



**PANIPAT INSTITUTE OF  
ENGINEERING & TECHNOLOGY**

(Approved by AICTE, New Delhi & Affiliated to Kurukshetra University, Kurukshetra)



**Department of ECE**

Presents

# Nexus

**Volume 7 , Edition 4 (October -  
December 2022)**



# About Department of ECE

## Vision

To excel globally in technical education and research in the field of electronics and communication engineering and thus contribute to the welfare of society.

## Mission

**M1:** To establish a unique learning environment to enable the students to face the ever-emerging challenges in electronics and communication engineering.

**M2:** To equip the students with a broad intellectual spectrum and prepare them for diverse and competitive career paths.

**M3:** To provide practical orientated education and foster tie-up with national/International educational institutes, research bodies, and industry to support students and faculty development pursuits.

**M4:** To provide ethical and value-based education by promoting activities addressing societal needs.

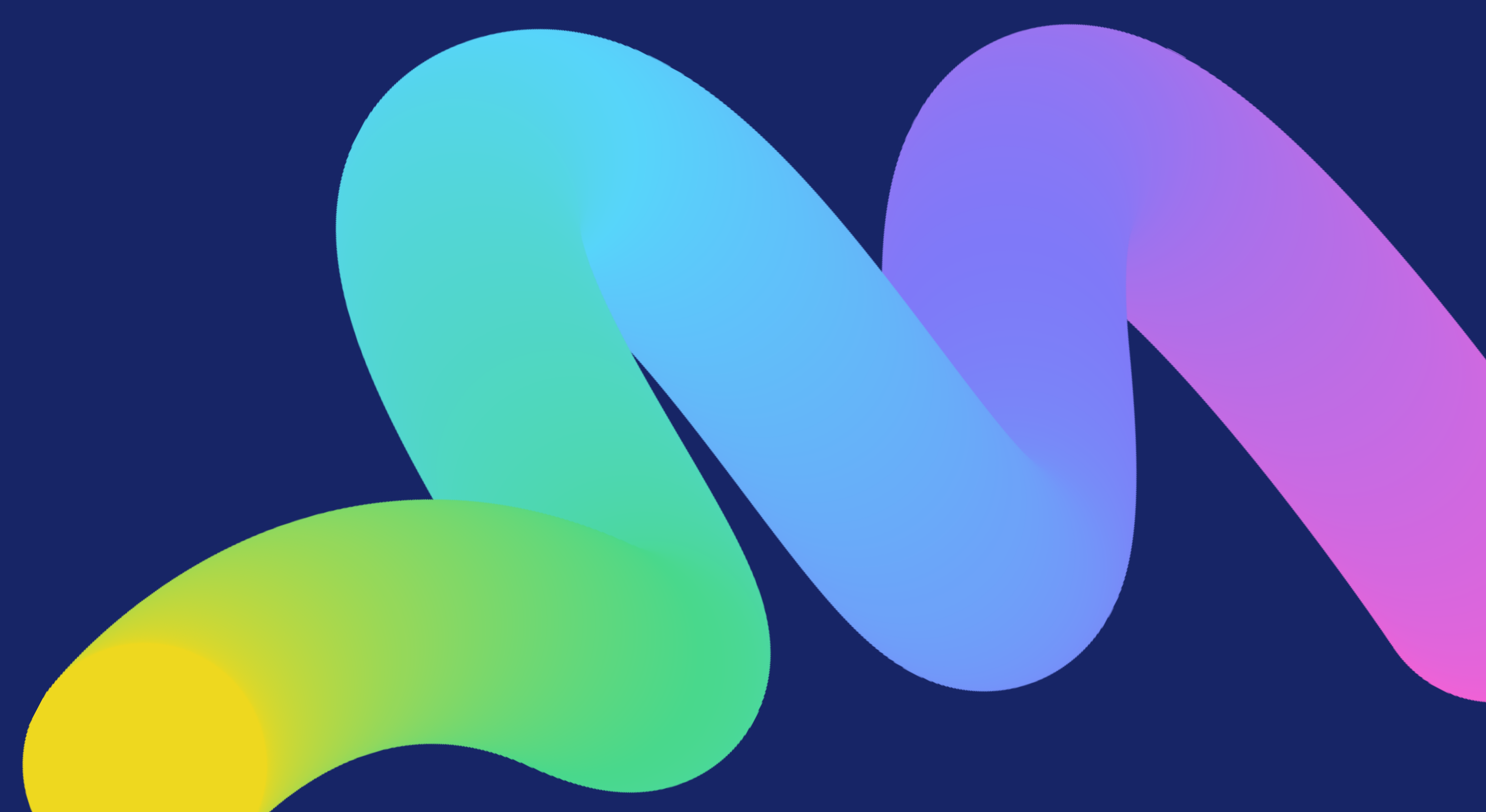
## Program Educational Objectives (PEOs)

