SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE NAME : 19EE01 BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

I YEAR /II SEMESTER COMPUTER SCIENCE & DESIGN

Unit 1 – Electrical Circuits and Measurements

Topic 2 : Introduction to Electrical parameters

FEEL THE ELECTRICITY

How it looks?

What color it is?

How it smells?

How it weighs?

How bigger is that?

How it is taste?

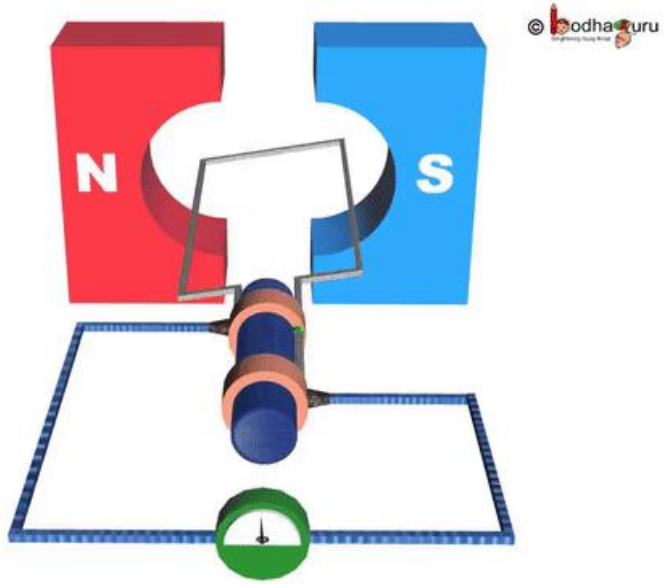
Any answers?

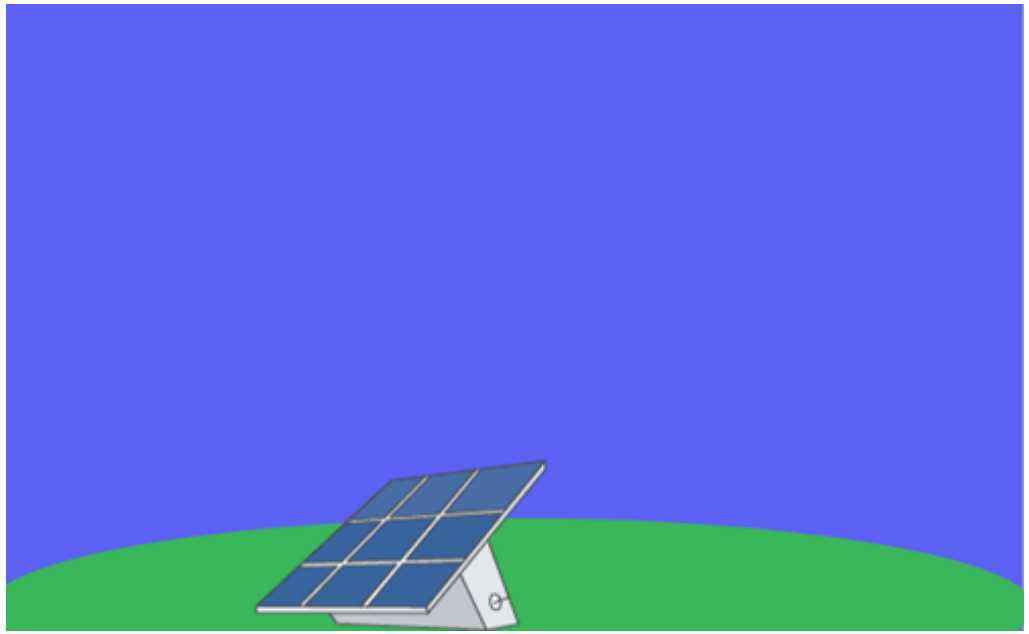
How do you know about Electricity?

How do you feel if Electricity passes on u?

HOW DOES ELECTRICITY PRODUCED?

