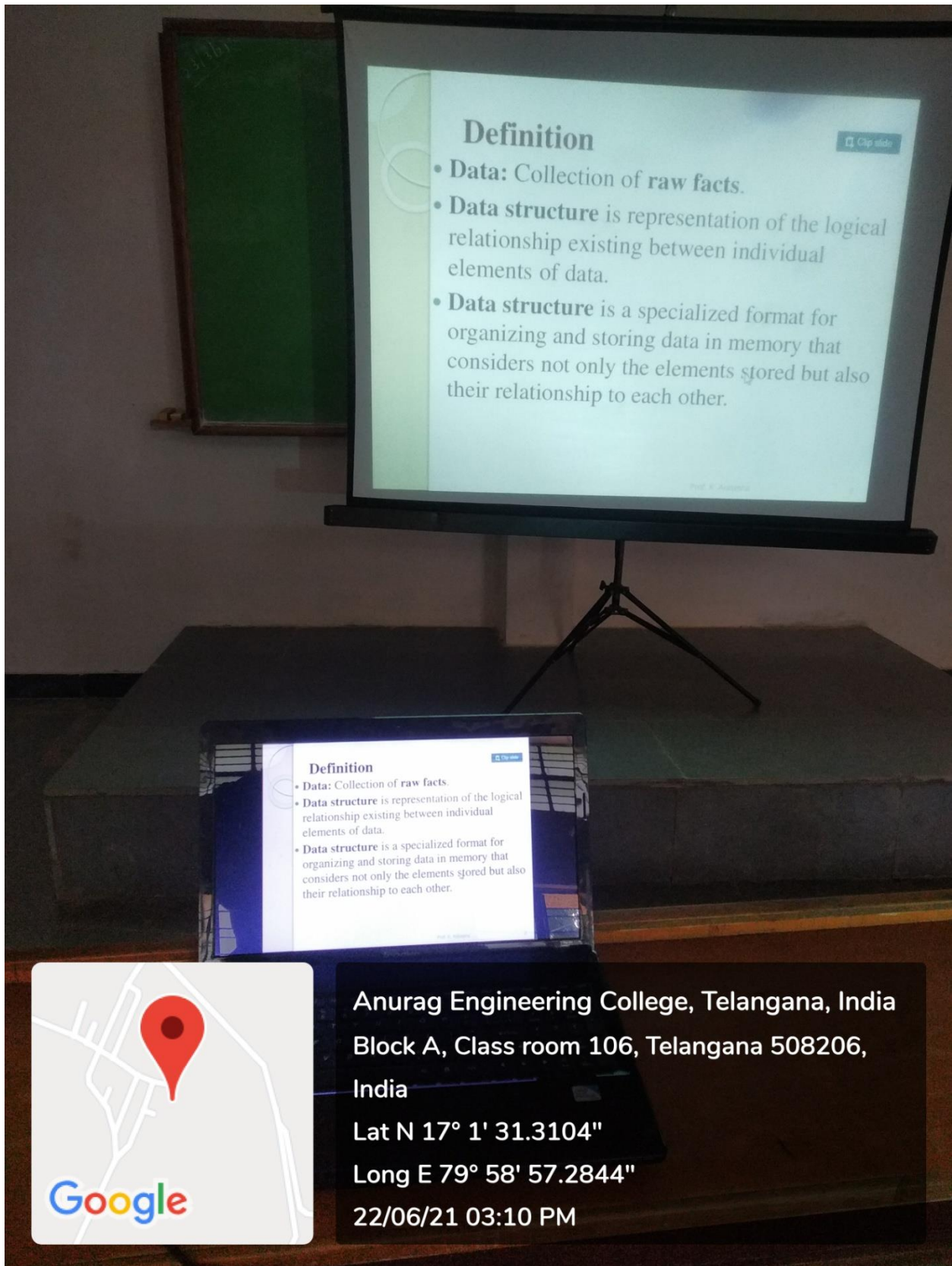


# BLOCK A



## What is Database Management System?

- A Database Management System (DBMS), or simply a Database System (DBS) consist of :
- A collection of interrelated and persistent data (usually referred to as the database (DB)).
  - A set of application programs used to access, update and manage that data (which form the data management system (MS)).

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India

Lat N 17° 1' 31.3104"

Long E 79° 58' 57.2844"

22/06/21 03:14 PM

## Computer Science & Engineering

- Originated from mathematics and physics.
- Versatile Field
- Study of theoretical concepts as well as practical ones with a focus on engineering and software.
- Application of principles of computer science and mathematical analysis to the design, development, testing, and evaluation of the software and systems that make computers work. The tasks performed evolve quickly, reflecting new areas of specialization or changes in technology, as well as the preferences and practices of employers.