**PEO1:** Be able to successfully practice electronics and communication engineering with acquired skills and knowledge.

**PEO2:** Be receptive to new technologies and attain professional competence through advanced education, research work, and other professional activities.

**PEO3:** To prepare graduates who will practice their profession with ethics, integrity, and social responsibility in a global context.

**PEO4:** To develop leadership qualities with demonstrable attributes and to contribute to societal needs.





## From Director's Desk

It gives me immense satisfaction that next issue of ECE Newsletter is ready for the readers. A college Newsletter mirrors the success story of an institution and act as a great medium to reach out to the outer world. It reflects upon the persistent and committed efforts made by faculty, staff and students for taking the institution one step ahead. Continuing the same tradition, this issue of Nexus reflects upon commendable contribution made by all members of PIET family in their fields of expertise as well as for the overall growth of the college.

I congratulate everyone for their bit of service for the institution and do expect the same in times to come. I also congratulate the editorial team for bringing out present issue of newsletter.

Wish you good luck!

Prof. (Dr.) Shakti Kumar  
(Director)





# From HOD's Desk

Dear Readers  
Greetings to you!!

The newsletter is a forerunner of all departmental technical activities. With the well qualified faculty & energetic students, the club aims and continuously works for the technical enhancement. The newsletter covers the activities & achievements of the students & faculty. I am pleased to present the issue before the readers.

Please feel free to drop in your suggestions to :  
[monika.ece@piet.co.in](mailto:monika.ece@piet.co.in)

Dr. Monika Gambhir  
(HOD , ECE)





## Editor's Note

It is a matter of pride as well as pleasure to present before our readers next issue of Department Newsletter. We feel honored for the faith reposed in us for performing the role of editors of Department Newsletter. We have put whole-hearted endeavors to give a complete and kaleidoscopic view of laudable achievements of ECE department. Through further issues of Nexus, we do hope that we will come up to the expectations of our readers.

Please feel free to drop in your suggestions to :  
[sapna.ece@piet.co.in](mailto:sapna.ece@piet.co.in)

Sapna Arora  
Assistant Prof. ECE





A collection of overlapping, rounded, organic shapes in shades of green, cyan, blue, and purple, located in the top right corner of the page.

## **CONTENT**

- Industrial Visit
  - Expert Talk with ER. Ajay Singh
  - Mind Twister
- 
- A collection of overlapping, rounded, organic shapes in shades of yellow, orange, red, and purple, located in the bottom left corner of the page.



# ***Industrial Visit***

After concrete efforts of our team of ECE, the students of ECE department, PIET, Samalkha secured this esteemed opportunity to have an Industrial visit to a prestigious company like **Adlec Power Pvt. Ltd.**, Rohad, Bahadurgarh on **24 Oct 2022**. We appreciate the efforts of the management of PIET for ameliorating to execute this successful Industrial trip.

**ADLEC POWER PRIVATE LIMITED** Corporate (Adlec) is one of India's leading names in custom-built Low Voltage Electrical switchboards. It has progressively developed product ranges for wiring devices, home automation, door entry, lighting management systems, cable management and structured cabling to add to our core offerings of circuit breakers and distribution boards. They are manufacturing Electrical and Electronics Energy saving equipment's, Switches, Wires, Cables, Starters, Earth Leakage Circuit Breakers, Electronic Ballast, Water Level Controllers, Earth Leakage Relays, Temperature Controllers, Timers, Counters, Motor Protection Relays, Auto Switches, Servo Controlled Voltage Stabilizer etc. It's product range is wide and diverse. And every product is sold through a rock solid distribution network consisting of efficient sales personnel.





