

Arihant

सपर्श Newsletter

A Touch of Excellence, Every Month

AUGUST 2026



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MESSAGE OF THE MONTH

One Goal. One Team. One Arihant.



Mr. Sudhansu Sekhar Samal
(VP Sales)

Every organization has departments. Successful organizations ensure those departments never become boundaries.

As businesses grow, specialization is necessary. Functional excellence is essential; but organizational excellence comes only when every function works towards a common purpose.

The real challenge is not the organizational structure; it is the mindset that allows silos to develop.

Customers don't distinguish between our departments or product lines; they experience one organization. We should reflect the same mindset internally.

When each function measures success only through its own objectives, individual teams may achieve their targets, yet the organization can still fall short of customer expectations.

True teamwork begins when we stop asking, **"Is this my responsibility?"** and start asking, **"How can I help the organization succeed?"**

Collaboration is not about more meetings or longer email chains. It is about shared ownership, mutual respect, and a common purpose.

Performance culture is built not only through individual accountability but also through collective responsibility.

One principle has always stood the test of time:
Expertise builds capability. Collaboration builds enduring organizations.

When individual goals align with organizational goals, silos disappear, collaboration becomes natural, and success becomes sustainable.

In the end, customers don't remember how we were organized. They remember the experience we delivered.

One Goal. One Team. One Arihant.

SPOTLIGHT OF THE MONTH

Featured Articles

Dive into this month's insightful articles, covering industry trends, innovations, and expert perspectives. Stay informed, stay inspired, and explore ideas that drive excellence at Arihant Electricals.

1

Cost Implication of Defects

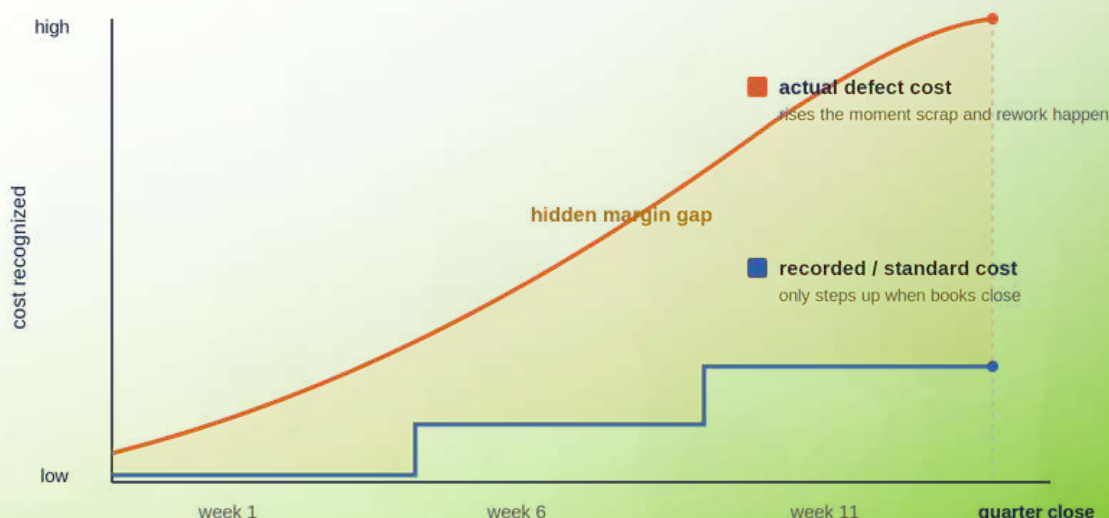
A batch runs with a 3% defect rate today. Does your costing reflect that by tomorrow, or only when the quarter closes or when year ends?

For most manufacturers, it is the latter, and the gap is more expensive than it looks:

- Parts are cost as if they ran clean, while rework and scrap quietly absorb the margin.
- Quality data and financial data sit in separate systems and only get reconciled after the decision window has closed.
- Quotes and contracts are priced on standard costs that stopped reflecting the shop floor months ago.



Arun Sharma
(Vice President)



TDK presents HVC43MC with an integrated mirror contact and HVC45 for short-circuit currents up to 12 kA

TDK Corporation (TSE:6762) announces two new additions to its high-voltage contactor portfolio for harsh environments: the HVC43MC with integrated mirror contact and the HVC45 with enhanced short-circuit current handling capability. These new contactors for up to 1000 V (DC) enable reliable switching of lithium-ion batteries in traction applications, energy storage systems (ESS), and DC charging stations. These components underscore TDK's dedication to enabling the transition to a greener, more electrified future.