FARADAY'S LAW OF ELECTROMAGENETIC INDUCTION

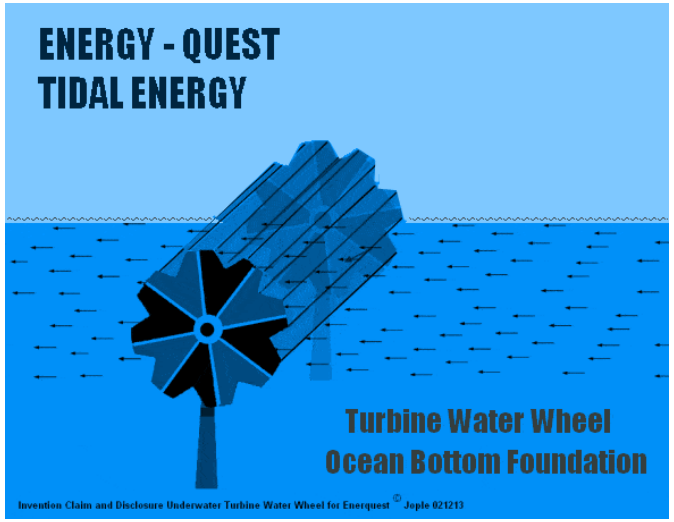


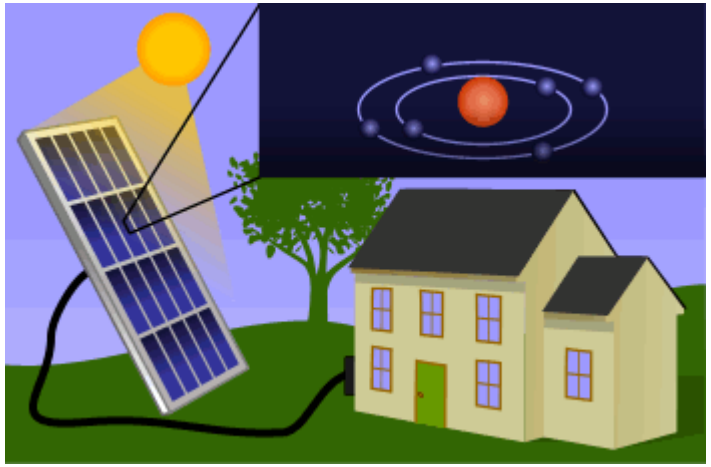


SOLAR PV-CELL

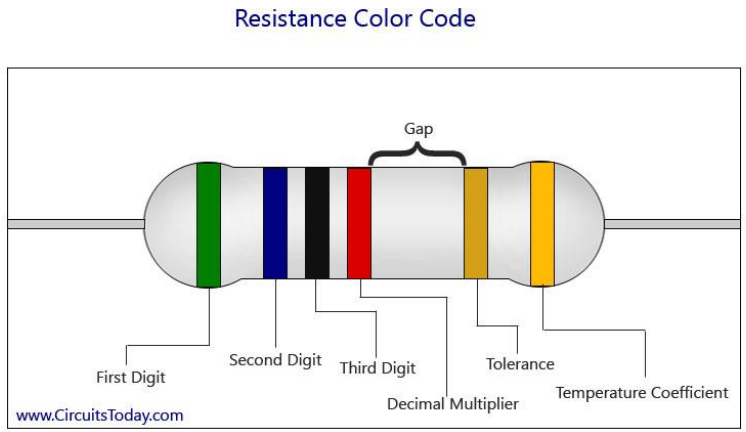
GENERATOR

ELECTRICITY GENERATION METHODS





ELECTRICAL PARAMETERS & QUANITITES



UNITS?

VOLTAGE

ELECTRICITY PARAMETERS

Current (I)-It is a flow of electrons in the line. It passes only in the closed path. Unit of the current is Ampere .