# Glipmses

30 students of 2nd/3rd/4th year students of ECE department accompanied by two faculty members Dr. Poonam Jaglan (Associate Professor) and Mr. Sudhir Mahajan (Assistant Professor) of the department.



Students of ECE at ADLEC, Bahadurgarh (Near to Main Building)



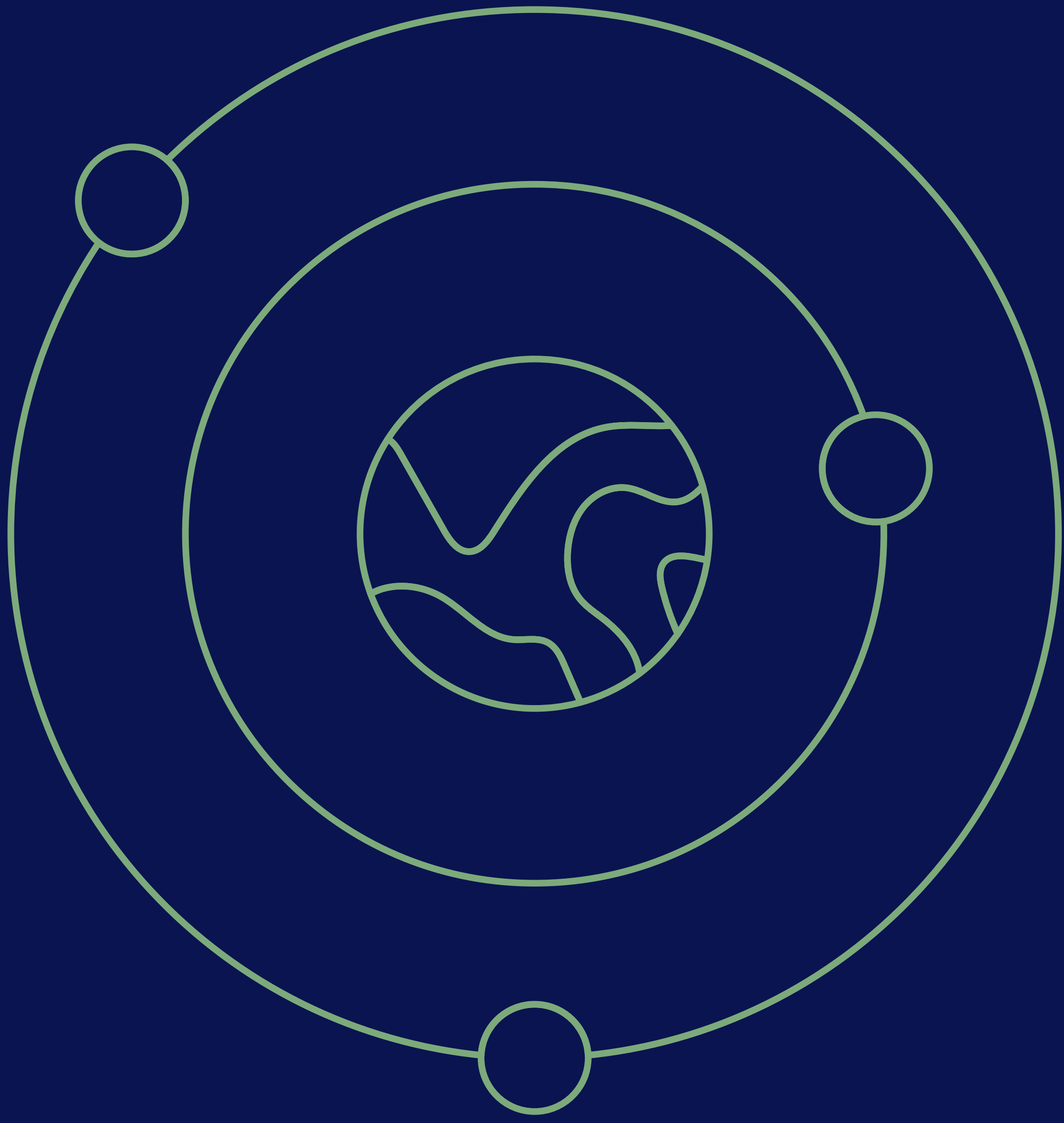
Team 1: Supervised by Mr. Saurabh Gupta, Executive, Manufacturing Department





# Glipmses

Team 2: Supervised  
by Mr. Rakesh  
Sharma, Asst.  
Manager,  
Production  
Department





# Expert Talk With ER. Arjay Singh

Department of Electronics and Communication organised Expert talk on Processors & Advanced Electronic Control Units in Latest vehicles on **Nov 19 2022**. The main objective of talk was to aware students of ECE about latest processors and how they are implemented in vehicles.

