facilitator :

- Dr. Suhas Dhande, Principal, CDIPS, Indore •
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# **CONFERENCE SCHEDULE**

National Conference on Start-Up, Patents & Copyrights (NCSPC-2023)

#### **Conference Registration**

Day-1: 24 March 2023, Time: 10:30 AM to 11:30 AM, Venue: CDIPS Auditorium

### **Conference Opening Ceremony**

Day-1: 24 March 2023, Time: 11:00 AM to 12:30 PM, Venue: CDIPS Auditorium

Chief Guest : Dr. Ruchi Sharma, Associate Dean, R&D, IIT Indore

Guest of Honor : Dr. Shilpa Tripathi, Chairman, Chemical Engineering Division Board,

**IEI Local Centre Indore** 

Guest of Honor : Mr. Arihant Jain, Founder, WebCraft IT

Guest of Honor : Dr. Joy Banerjee, Group Director, CDGI Indore

Keynote Speaker 1 : Dr. Pankaj Kumar Jain, IPR Expert, IIT Dhanbad, Time: 12:30-01:30 PM

Keynote Speaker 2: Mr. Vikas Asawat, Patent and Trademark Attorney & Advocate, Time: 03:00-04:00 PM

#### **Zoom Meeting :**

https://us06web.zoom.us/j/2901847538?pwd=UzAxSm1kWFpaWEtuZDduM0hUVUVXUT09

Meeting ID: 290 184 7538

**Passcode** : ncspc2023

Participants Presentations, Time: 01:30 PM to 03:00 PM, Venue: Seminar Hall-1 Session Chair : Dr. Reva Mishra, MBA, PhD (Data Science), Associate Professor, Indore Institute of Law

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### Day-2: 25 March 2023

**Keynote Speaker :** Dr. Narendra Choubey, Sr. Principal Scientist & Head Patent Information Centre, MPCST Bhopal, Time: 11:00 AM to 12:00 PM

Zoom Meeting :

https://us06web.zoom.us/j/2901847538?pwd = UzAxSm1kWFpaWEtuZDduM0hUVUVXUT09

**Meeting ID** : 290 184 7538

Passcode : ncspc2023

Participants Presentations, Time: 11:00 PM to 12:45 PM, Venue: Seminar Hall-1 Session Chair : Mr. Abhishek Tripathi, IIT Indore

### ConferenceValedictory Ceremony

Day-2: 25 March 2023, Time: 03:00 PM to 4:30 PM, Venue : CDIPS Auditorium

Chief Guest : Mr. Abhisek Mishra, Founder, Pisarv Technologies Guest of Honor : Dr. Rajendra P Gautam, Chairman, IEI Local Chapter Indore Guest of Honor : Dr. Joy Banerjee, Group Director, CDGI Indore

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# **ABSTRACT INDEX**

S.No.	Application No.	Invention Title
1.	202321009098	System and Method for Implementing an Intelligent Surveillance Drone for Rescue Operations During a Disaster
2.	202321009155	System and Method for Building a Baseless and Wireless Mouse Using Different Sensors
3.	382049-001	Air Conditioner Based on Passive Cooling
4.	379617-001	Automatic Paper Cutting Machine
5.	379618-001	Machine to Extract Peanut from Whole Groundnut
6.	379616-001	Semi-automatic Papad Making Machine
7.	382176-001	Trolley for Handling and Shifting Goods
8.	379619-001	Water Filtration Unit
9.	382047-001	Trolley for Handling Goods
10.	379620-001	Crop Cutter
11.	382048-001	Passive Air Cooler
12.	382050-001	Injection Molding Machine
13.	7626/2023-CO/L	Format Converter Telegram Bot

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# APPLICATION NUMBER : 202321009098 SYSTEM AND METHOD FOR IMPLEMENTING AN INTELLIGENT SURVEILLANCE DRONE FOR RESCUE OPERATIONS DURING A DISASTER