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2

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Lat N 17° 2' 24.1656"

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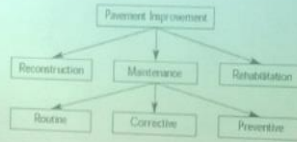
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## Data models

Clip slide

### Hierarchical Model

- The hierarchical data model organizes data in a tree structure. There is a hierarchy of parent and child data segments. This structure implies that a record can have repeating information, generally in the child data segments.
- Hierarchical DBMSs were popular from the late 1960s, with the introduction of IBM's Information Management System (IMS) DBMS, through the 197



## Data models

Clip slide

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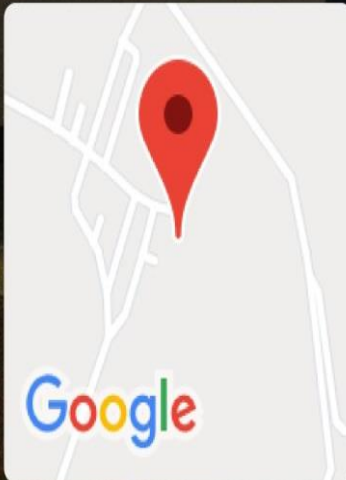
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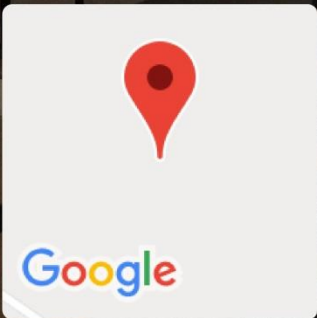
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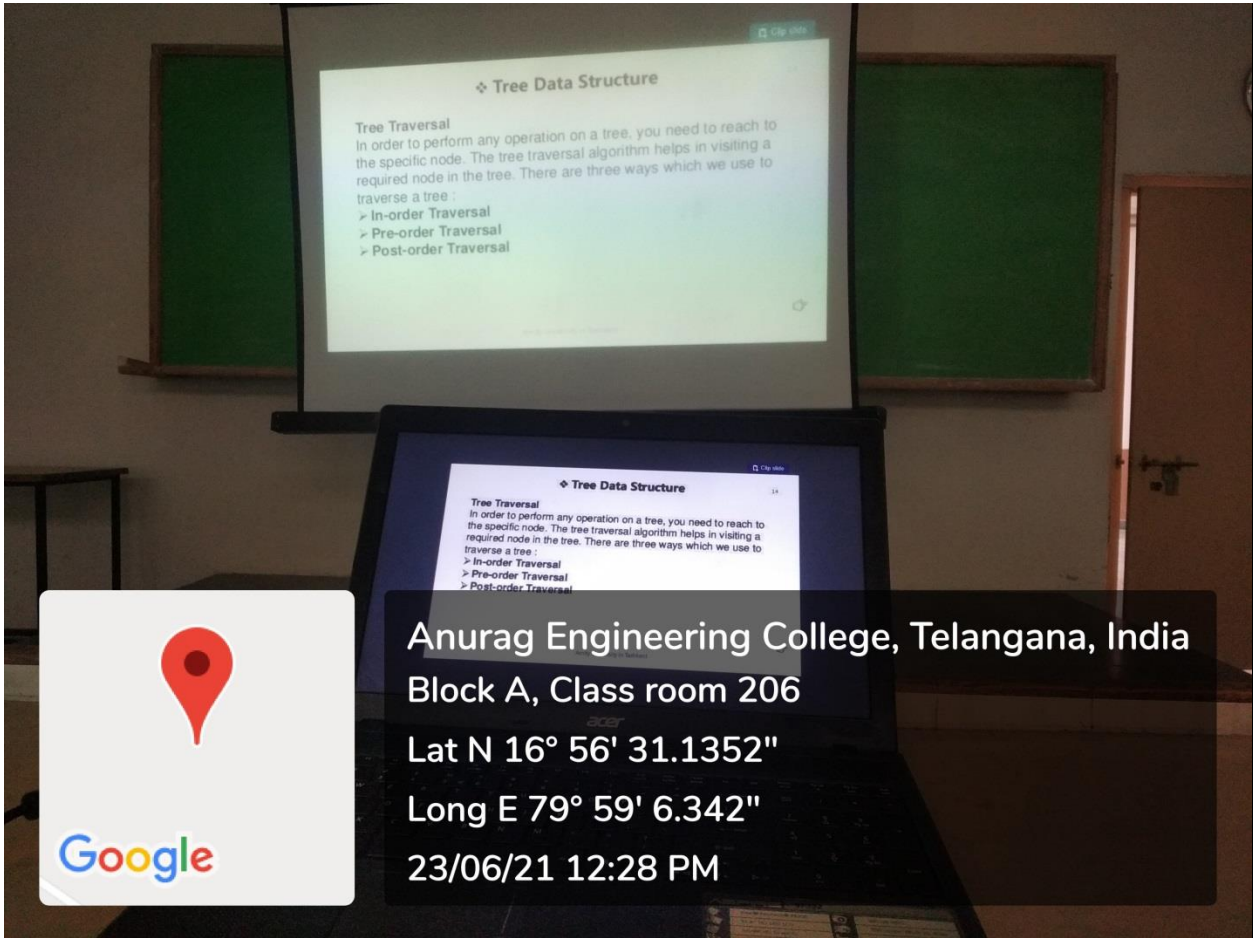
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## Technology in Web