The resource person of the session was **Er. Ajay Singh** Project Head, BMW, Germany.

This session was conducted by **Ms. Sapna Arora**, A.P ECE department under the guidance of **Dr. Monika Gambhir** HOD, ECE.



DEPARTMENT OF ELECTRONICS AND  
COMMUNICATION ENGINEERING  
organising

**Expert Talk On**

**"Processors &  
Advanced Electronic  
Control Units  
In Latest Vehicles "**

**November 19 | 02:30 pm**



Resource Person  
**ER. AJAY SINGH**  
Project Head, BMW,  
Germany



# Glimpses from the event:

Zoom Webinar

Mr.Pankaj Batra, Dr.Shakti Sir, Dr.Monika Gambhir, Dr.Poonam Jaglan

**Er. Ajay Singh**  
Project Head, BMW, Germany

**Education**

- B.Tech in Electronics & Communication Engineering from Kurukshetra University, Kurukshetra, India
- ME in Electro Technik & Informatik from University of Wismar, Germany.

**Current Position**

Project Head, Wireless Access in Vehicular Environment project of BMW, Germany.

**Achievements**

- Best research paper award by International Academy of Science, Engineering & Technology.

**Research Publication**

- Research Articles: 12
- Indian Patents: 14
- International book: 1

Participants (50)

Panelists (13) Attendees (37)

MS MUKUL SHARMA  
ZE 2820461 ECE  
A Aakash  
A Aditya  
AY Aditya Yadav  
A Aakash  
A ANMOL  
AT Anoop Tripathi  
AD Anuj Dixit  
AK Aryan kumar  
D Deepak "Deepak" Bhardwaj  
DK Dikshant katyal

Recording

## Some Important aspects

- WAVE needs to operate in 3 modes:
  - Normal mode
  - NAO (network always on): AP is not active.
  - Sleep
- A Thermal Monitoring System.
- Tracing and Analysis.
- Modular Layout/ Future proofing.
- Back-up Power.

Participants (50)

Mr.Ajay Singh, Mr.Pankaj Batra, Dr.Shakti Sir, Dr.Poonam Jaglan

Mr.Ajay Singh, Mr.Pankaj Batra

**Dr.Shakti Sir**

Dr.Shakti Sir

**Dr.Poonam Jagl...**

Dr.Poonam Jaglan

**Dr.Monika Gam...**

Dr.Monika Gambhir

Recording

## MT2712 System Overview

### GENERAL DESCRIPTION

**Key Features - Summary**

- Highly integration application processor based on MTK's world leading SoC architecture with advanced 28nm automotive process technology
- ARM® Cortex-A72 MPCore™ operating up to 1.2Ghz offers the power to support the latest Open OS and demanding telematics applications
- Three ARM® Cortex-A35 MPCore™ cores operating up to 1.2Ghz caters to standby application requirements with the most efficient power consumption.
- Leading edge powerful ARM Mali T880 GPU (disabled for low power scenarios)
- Extensive set of interfaces provided for
  - Quad channel 16-bit LPDDR4/DDR4 DRAM Interface
  - Cameras
  - MMC/SD cards
  - External BT,WLAN and GPS modules
- Delivers high performance computing with low power consumption.
- MT2712 also supports Gigabit Ethernet with AVB support

Participants (50)

Mr.Ajay Singh, Mr.Pankaj Batra, Dr.Shakti Sir, Dr.Poonam Jaglan, Dr.Monika Gambhir