Shailendra Kumar Mishra<sup>1</sup>, Dharmendra Pathak<sup>2</sup>, Surendra Rahamatkar<sup>3</sup>
 <sup>1</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India
 <sup>2</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India
 <sup>3</sup>Department of CSE, Amity University, Raipur, Chhattisgarh, India

The present invention relates to a system for implementing an intelligent surveillance dronefor rescue operations during a disaster. The system includes a GPS module to identify a disaster location and find a shortest path to reach the location without delay. Subsequently, the system enables the droneto capture real-time images of the disaster location from aerial view using an image capturing device and process the images to provide real-time monitoring of the disaster location. Further, the images are pre-processed using a latest cutting-edge machine learning algorithms integrated with an OpenCV computer vision library to identify a level of emergency and activate an LED to determine the seriousness of the location. Later, the system notifies a plurality of concerned authorities regarding the situation using a notification module for performing rescue operations based on the current situation at the disaster location.



**Figure : Intelligent Surveillance Drone** 

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# APPLICATION NUMBER: 202321009155 SYSTEM AND METHOD FOR BUILDING A BASELESS AND WIRELESS MOUSE USING DIFFERENT SENSORS

Dr. Manish Shrivastava<sup>1</sup>, Dr. Manoj Verma<sup>2</sup>, Mr. Ankit Chakrawarti<sup>3</sup>, Mr. Koushal Patidar<sup>4</sup>, Mr. Manish Patidar<sup>5</sup>, Ms. Muskan Malviya<sup>6</sup>, Mr. Rupesh Patil<sup>7</sup> <sup>1</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India <sup>2</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India <sup>3</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India <sup>4</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India <sup>5</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India <sup>6</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India <sup>7</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India

The present invention relates to a system (100) for building a baseless and wireless mouse using a plurality of sensors. The system includes at least three triple axis gyroscope accelerometer sensors (102a, 102b and 102c) to receive input from a user and convert the input values to set the cursor. Subsequently, a sensor of the three triple axis gyroscope accelerometer sensors is used to control the cursor movement and the other two sensors are used to perform different clicks on comparative positions of both the sensors. The data gathered from three trip axis gyroscope accelerometer is measured in XYZ coordinate to transfer the appropriate functionality of the mouse. Further, the raw or processed data is transmitted to a host device (106) through a BLE technology using a microcontroller (104), which is programmed to process and transmit the live data to the computer (106) for performing the functionality of the mouse.



Figure : Wireless mouse using different sensors

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# APPLICATION NUMBER : 382049-001 AIR CONDITIONER BASED ON PASSIVE COOLING

Mr. Deepak Bhonde<sup>1</sup>, Mr. Ankit Chakrwarti<sup>2</sup>, Mr. Manish Gome<sup>3</sup>, Mr. Radheshyam Acholiya<sup>4</sup>, Mr. Sumeet Kothari<sup>5</sup> <sup>1</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India <sup>2</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India <sup>3</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India

<sup>5</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India

There have been drastic increases in the uses of air conditioning system for cooling the buildings all around the worlds. The last two decades have witnessed a severe energy's crisis in a developing country especially during summer seasons primarily due to cooling load requirements of buildings. Increasing consumption of energy has led to environmental pollution resulting in global warming & ozone layer depletion. Passive cooling systems use non-mechanical methods to maintain a comfortable indoor temperature and are a key factor in mitigating the impact of buildings, thus reducing the size of the air conditioning equipment & the period for which it is generally required. We reviews & critically analyzes the various passive cooling techniques & their role in a providing thermal comfort & its significances in energy conservations.



**Figure : Passive Air Conditioner** 

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### **APPLICATION NUMBER: 379617-001 AUTOMATIC PAPER CUTTING MACHINE**

Mr. Amit Kesheorey<sup>1</sup>, Mr. Deepak R. Phalke<sup>2</sup>, Mr. Vipul Jain<sup>3</sup> <sup>1</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India <sup>2</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India <sup>3</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India

Our fully Automatic Paper Cutting Machine is the outcome of a superb research and sensible experience that has been gained through time. When building paper-cutting machines, we combine a number of beneficial techniques, highlights, and fully automatic elements to provide an accurate rightpoint cut. The Machine Basically contains everything demanded for an Accurate Paper Cutting. It is very costly for a small scale industry to use commercial automated paper cutting machines available for cutting small equal sized pieces of paper. We have used Geneva wheel which converts continuous rotary motion into intermittent rotary motion.



