Mahatma Phule Shikshan Sanstha's

Karmaveer Bhaurao Patil College, Islampur

DEPARTMENT OF PHYSICS

NOTICE

Class:- BSc-III Date: - 18th Dec 2023

This is to inform all the BSc-III Students that an "**Industrial Visit**" to Yash Capacitors & Kaivalya Electricals i.e at MIDC Islampur, Scheduled on 22th Dec 2023 (Friday).It is mandatory to be present for the visit. Each student carrying college ID card with him/her during the visit.

DEPARTMENT OF PHYSICS SENIOR K.B.P.COLLEGE ISLAMPUR

Hoad
Department of Physics
Karmaveer Bhaurao Patil College
Urun-Islampur, Dist-Sangli-415409

Industrial Visit

Name of Industry:- Yash Energy **Date of visit:-22/12/2023**

Objective of Visit:-To make aware student about recent developments and working culture in industry.

The Yash Energy Pvt Ltd Islampur industry visit organised for BSc-III Physics students on 22th Dec 2023. Total 07 students participated for the visit.

The visit Co-ordinated by Mr. S. P. Pardhi. For the industry institute interaction HOD Dr.N.S.Shinde motivated students for the visit.

In visit Mr.Ashok Kushire demonstrated about the capacitors, various capacitors like Mica & film manufacturing process through following steps

1) Winding
2) Thermal tracing
3) Welding
4) Heating
5) Imprecations
6) Excess Oil Removal
7) Encapsulation
8) Packing and dispatch

The industry visit was so informative for the BSc-III Students. Mr.Shubhada Shinde conveyed regards behalf of Department of Physics.

Outcome:-

1) Students gets information about capacitors production and testing mechanism

2) Work culture and target production of capacitance through various stages.

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Department of Physics
Karmaveer Bhaurao Patil College
Urun-Islampur, Dist-Sangli-415409

HOD

Mahatma Phule Shikshan Sanstha's

Karmaveer Bhaurao Patil College, Islampur

DEPARTMENT OF PHYSICS

Industrial Visit

Class:.B.Sc-III Date:-22/12/2023

Sr. no	Name of Student	Class
1	CHOUGULE PRANALI ASHOK	B.Sc-III
2	GAIKWAD PRATIDNYA PRAKASH	B.Sc-III
3	JADHAV SANKET VIJAY	B.Sc-III
4	LAKHAN DHANASHRI CHIMAJI	B.Sc-III
5	MOTE VAISHNAVI SHAMRAO	B.Sc-III
6	NAYAKAWADI ANKITA SANJAY	B.Sc-III
7	PATIL KAJAL SANJAY	B.Sc-III
8	PATIL PRATIKSHA UTTAM	B.Sc-III
9	RAUT AMRUTA SURYAJI	B.Sc-III
10	MR.SAGAR PARDHI	Faculty
11	MRS.SHUBHADA SHINDE	Faculty
12	MR.PANDURANG VANJARI	Faculty

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Head
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Karmaveer Bhaurao Patil College
Urun-Islampur, Dist-Sangli-415409

HOD

Industrial Visit

Name of Industry:- Kaivalya Electricals **Date of visit:-22/12/2023**

Objective of Visit: To make aware student about recent developments and working culture in industry.

The Yash Energy Pvt Ltd Islampur industry visit organised for BSc-III Physics students on 22th Dec 2023. Total 07 students participated for the visit.

The visit coordinated by Mr. S. P. Pardhi. For the industry institute interaction HOD Dr.N.S.Shinde motivated students for the visit.

In visit Mr.Shashikant Amane demonstrated about the Transformers ,various transformers like step up &Step Down manufacturing process through following steps

1) Winding
2) Thermal tracing
3) Welding
4) Heating
5) Imprecations
6) Excess Oil Removal
7) Encapsulation
8) Packing and dispatch

The industry visit was so informative for the BSc-III Students. Mrs. Shubhada Shinde conveyed regards behalf of Department of Physics.

Outcome:-

1) Students gets information about transformers production and testing mechanism

2) Work culture and target production of transformers through various stages.