Recording

Mr.Ajay Singh, Mr.Pankaj Batra, Dr.Monika Gambhir, Ms.Sapna Arora

Dr.Shakti Sir, Mr.Rajesh Kumar, Dr.Poonam Jaglan, Mr.Rajeev Saini

**Ms.Nishita Bhar...**  
Ms.Nishita Bhardwaj

**PIET PANIPAT**  
PIET PANIPAT

**Dr.Anju Gandhi**  
Dr.Anju Gandhi

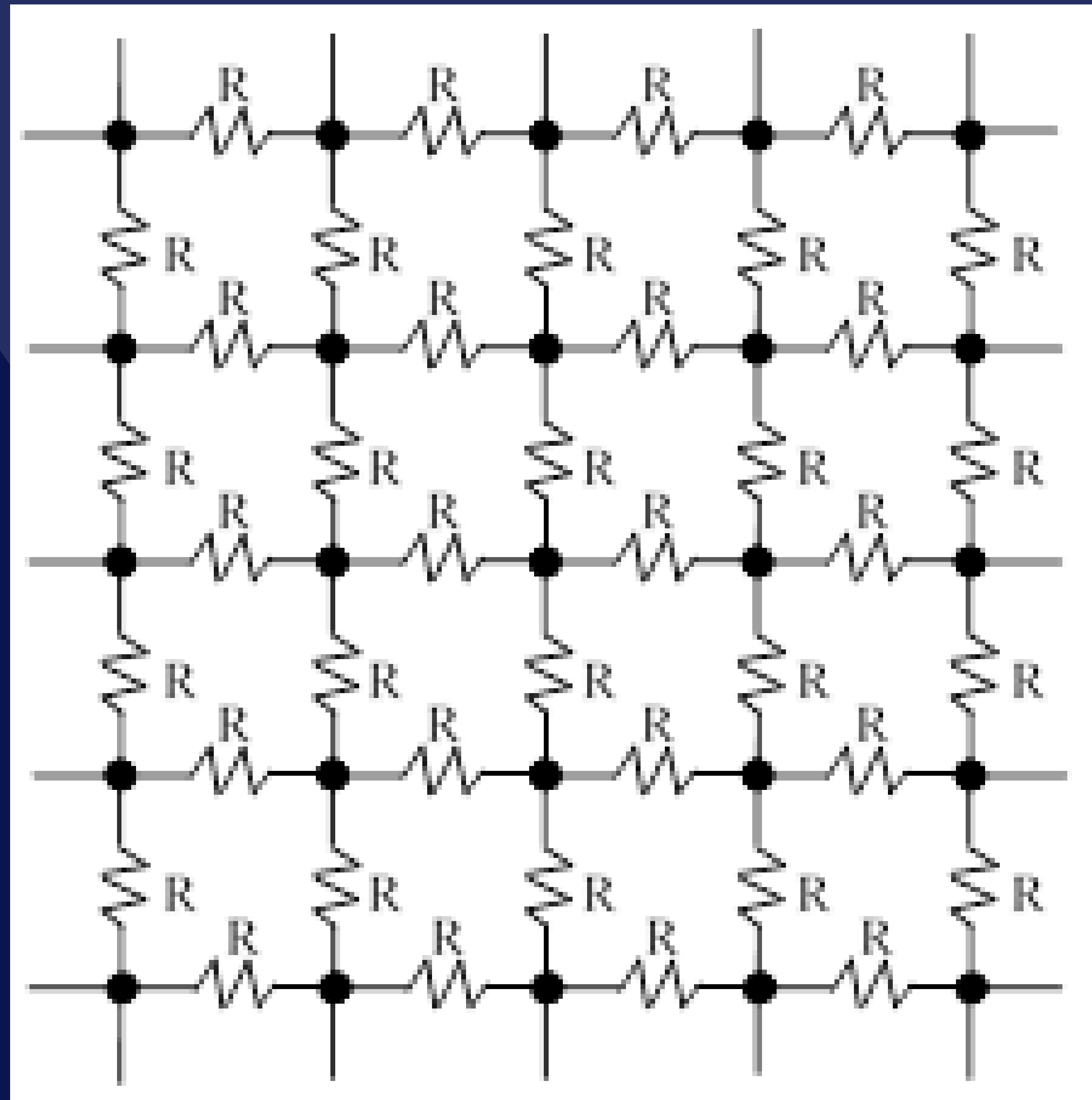
Yeeshu Ralhen

Faculty Members during event.