With an integrated mirror contact according to IEC 60947-4-1, the HVC43MC enables safe detection of the main contact's position. This mechanically linked auxiliary contact provides reliable feedback about whether the main contact has opened or closed, enhancing system safety monitoring.

The contactor can handle continuous currents up to 250 A and cut-off currents up to 450 A at 1000 V (DC) and 2000 A at 450 V (DC), respectively, all in a compact package measuring 74.5 x 78 x 40.5 mm.



Shailendra Singh Bhadoria
(Marketing)



With a short-circuit current handling capability of up to 12 kA for 5 ms, the HVC45 sets an industry benchmark, surpassing conventional solutions in its size class that typically achieve 8 to 10 kA. This enhanced capability addresses the requirements of modern high-energy-density batteries that can achieve higher short-circuit currents. The contactor can handle continuous currents up to 300 A and features a maximum cut-off rating of 900 A at 1000 V (DC) and 2200 A at 450 V (DC), respectively.

Both series incorporate TDK's proven gas-filled ceramic arc chamber technology and bidirectional switching capability, allowing current flow in both directions. The contactors are available with 12-V or 24-V coil voltages and are certified to CE, UKCA, and UL standards, supporting worldwide deployment.

Features & Applications-

Main applications:

- EV traction battery systems
- DC charging stations
- Energy storage systems (ESS)
- Uninterruptible power supplies (UPS)
- Commercial vehicles

Main features and benefits

HVC43MC

- Integrated mirror contact for reliable status monitoring (IEC 60947-4-1)
- Maximum cut-off current 450 A at 1000 V (DC)
- Continuous current rating up to 250 A

HVC45

- Industry-leading short-circuit current capability (12 kA for 5 ms)
- Maximum cut-off current 900 A at 1000 V (DC)
- Continuous current rating up to 300 A



Research Excellence in Electric Vehicle Charging System and Editorial Recognition in Japan



Dr. Tanmay Shukla
(R&D)

Dr. Tanmay Shukla continues to make significant contributions to the field of power electronics and electric vehicle (EV) charging technology through his innovative research and growing Converter Employed EV Battery Charger to Boost the Supply-Side Power Factor, published in Engineering Research Express, United Kingdom. His findings introduce a novel battery charging architecture aimed at improving both charging efficiency and electrical power quality. The proposed charger utilizes an Asymmetrical Cuk-Buck-Boost Bridgeless (A-CukBB-BL) converter, which eliminates the conventional diode bridge rectifier, thereby reducing conduction losses, component count, and overall system cost.

Operating in Discontinuous Conduction Mode (DCM), the converter inherently achieves power factor correction while minimizing harmonic distortion in the supply current. The design also incorporates a high-frequency flyback converter to provide galvanic isolation, ensuring safe and reliable battery charging. Through detailed mathematical modeling, stability analysis, MATLAB/Simulink simulations, and laboratory validation, the research demonstrates a practical, efficient, and compact charging solution for next-generation electric vehicles.

Adding another milestone to his academic achievements, Dr. Tanmay Shukla has been elected as an Editorial Board Member of the Journal of Intelligent Automation and Control (JIAC), published by Japan Bilingual Publishing Co. His appointment reflects international recognition of his expertise in power electronics, electric vehicle technologies, intelligent control systems, and sustainable energy research. The journal's editorial board comprises distinguished researchers from leading universities and research institutions across the world, and Dr. Shukla's inclusion highlights his growing influence within the global scientific community.

This dual achievement, publishing impactful research and being entrusted with editorial responsibilities, demonstrates Dr. Shukla's commitment to advancing scientific knowledge while contributing to the peer-review process and maintaining high standards in international engineering research.



Understanding PID Control: The Brain Behind Stable Control System

Introduction

Whether you're charging your smartphone, driving an electric vehicle, or using an air conditioner, chances are a **PID controller** is working behind the scenes to keep the system operating smoothly. PID, which stands for **Proportional-Integral-Derivative**, is one of the most widely used control algorithms in engineering. Despite its technical name, the basic idea is simple: it continuously monitors a system, compares the desired output with the actual output, and makes adjustments to minimize the difference.



Nandini Bhardwaj
(R&D)

What is PID Control?

Imagine you're driving a car and want to maintain a speed of 60 km/h.

- If your speed drops to 55 km/h, you press the accelerator.
- If your speed rises to 65 km/h, you ease off the accelerator.
- As your speed approaches 60 km/h, you make smaller and smoother adjustments.

This is exactly how a PID controller works. It constantly checks the error between the desired value (called the **setpoint**) and the actual value, then calculates the appropriate correction to keep the system stable and accurate.