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Head
Department of Physics
Karmaveer Bhaurao Patil College
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Co-Ordinator

HOD

Prof.Dr.N.S.Shinde

REPORT

Divulgence of the Visit:

Transformer construction involves the following steps:

- Construction of Winding
- Construction of Core
- Core Assembly
- Tanking and Oil filling
- Testing Construction of Winding

- Construction of Winding :-

Closed-core transformers are constructed in "core form" or "shell form". When windings surround the core, the transformer is core form; when windings are surrounded by the core, the transformer is shell form. Shell form design may be more prevalent than core form design for distribution transformer applications due to the relative ease in stacking the core around winding coils. Both High Voltage (HV) and Low Voltage (LV) windings are done by using coil winding machines. The copper or Aluminium strips/wires used in winding are meticulously selected for its quality to give the best output. The copper (Cu) or Aluminium (Al) strips/wires are generally used as windings in high rating and low rating transformers respectively. The paper cover acts as Insulator. This helps to increase short-circuit strength, thermal strength and higher efficiency.

- Construction of Core:-

The Cold Rolled Grain Oriented (CRGO) laminations used in transformers are of high quality. They are in the form of thin sheets and they are cut as per the design varying for different capacities of transformers. Highly skilled people assemble the laminations on a core channel to form core. These are perfectly assembled without any gaps

to avoid energy loss. Each lamination is insulated from its neighbors by a thin non-conducting layer of insulation.

- Core Assembly

The wound coils are placed carefully in the assembled core. Insulations are given whenever required using different insulation materials such as like press boards. The primary and secondary windings are mounted as per the requirements of the rating. The assembly is then transferred to the Hot Air Chamber and a high temperature is maintained to prevent any moisture in the Core of the transformer and the coil assembly also.

- Tanking and Oil filling

MS plates of extra quality are used in fabricating the tank. The assembly job is now carefully places inside the tank. The bushings, tap switch drive circuit and plug sockets are then fitted on the tank. The oil is first filtered to remove the tingles of moisture by heating the oil to 80'c. Then oil is filled and cover is placed on the tank frame and bolted.

Overview-(Capacitor)

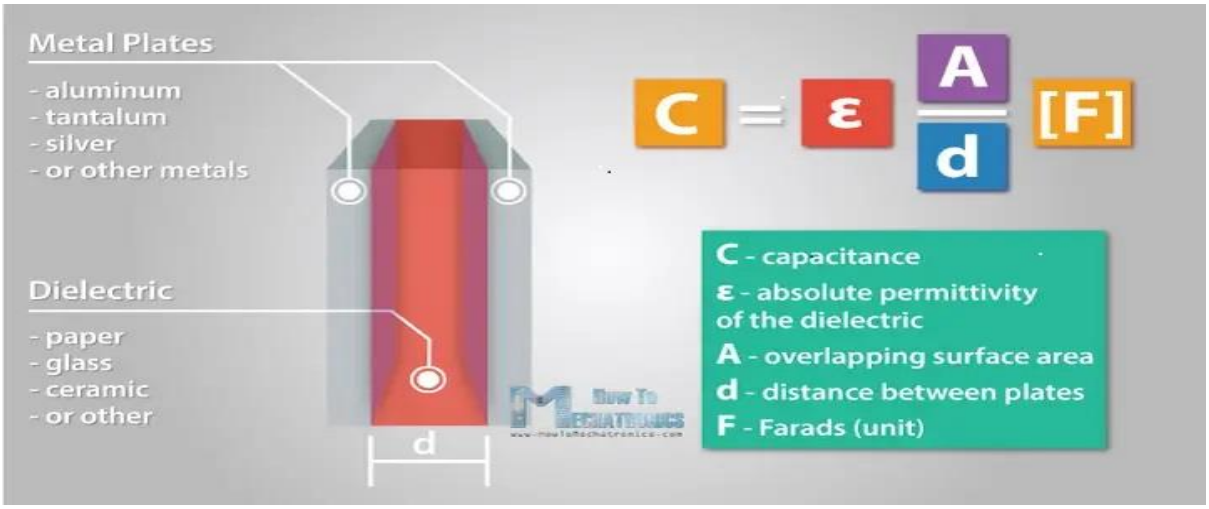
There's almost no circuit which doesn't have a capacitor on it, and along with resistors and inductors, they are the basic passive components that we use in electronics.