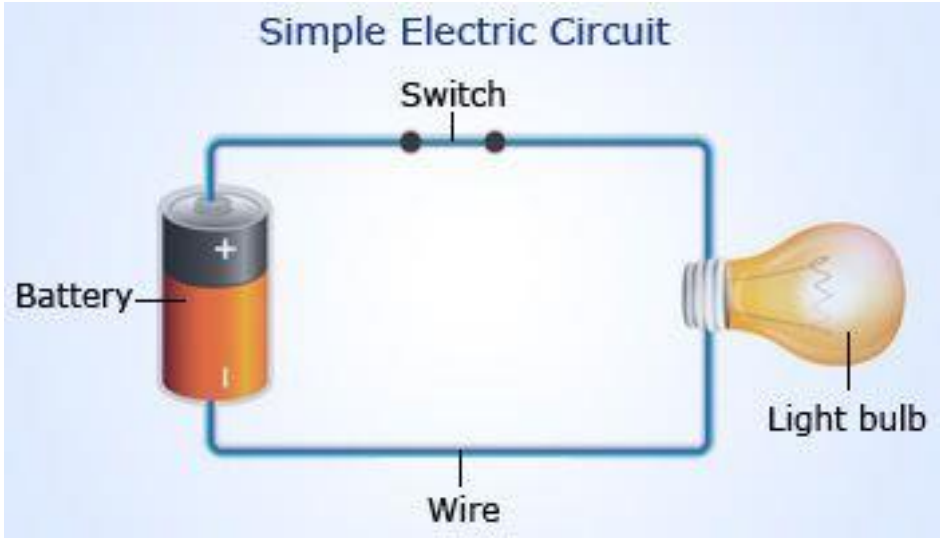
For example Current =2 Ampere

Voltage (V)- It is the potential difference between two ends. Unit of the Voltage is Volts .

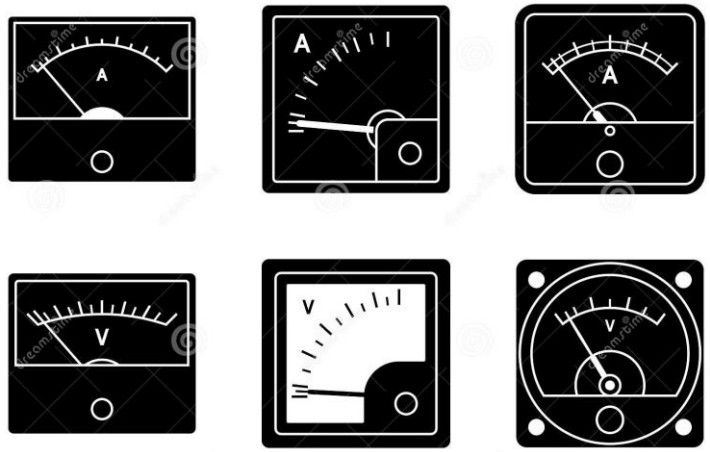
For example Voltage V= 20 Volts

Resistance (R)- It is the property to oppose the flow of current. Unit of the Resistance is Ohms .

For example Resistance R=20 Ohms



MODERN TECHNOLOGIES



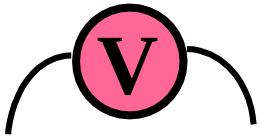
Before this era?