The Three Parts of PID

1. Proportional (P)

The **Proportional** part reacts to the current error. The larger the error, the stronger the correction.

Example:

If a room is much colder than the desired temperature, the heater turns on with more power. As the room warms up, the heating power is gradually reduced.

2. Integral (I)

The **Integral** part looks at the accumulated error over time. If the system has been slightly below the target for a while, it applies an additional correction to eliminate that persistent error.

Example:

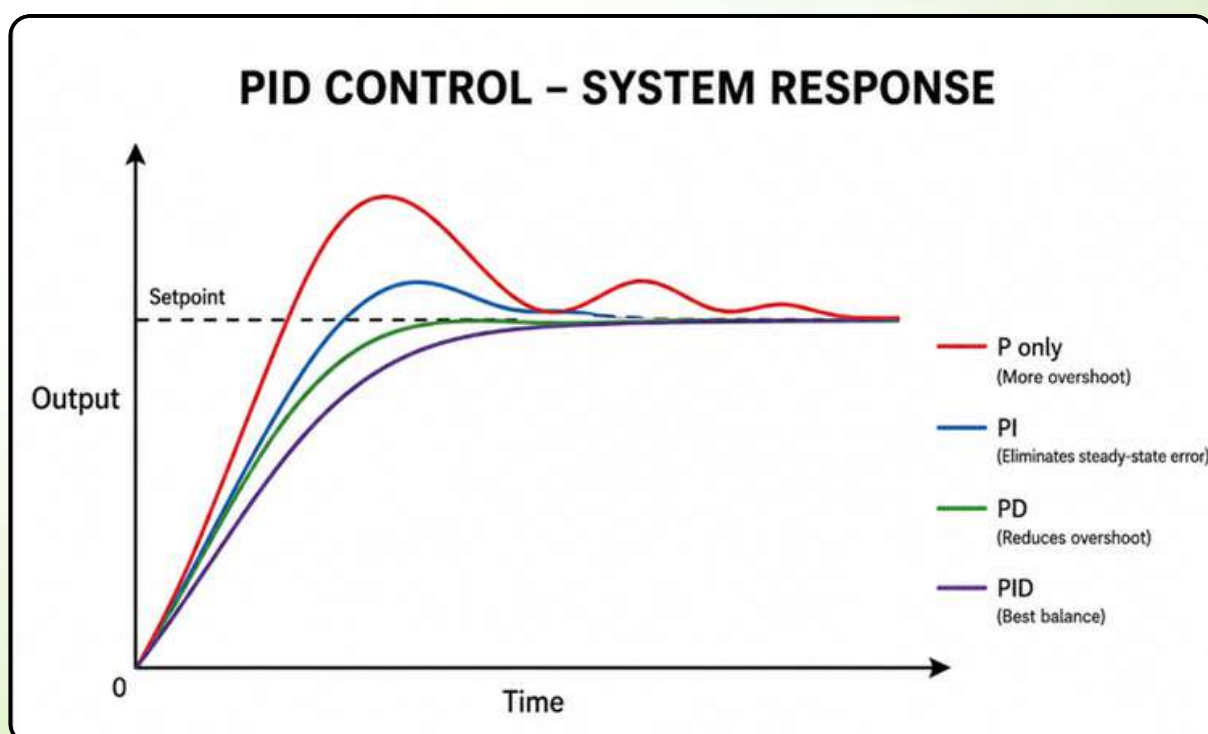
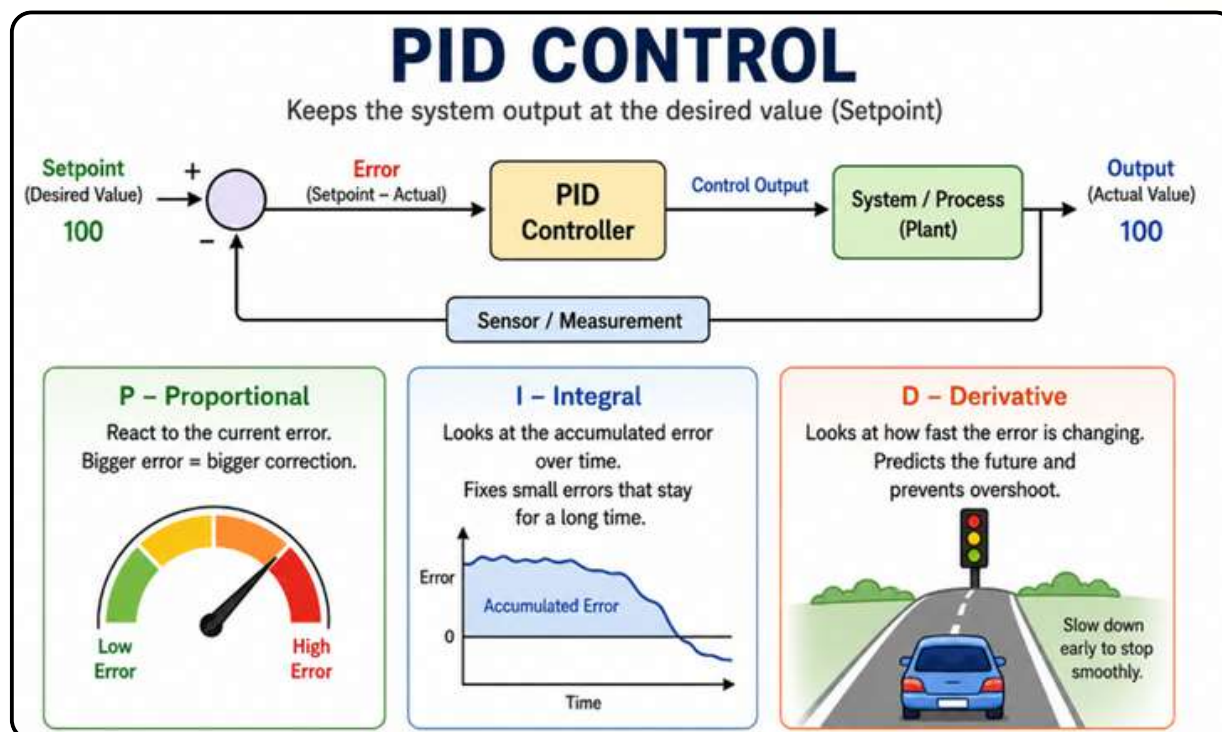
If a battery charger consistently delivers a voltage slightly lower than the target, the integral action slowly increases the output until the desired voltage is reached.