# Mind Twister

1) Imagine an infinite grid of 1 Ohm resistors connected together (like the one in the picture below). If you were able to measure the total resistance of this grid, what would it be?



2) True or false: it takes more heat to melt lead-free solder than regular solder.

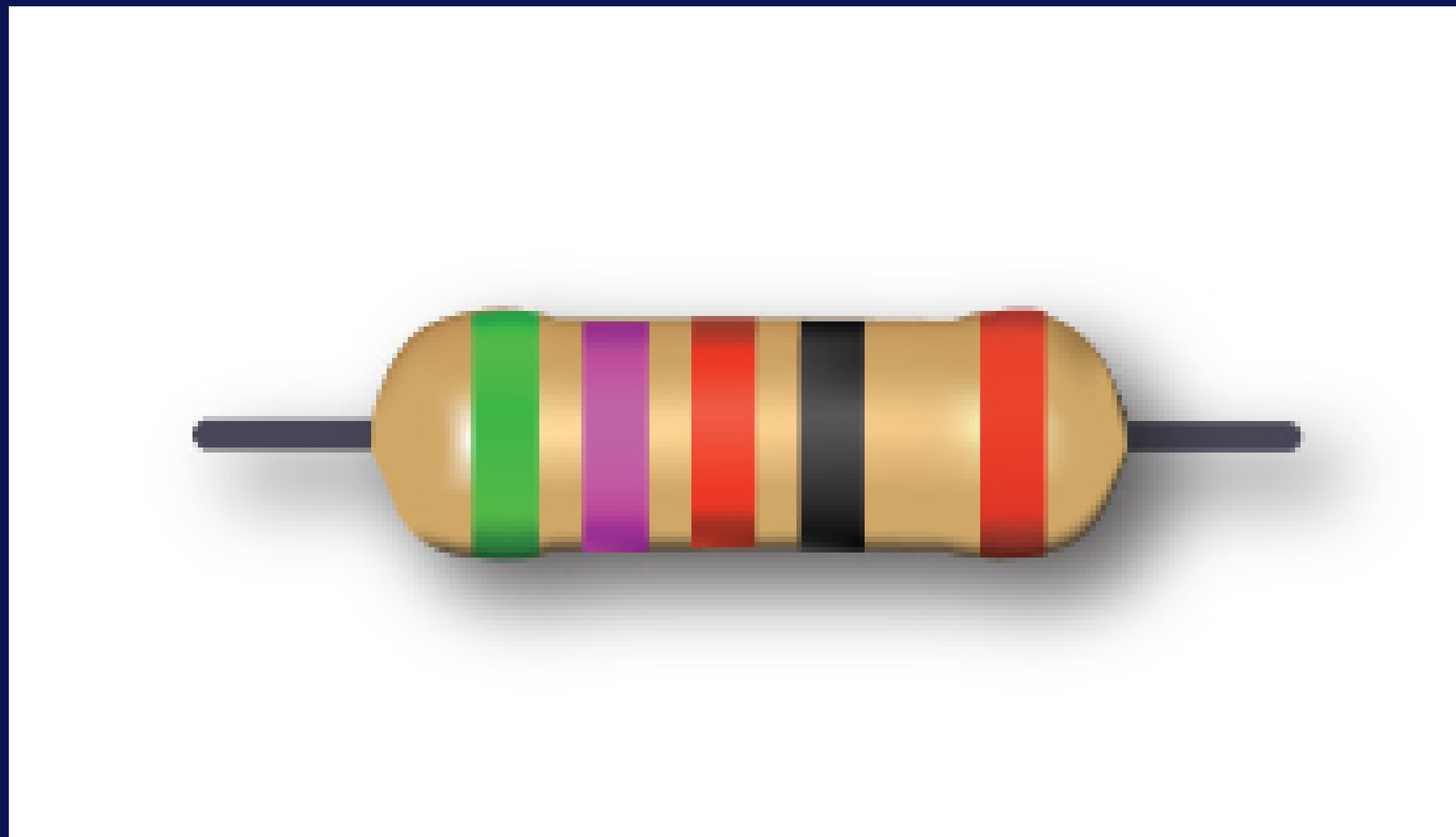
3) What is the difference between a primary and a secondary battery?