L.



**Figure : Automatic Paper Cutting Machine** 





# APPLICATION NUMBER : 379618-001 MACHINE TO EXTRACT PEANUT FROM WHOLE GROUNDNUT

Mr. Vipul Jain<sup>1</sup>, Mr. Deepak R. Phalke<sup>2</sup>, Mr. Amit Kesheorey<sup>3</sup>, <sup>1</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India <sup>2</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India <sup>3</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India

The quality of seed get damaged which cannot cultivate further because of high rpm of machines (thresher). Process of seed extraction is very time consuming and required more labour to operate. Charges of seed extraction is much more so every farmers can't effort it. Our machine "Groundnut Seed Extractor" is manually operating machine which crush the shale and give fresh seed. Because of manually operate the quality of seed is much better than existing machines. Also it required minimum two, three people to operate and it required less time. It is budget friendly product so farmers can easily effort it and because of light weight it can port easily from one place to another.





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### **APPLICATION NUMBER: 379616-001** SEMI-AUTOMATIC PAPAD MAKING MACHINE

Mr. Ritesh Tiwari<sup>1</sup>, Mr. Srinidhi Rao<sup>2</sup>, Mr. Deepak Bhonde<sup>3</sup> <sup>1</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India <sup>2</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India <sup>3</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India

Manual process implemented for making of papad is very time consuming and also not efficient. Automatic machines available in the market has a high cost. Affordable solution is required in the present context. We have designed a portable machine that is easy to operate without any additional skill set. It has low maintenance and it reduces human effort significantly. With theaid of innovative tools andtechniques, these machines aremanufactured using superior gradecomponents by our skilledprofessionals. Our offered machinesare extensively appreciated to be used in food industry for makingcrunchy papad.



**Figure : Semi-automatic Papad Making Machine** 





### APPLICATION NUMBER : 382176-001 TROLLEY FOR HANDLING AND SHIFTING GOODS

Dr. Manish Shrivastava<sup>1</sup>, Dr. Anish Kumar Choudhary<sup>2</sup>, Mr. Manish Gome<sup>3</sup>, Mr. Srinidhi Rao P<sup>4</sup>, Mr. Hitesh Koshti<sup>5</sup>, Mr. Paras Bhanopiya<sup>6</sup> <sup>1</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India <sup>2</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India <sup>3</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India <sup>4</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India <sup>5</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India

Waste is defined as any activity that does not add value from the customer's perspective. Lean manufacturing or lean production, often simply lean, is a systematic method the elimination of waste within a manufacturing system. Lean also takes into account waste created through overburden and waste created through unevenness in workloads. Working from the perspective of the client who consumes a product or service, value is any action or process that a customer would be willing to pay for. Essentially, lean is centred on making obvious what adds value by reducing everything else. We have designed a low cost mechanized pedal rack and a material transfer leantek trolley. It reduces stress & fatigue of the operator. It also requires less space and performs serene noise operations.





Figure : Trolley for handling and shifting goods





### **APPLICATION NUMBER: 379619-001** WATER FILTRATION UNIT

Mr. Atreya Pathak<sup>1</sup>, Mr. Kaustubh Kale<sup>2</sup>, Mr. Manish Gome<sup>3</sup> <sup>1</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India <sup>2</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India <sup>3</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India

Generally in the Kitchen during the cleaning of vegetables, rice, pulses, hands and for pots fresh water is used. Amount of fresh water in a day is about 9 litres. In Month 270 litres of water is wasted of cost around  $(270 \times 10) = \text{Rs.} 2700/\text{-}$  per month) and for a year its Rs. 32400/-. The main objective of this project is to save water which is going waste in cleaning of vegetables, rice, pulses, hands and pots. As day by day the requirement of water is increasing so it is very essential to save water as much as possible. Same product can be used as a house waste water filtration unit in future after modifications. Here first we use 1st Storage tank having a paper filter at the top and then we use 2nd storage tank so that we get dirt and sediments free water. Then we use water pump for pumping the water. After this we use 3 stage filter and then the pure water will stored in 3rd storage tank. 9-10 liters of Water is saved per day in small families and more for a joint family. It is also very helpful in hotels, colleges and resorts where more water is used which can be save by our filtration unit.