ELECTRICAL SYMBOLS

battery

wiring

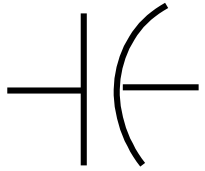
voltmeter



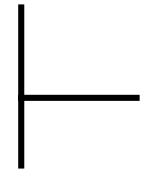
ammeter

resistance

capacitor

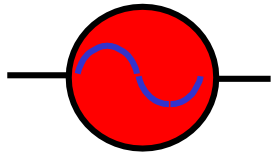


junction



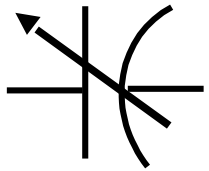
Node/ Terminal

AC generator

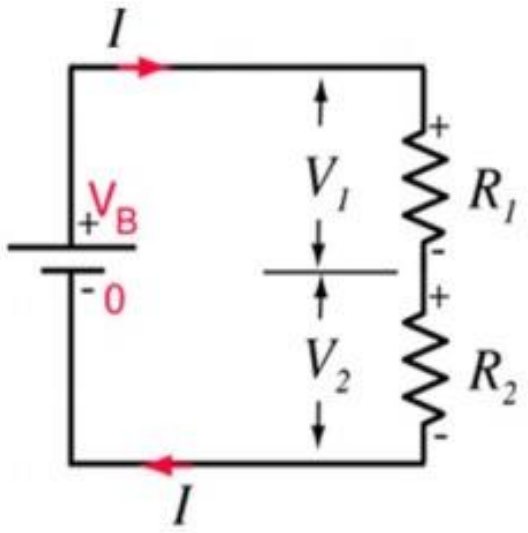


Variable resistance

Variable capacitor

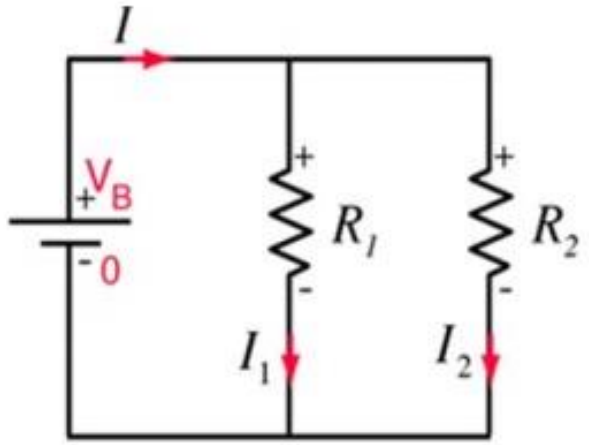


SAMPLE CIRCUIT



Series resistors

$$R_{equivalent} = R_1 + R_2$$

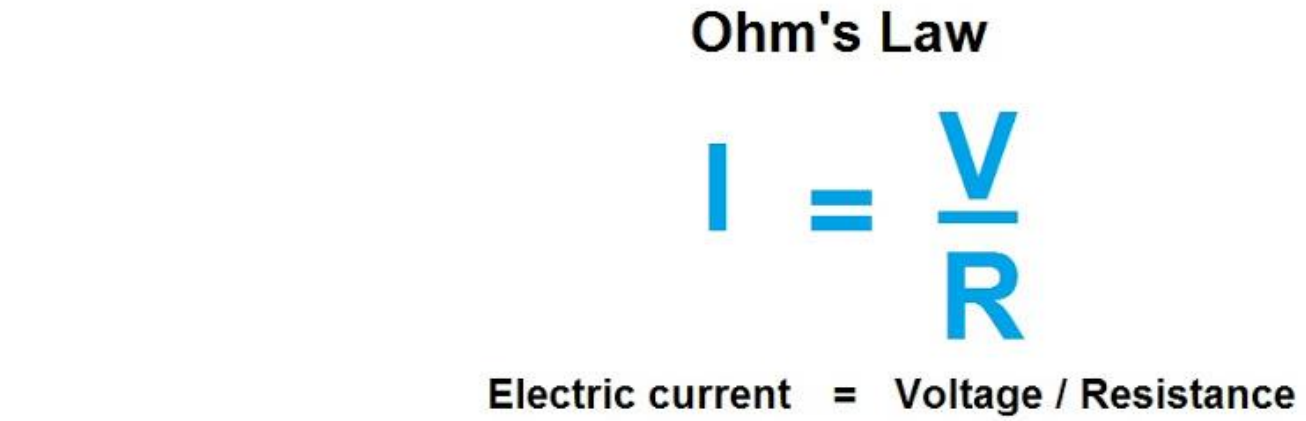


Parallel resistors

$$\frac{1}{R_{equivalent}} = \frac{1}{R_1} + \frac{1}{R_2}$$

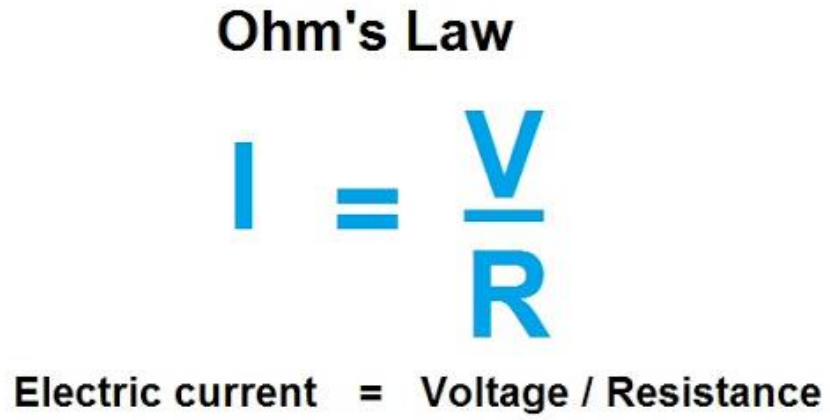
OHM'S LAW

Ohm's law states that The current that flows through most conductors is directly proportional to the voltage applied to it provided all physical conditions and temperature remain constant. Also, inversely proportional to the resistance in the conductor



ASSESSMENT

My battery is 300 Voltage, and have the resistance of 300 ohms. Determine the current flowing through the line.



Current??

REFERENCES

1. Bhattacharya. S.K, “Basic Electrical and Electronics Engineering”, Pearson Education , (2017)
2. Muthu Subramanian R, Salivahanan S,“ Basic Electrical and Electronics Engineering”, Tata McGraw Hill Publishers, (2009)
3. V.Mittle“ Basic Electrical Engineering”, Tata McGraw Hill Publishers, (2017)
4. Nagrath. I.J, “Electronics: Analog and Digital”, Prentice Hall India Pvt. Ltd., (2013)

THANK YOU