What is Capacitor?

A capacitor is a device capable of storing energy in a form of an electric charge. Compared to a same size battery, a capacitor can store much smaller amount of energy, around 10 000 times smaller, but useful enough for so many circuit designs.

Capacitor Construction

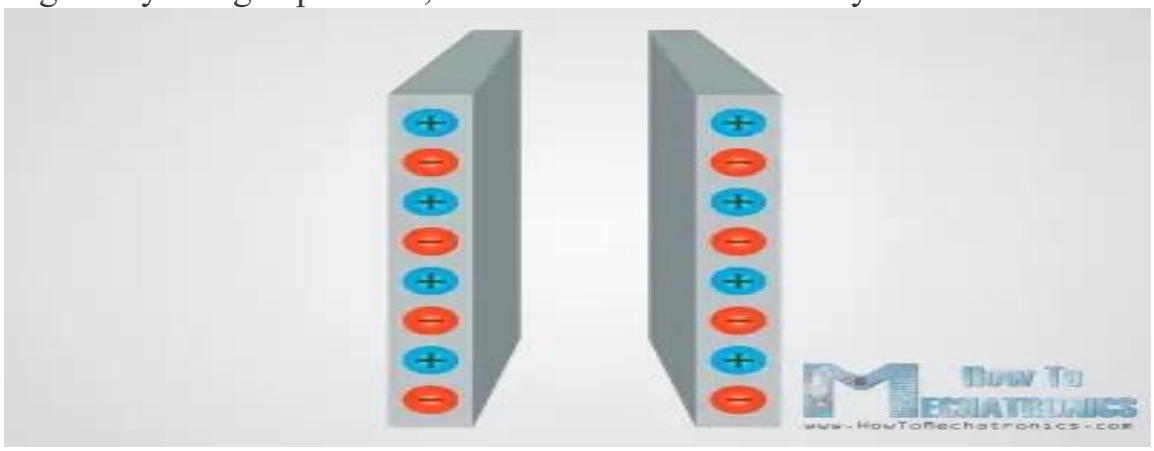
A capacitor is constructed out of two metal plates, separated by an insulating material called dielectric. The plates are conductive and they are usually made of aluminum, tantalum or other metals, while the dielectric can be made out of any kind of insulating material such as paper, glass, ceramic or anything that obstructs the flow of the current.



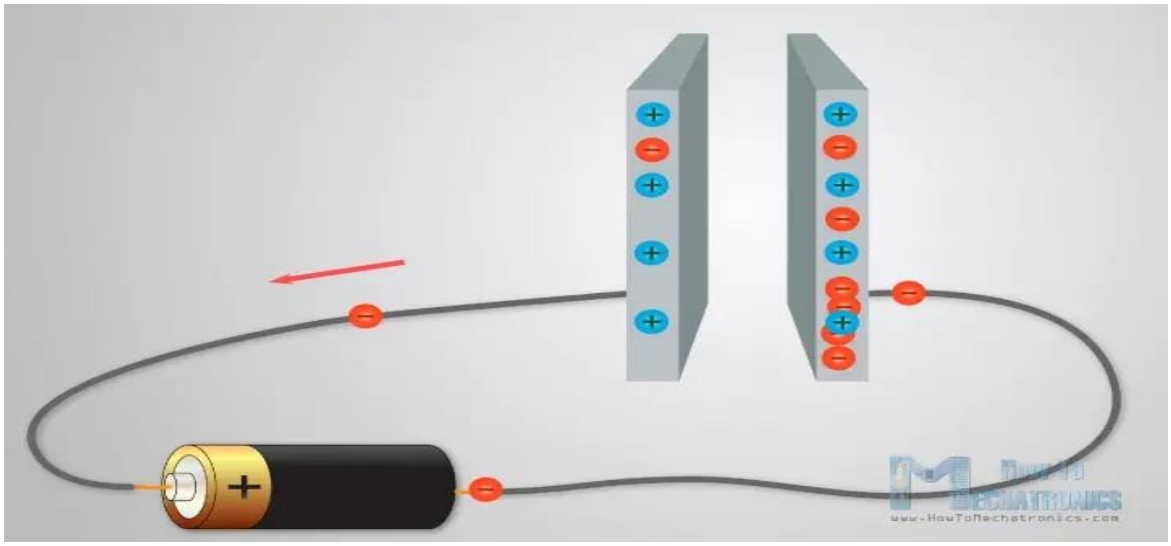
The capacitance of a capacitor, measured in farads, is directly proportional to the surface area of the two plates, as well as the permittivity ε of the dielectric, while the smaller distance between the plates the greater capacitance. That being said, now let's take a look how a capacitor works.