4) Name this component:





5) What is the value of the resistor below?



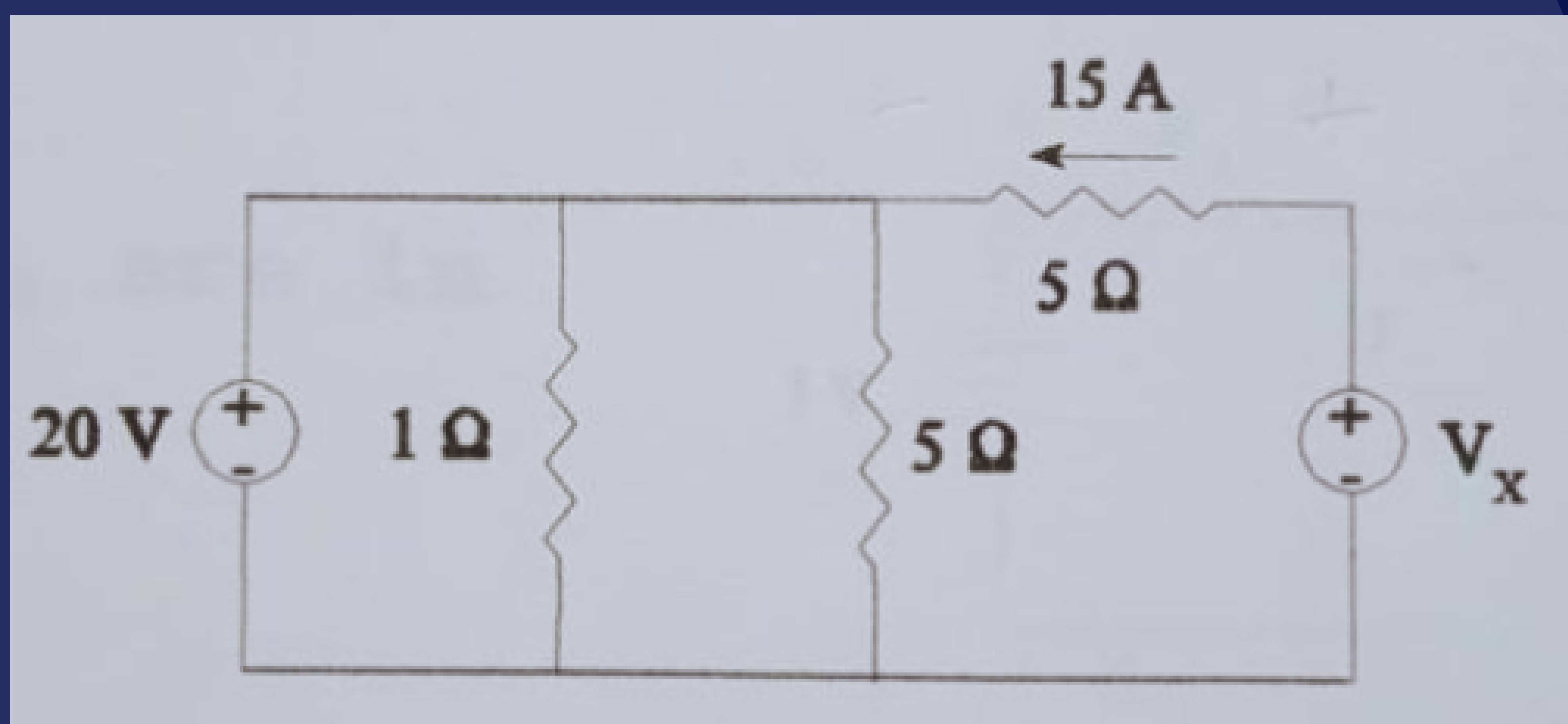
6) Five amps flow through a 10 Ohm resistor. How much power is dissipated by the resistor?

7) Your hair dryer draws 500 W of power. The electric company is charging you 11 cents per kilowatt-hour. You use the hair dryer for half an hour. How much did that dry head of hair cost you?

8) How many time constants does it take to charge/discharge a capacitor?

9) The sum of currents entering a node (or point in a circuit) is equal to the sum leaving the node. This is referred to as \_\_\_\_\_

10) Find  $V_x$  in the circuit below.



**ANSWERS**