**Figure : Water filtration unit** 

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## APPLICATION NUMBER : 382047-001 TROLLEY FOR HANDLING GOODS

Dr. Manoj Verma<sup>1</sup>, Mr. Manish Gome<sup>2</sup>, Mr. Shreyas Pagare<sup>3</sup>, Mr. Vipul Jain<sup>4</sup> <sup>1</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India <sup>2</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India <sup>3</sup>Department of CSE, Chameli Devi Group of Institutions, Indore, M.P., India <sup>4</sup>Department of ME, Chameli Devi Group of Institutions, Indore, M.P., India

Small scale industries in India are working at very poor productivity levels. There is a huge requirement for lean technology and its applications. Many industries require cost effective ways and products which can help them implement the lean concept with ease. And there lies the huge scope for a series of standard products. The product Leantek Trolley is, hence, proposed to cater the needs of all such industries. Our product gives a rational and easy way to implement Lean. Our product will serve as a standard product in the market which can be used by various types of industries. Due to its variability in terms of the bin sizes in the same design of our product, it will be able to carry the material of different shapes and sizes. Due to this, our product will be able to cater a large portion of the market requirement according to the needs of industries and their material. The product will help in the reduction of the time required to implement lean in these industries. The product implements KANBAN with the help of sensors which brings the material replenishment in order. The product provides the solution to above problems at a reasonable cost. The developed product is a standard readymade solution to the needs of Small scale industries who are in need to implement lean. Our product aims at optimizing the space utilization, processing time, labour fatigue, and cost of production. Thus, it leads to the overall Productivity improvement of any industry.



**Figure : Trolly for Handling Goods** 



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### **APPLICATION NUMBER: 379620-001 CROP CUTTER**

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Generally, in India, the conventional methods of crop cutting involved the use of cutlasses. More so, it is complicated, time and labour intensive. The usage of agriculture equipment is increasing in the world. The usage of agriculture tools in India contributes only 16% as conducted survey in year 2011; two types of cutting methods generally available are Manual method and Mechanized type of harvesting. In Manual Harvesting, to cut one acre of crop there are many types of crop cutters, bush cutters and lawn tractors exists in the market, which may not fulfill the capital and operational cost criteria. The top concentration of our design is the cost and operational ease. so we decide to develop the new harvesting machine to reduce the cost of harvesting. We have developed a mechanism for harvesting of crop so that we can easily cut off different crops in minimum period of time. This set up is used to cut the crop which helps farmers. In the country like India where the main source of income is agriculture. Needs to concentrate in some aspects like how to increase productivity and profit, how to reduce cost and how to solve and ease the problems of workers. To overcome this, new engine operated cutter is fabricated for cutting of multiple types of crop during harvesting and named as "Mini Multi Crop Cutter". It possesses three criterion ease in manufacturing, ease in handling, and low cost.