How Capacitor Works

First, we can note that a metal typically has an equal amount of positively and negatively charged particles, which means it's electrically neutral.

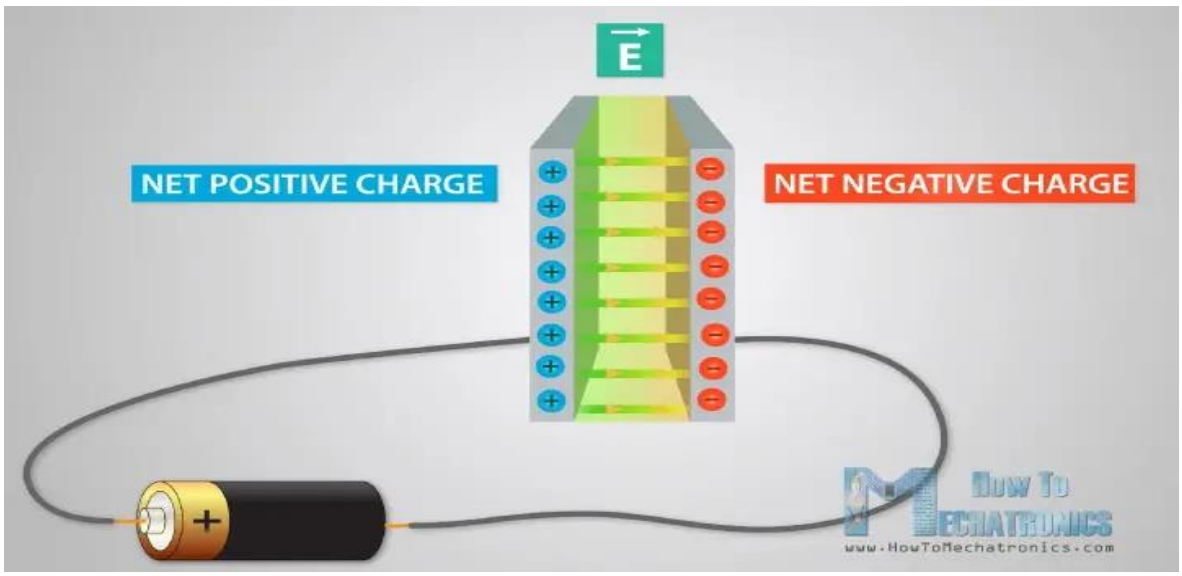


If we connect a power source or a battery to the metal plates of the capacitor, a current will try to flow, or the electrons from the plate connected to the positive lead of the battery will start moving to the plate connected to the negative lead of the battery. However, because of the dielectric between the plates, the electrons won't be able to pass through the capacitor, so they will start accumulating on the plate.



After a certain number of electronics accumulated on the plate, the battery will have insufficient energy to push any new electronics to enter the plate because of the repulsion of those electronics which are already there.

At this point, the capacitor is actually fully charged. The first plate has developed a net negative charge, and the second plate has developed an equal net positive charge, creating an electric field with an attractive force between them which holds the charge of the capacitor.