3. Derivative (D)

The Derivative part predicts how the error is changing and acts to prevent overshoot or oscillations. It helps the system settle smoothly at the target value.

Example:

When driving toward a traffic signal, you don't wait until the last moment to brake. Instead, you begin slowing down gradually based on how quickly you're approaching the stop line. The derivative action works in a similar way.



Applications of PID Control-

PID control is used in countless systems where maintaining a desired value is important. Some common applications include:

1. Power Electronics: Regulating the output voltage and current of DC-DC converters, inverters, and battery chargers.
2. Motor Control: Maintaining motor speed, position, or torque in robotics, conveyors, and electric vehicles.
3. Temperature Control: Controlling ovens, furnaces, air conditioners, refrigerators, and industrial heating systems.
4. Automotive Systems: Cruise control, electric power steering, and engine management.
5. Industrial Automation: Pressure, flow, and level control in manufacturing plants and process industries.

Conclusion

PID control is one of the most widely used control techniques in engineering because it balances simplicity with excellent performance. By continuously monitoring and correcting system behavior, it helps maintain stable, accurate, and efficient operation across a wide range of applications. Understanding the basic concept of PID provides a solid foundation for anyone interested in embedded systems, power electronics, or industrial automation.



The Importance of Internet Safety

The internet has become an important part of our daily lives. We use it for studying, working, shopping, entertainment, and talking to friends and family. While the internet offers many benefits, it is also important to use it safely.

One of the best ways to stay safe online is by creating strong passwords. A strong password should include letters, numbers, and special symbols. It is also a good idea to use different passwords for different accounts. Never share your passwords with anyone.

Another important rule is to be careful when clicking on links or downloading files. Some websites and emails may contain viruses or scams that can harm your device or steal your personal information. Always check if a website is trusted before entering your details.

Social media is another place where people should be careful. Avoid sharing private information such as your home address, phone number, or bank details. Think carefully before posting pictures or personal updates because information shared online can stay there for a long time.

Parents and teachers can also help young people learn about internet safety. By following simple rules and using the internet responsibly, everyone can enjoy its benefits while avoiding many online dangers.

The internet is a powerful tool that makes life easier. Using it wisely and safely helps protect our personal information and creates a better online experience for everyone.



Vaibhav Sharma
(R&D)



1. Arihant Electricals at MAKE 2026: Insights. Innovation. Impact.

We were delighted to attend MAKE 2026, gaining valuable insights into India's manufacturing future across AI, energy, defence, infrastructure, and innovation. Always proud to connect, learn and contribute to India's journey towards a stronger manufacturing ecosystem.