**Figure : Crop Cutter** 

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#### **APPLICATION NUMBER : 382048-001**

# **PASSIVE AIR COOLER**

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There are so many types of air coolers present in the market today and they all have good efficiency and good cooling effect in their own region, what we are doing in our project is that we are proposing an air cooler which is based on three major parameters i.e. Passive Air Cooling, Capillary Action and Moulding and casting. The Passive Air Cooling provides thermal comfort with low energy consumption. Passive air cooler is an product which is working for the development in the cooling techniques; we are re-implementing the ancient cooling process in today's working environment; its performance is better than the existing air cooler we have the prospective of reducing cost and saving of the electricity which will be very beneficial for the lower class people and the middle class people those who can't afford high electricity bills. The Passive Air Cooling provides thermal comfort with low energy consumption, we can have this cooling effect by natural cooling effect available inside the body combined with the design of the body i.e. holes are provided at the bake side of the body for the intake of the air, the air which is coming inside the body first passes through the these hole's surfaces and main cooling effect is generated here. As the body is made up of earthen material i.e. mud based, it has the property to absorb the water so the Capillary action works on it with the efficient manner. With the application of the Capillary action the water raise at the body surface so there is no need of pump for supplying the



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water from lower water tank to upper water tank as used in the existing air coolers, in our air cooler we just have to fill the water at the bottom of the body and the water raise up to the top by the application of capillary action. The elimination of the pump makes it more economic as it saves the electricity consumption.



**Figure : Passive Air Cooler** 

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# APPLICATION NUMBER : 382050-001 INJECTION MOLDING MACHINE

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Recycling of plastics is the biggest challenge todays industries are facing. Small Scale Industries in India are working at very poor productivity levels. Many industries require cost effective ways. Industries are dealing with the bulky weight and its portability issues. Due to its variability in terms of the die shapes in the same design of our product it will be able to create variable items. Due to this, our product will be able to cater a large portion of the market requirement according to the needs of industries. The machine will help in the reduction of the man efforts. The machine provides the solution to above problems at a reasonable cost. It is very useful in many ways as it is based on plastic injection molding which is an extremely versatile method of producing plastic parts and has multiple advantages over other methods of plastic molding. The contribution of the project is very much in respect of individual growth financially, mentally, and environmentally.



**Figure : Injection Molding Machine** 

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### APPLICATION NUMBER : 7626/2023-CO/L

# FORMAT CONVERTER TELEGRAM BOT

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A Telegram bot is a special type of user that operates within the telegram platform. These bots are capable of interacting with users by sending messages and executing commands. Essentially, it is a non-human entity that can serve individuals and organizations in a specific capacity.

A Telegram file format converter bot is a tool that allows users to convert various types of files into different formats directly on the Telegram messaging platform. The bot can handle different file types such as images, videos, documents, audio files, and more. The bot can be added to any Telegram chat or group and works by receiving a file from the user and processing it using its built- in conversion algorithm. The bot then converts the file to the desired format and sends it back to the user in a matter of seconds. This bot can be especially helpful for users who need to quickly convert files without having to download and use external software. It also eliminates the need for users to switch between different applications to complete the conversion process. Overall, the Telegram file format converter bot is a convenient and efficient tool that simplifies the file conversion process for Telegram users.

Some of the most common formats that Telegram format converter bots can convert files to include PNG, JPG, PNG, PDF, DOC, MP3 and more. Users can easily initiate the conversion process

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by sending the bot a file in one format and specifying the desired output format using simple commands. Telegram format converter bots are particularly useful for people who frequently need to convert files on the go, as they can be used on any device with access to the Telegram app. They are also ideal for people who do not want to install additional software on their devices or are restricted from doing so. Overall, Telegram format converter bots are an innovative and practical tool that simplifies the file conversion process and enhances the user experience on the Telegram platform. There are several methods in Python that we can use to communicate and manipulate files from Telegram bots. The most commonly used methods are requests, telethon, pyrogram, telegram.ext, aiogram, etc.



Figure : Flowchart of Format Converter Telegram Bot



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# **CONFERENCE COMMITTEE ACKNOWLEDGEMENT**

On behalf of Conference Committee, we acknowledge our sincere thanks to the Chief Patron, Patron, Conference Chair, Organizing Chair, Convener, Co-Convenor, Committee Members, Chief Guest, Guest of Honor, Invited Keynote Speakers, Session Chairs, Faculty Members, Research scholars, Students and Editors for their extensive support, help and co-operation for the successful completion of the National Conference on Start-Up, Patents & Copyrights(NCSPC-2023).



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