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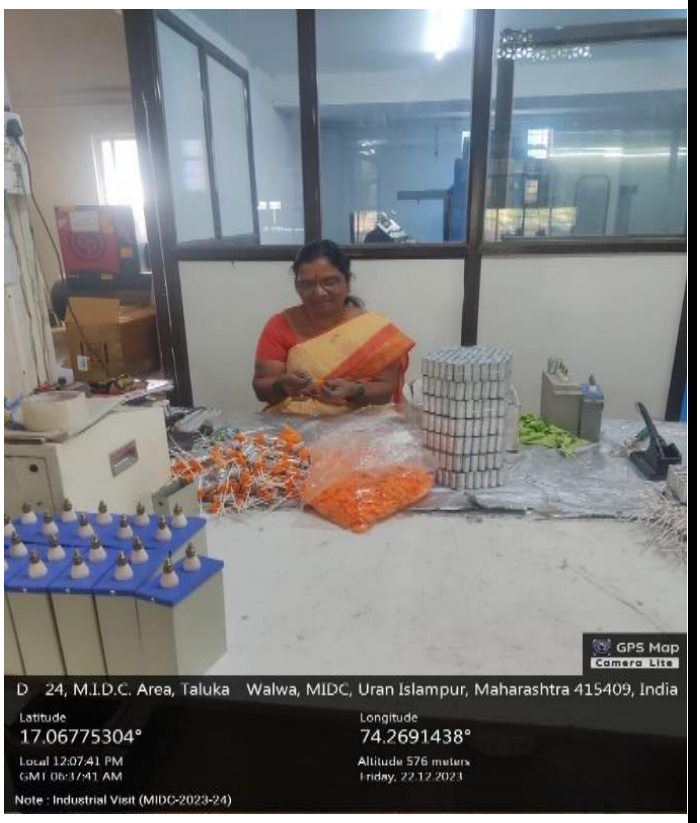
KARMAVEER BHAURAO PATIL COLLEGE, URUN-ISLAMPUR

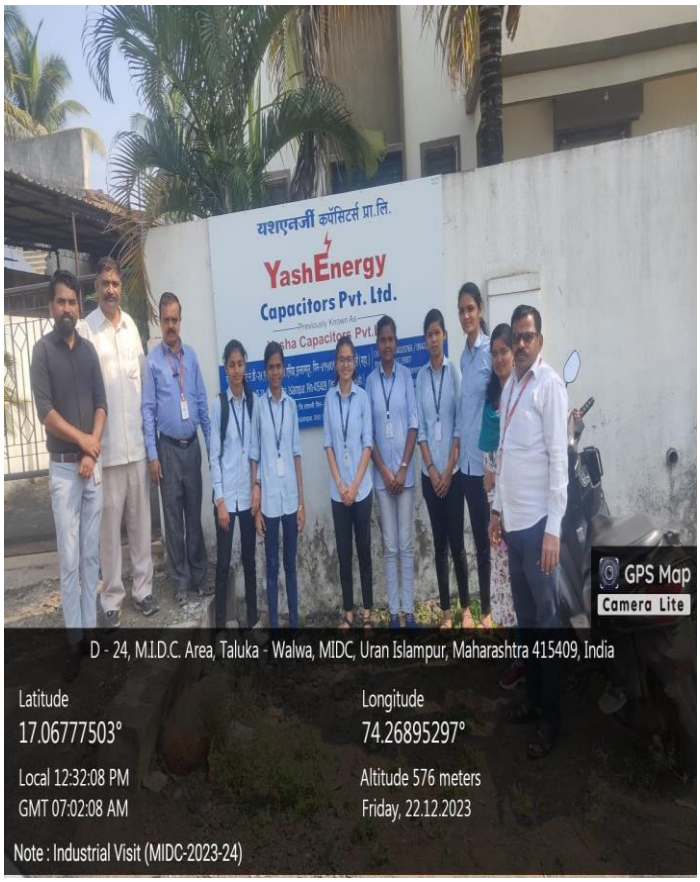
DEPARTMENT OF PHYSICS

INDUSTRIAL VISIT

(2023-24)

DATE:-22/12/2023





@ YASH ENERGY:-Mr.P.H.PATIL Explain the basic information about Capacitor

@ URVI JEWELARS:-Here the Rough Gold converted into JEWELLERY

@ KAIVALYA ELECTRICALS:-Mr.P.H.PATIL Explain the basic information about Transformer

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