2. Technical Demonstration for Industry Delegation

Arihant had the privilege of hosting the technical delegation from M/s Swastik Synergy Engineering Pvt. Ltd., Mumbai on 14th of July, 2026. The team witnessed a live demonstration of Arihant's indigenously developed Fire Detection Unit for the Magazine Fire Fighting System designed for Naval Ships, highlighting our commitment to indigenous innovation and advanced defence technologies.



3. Driving Excellence Through LEAN Initiatives

As part of our continuous improvement journey, Arihant conducted a LEAN Management Meet to introduce new initiatives focused on enhancing operational efficiency, minimizing waste, and fostering a culture of continuous improvement. The session encouraged cross-functional collaboration and reinforced our commitment to sustainable growth through LEAN practices.



4. Training Session on Legal Aspects of Sales & Purchasing

A knowledge-sharing session was conducted by Ms. Tanushree Purohit on the legal aspects of Sales & Purchasing. The session provided valuable insights into key legal considerations, compliance requirements, and best practices, empowering teams to make informed and compliant business decisions.



July Birthday Celebrations

Celebrating our incredible team members and wishing them joy, success and prosperity!



Birthday
Celebration of
Mr. Prashant Gupta
at Mumbai.



Birthday
celebration of
**Mr. Sandeep
Tripathi**



Upcoming August Birthdays

Wishing you joy, success, and a fantastic year ahead!

Ruchi Tyagi	August 2, 2026
Manish	August 5, 2026
Pragati Gupta	August 6, 2026
Roshani Katiyar	August 6, 2026
Kesav Ram Gupta (Raju)	August 7, 2026
Imran Khan	August 8, 2026
Ravinder Kumar	August 10, 2026
J P Saw	August 12, 2026
Shiv Singh Negi	August 17, 2026
Rajdeep	August 16, 2026
Rajendra Jharia	August 20, 2026
Muralidaran Gnanasekaran	August 25, 2026
Harsh Verma	August 25, 2026
Ritika Pal	August 28, 2026
Yogendra V. Sahi	August 30, 2026



Welcome Aboard! (New Joinees - July 2026)

Excited to have new talents join the Arihant family as we grow together!



Pradeep Kumar
Dy. Manager Product



Neetu Dubey
Vendor Support Representative



Aman Sharma
Engineer Quality Control



Aman Rastogi
Asst. Manager Design



The Hidden Superpower of Engineers



Normal people see wires and switches.



Engineers see:

Voltage, tolerance, load balancing, safety risks, thermal management, compliance, future failures... and somehow still say:



"Hmm... give me 5 minutes."



FUN & BRAIN TEASERS CORNER

Crossword Puzzle

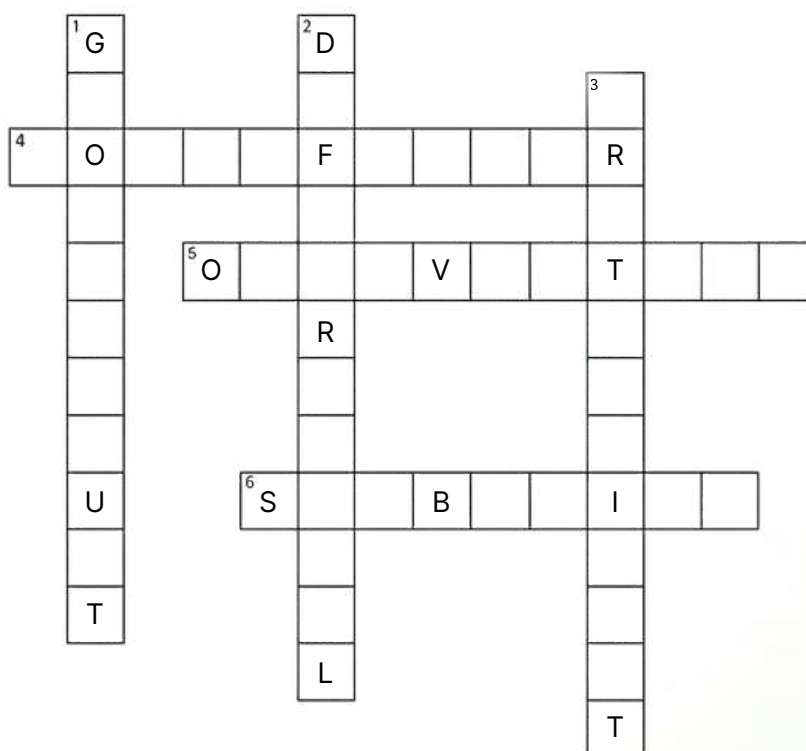
This month's **Crossword Puzzle** is designed to challenge your knowledge of electrical systems, engineering basics, and the industries Arihant Electricals proudly serves. Put on your thinking caps, solve the clues, and share your answers with the **HR Head**.

The first three correct entries will be featured in our September edition.

Don't miss this chance to test your brain and enjoy some friendly competition!

DOWN

1. The unwanted current flowing through the earth due to insulation breakdown. (11 letters)
2. A relay that operates based on the difference between incoming and outgoing currents. (12 letters)
3. A current transformer designed specifically for protective relaying applications. (12 letters)



ACROSS

4. The ratio of actual power to apparent power in an AC circuit. (11 letters)
5. The temporary rise in voltage caused by switching operations or lightning. (11 letters)
6. The ability of a power system to remain in synchronism after a disturbance. (9 letters)

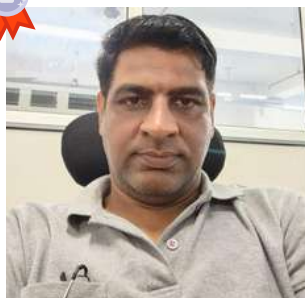
July Crossword Puzzle Winner Announcement

1



Sumit Sharma

2



Rajesh Kumar

3



Ritika Pal

Puzzle Answers from Our Last Edition



Note: The winners were selected according to the quickest response time.

LITTLE CREATORS' CORNER

This corner is for our Employee's Kids.

A fun-filled space to learn, play, and explore the exciting world of electricity!

Match each electrical item with its correct use and discover how different components help power our homes, cities, railways, and industries. Just use your thinking skills, curiosity, and imagination to find the right pairs!

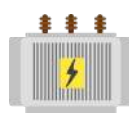
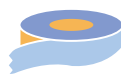
-  **Parents can help younger children complete the activity and share their answers with the HR team.**
-  **Some smart little electrical explorers may get featured in the next Arihant Newsletter!**

Ready...Set...MATCH!



1. Match the Correct Pair – Power Up Your Knowledge!

Learning can be fun when you play along! Match the electrical item on the left with its correct use on the right. Can you get them all right?

(A) Tools	(B) What it Does
 Screwdriver	Measuring electrical values
 Pliers	Covering exposed wires
 Multimeter	Tightening screws
 Transformer	Cutting wires
 Insulating Tape	Changes voltage levels

Have fun matching and discovering how everyday electrical tools help power our world!



2. Connect the Dots and Guess the object!

- 📌 Complete the picture and share it with the HR team.
- 📌 Selected entries may be featured in the next Arihant Newsletter!

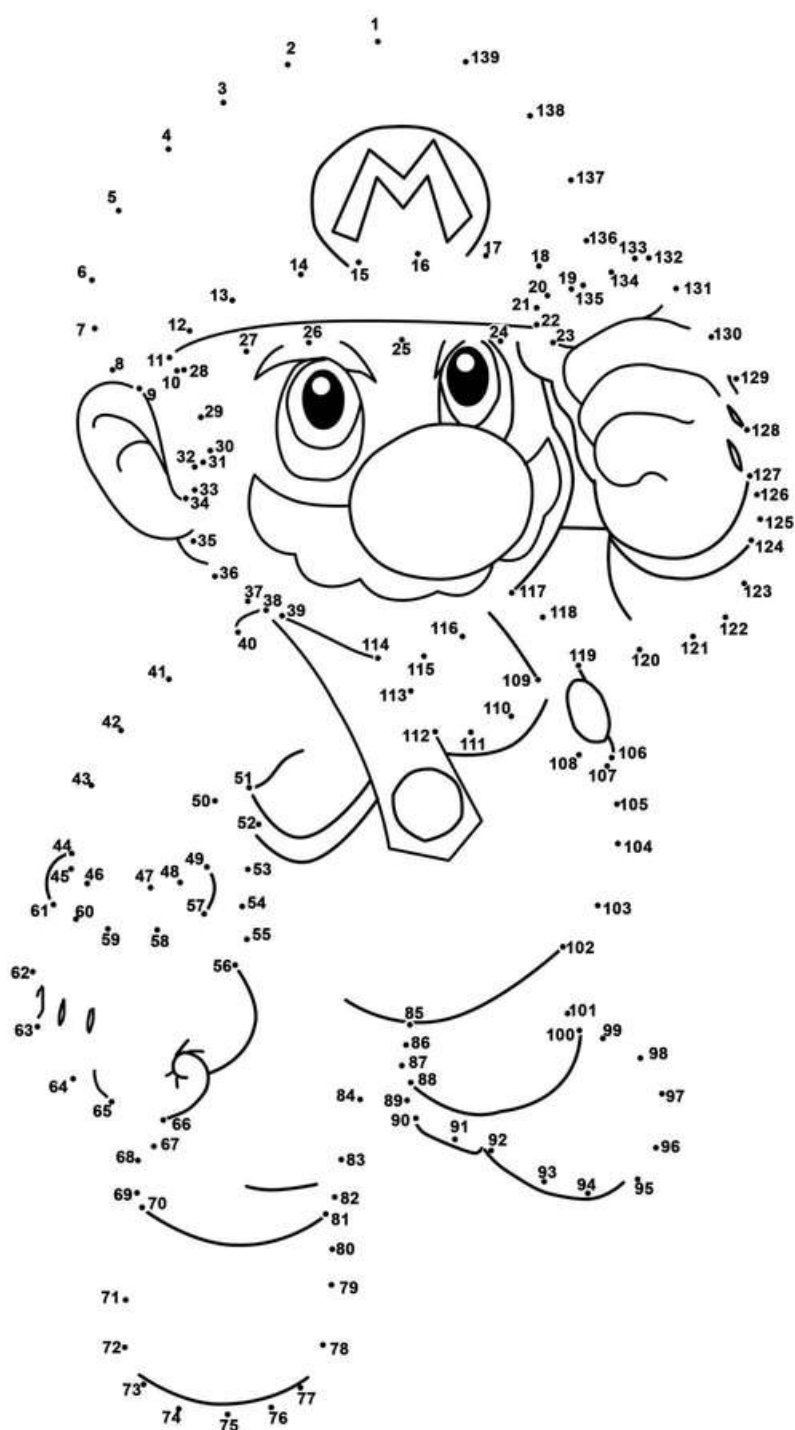
Ready...Set...CONNECT!



CHILD NAME & AGE

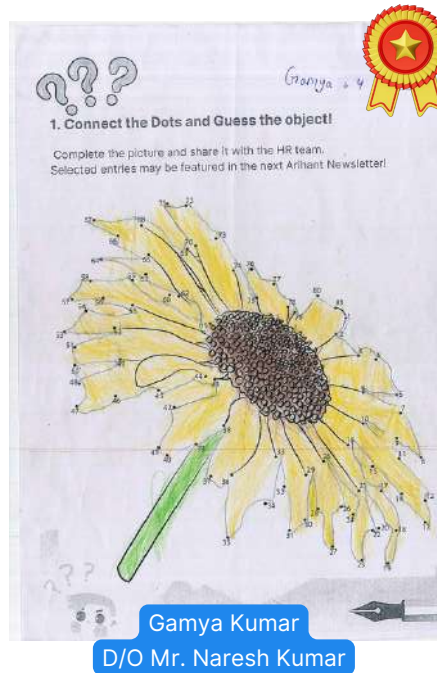
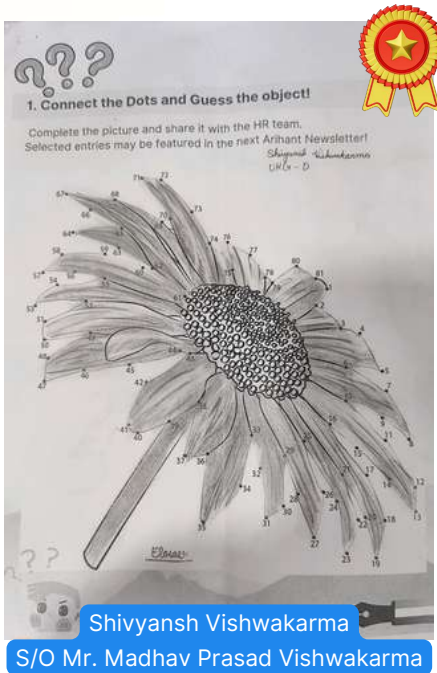
EMPLOYEE NAME

DEPARTMENT





Showcasing Our Employee's Young Star



Special edition



Pranshu Gupta, S/O Mrs. Pragati Gupta



Showcasing Our Employee's Young Star



Divyansh
V-B

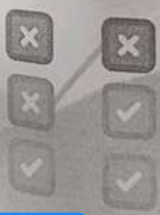


2. Match the Correct Pair – Power Up Your Knowledge!

Learning can be fun when you play along! Match the electrical item on the left with its correct use on the right. Can you get them all right?
Ready... set... MATCH!

(A) Electrical Item	(B) What it Does
 Bulb ①	④ Protects circuits from excess current
 Battery ②	⑤ Changes voltage levels
 Motor ③	② Stores electrical energy
 Fuse ④	⑥ Turns electrical devices ON or OFF
 Transformer ⑤	① Produces light
 Switch ⑥	③ Converts electricity into motion

Have fun matching and discovering how everyday electrical components help power our world!

Divyansh Vishwakarma
S/O Mr. Madhav Prasad Vishwakarma

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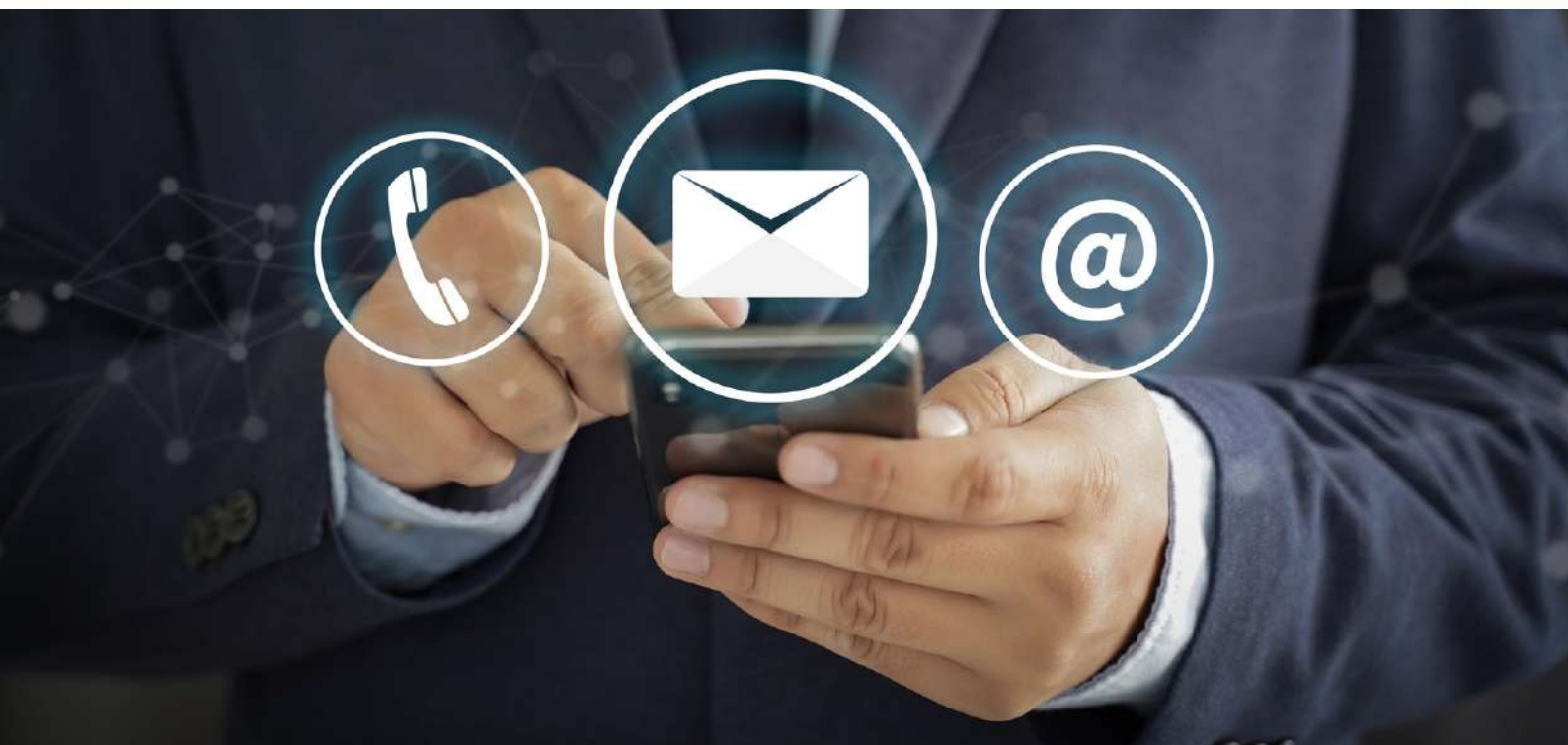
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We solicit your valuable suggestions and feedback to enhance this newsletter for future editions. You can share your thoughts and suggestions by writing to us at: hrd@arihantelectricals.com