The technology which change web standards is the technology in web.

HTML5 Changes mark up standards in web.

CSS3 Changes style standards in web.



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## What is software Engineering?

- In 1969 Fritz Bauer defined software eng. as, 'the establishment and use of sound engineering principles in order to obtain, economically, software that is reliable and works efficiently on real machines'.
- According to Boehm, software engineering involves, 'the practical application of scientific knowledge to the design and construction of computer programs and the associated documentation required for developing, operating and maintaining them'
- IEEE, in its standard 610.12-1990, defines software engineering as:
  - (i) The application of a systematic, disciplined, quantifiable approach to the development, operation and maintenance of software; that is, the application of engineering to software.
  - (ii) The study of approaches as in (i).
- By combining all the above definition we can define software engineering as, Software engineering is the technological and managerial discipline concerned with systematic production and maintenance of software products that are developed and modified on time and within cost estimates.

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## Types of cement

- Ordinary portland cement(opc)
- Rapid hardening portland cement
- Quick setting cement
- Pozzuolana portland cement
- Low heat cement
- Blast furnace cement
- White cement
- Sulphate resisting cement
- Coloured cement



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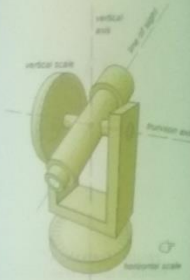
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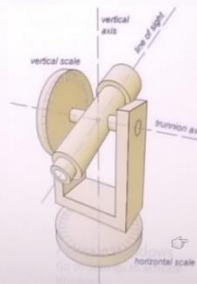
## INTRODUCTION

- Theodolite is a basic surveying instrument which is use for measuring vertical and horizontal angle.
- Theodolite is more precise than magnetic compass.
- Magnetic compass measures the angle up to as accuracy of 30'. However a vernier theodolite measures the angles up to and accuracy of 10", 20"



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23/06/21 02:09 PM

## Need Of Transportation System

- Transportation engineers work to ensure the safe, economical and timely movement of people and goods. They might be involved in all aspects of new private and public transportation projects, which can include addressing energy needs, budget constraints and environmental concerns.



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Lat N 16° 56' 31.1352"

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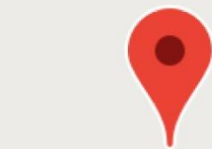
## Introduction to Steel Structure

A structure which is made from a combination of structural Steel members designed to carry loads and provide adequate rigidity is known as Steel structure.



## Introduction to Steel Structure

A structure which is made from a combination of structural Steel members designed to carry loads and provide adequate rigidity is known as Steel structure.



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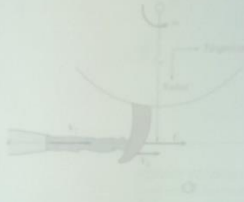
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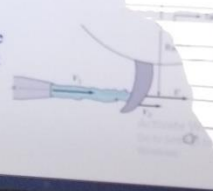
## Impulse Turbines <sup>3/8</sup>

- ❖ Ideally, the fluid enters and leaves the control volume with no radial component of velocity.
- ❖ The buckets would ideally turn the relative velocity through a  $180^\circ$  turn, but physical constraints dictate that  $\beta$ , the angle of the exit edge of the blade, is less than  $180^\circ$



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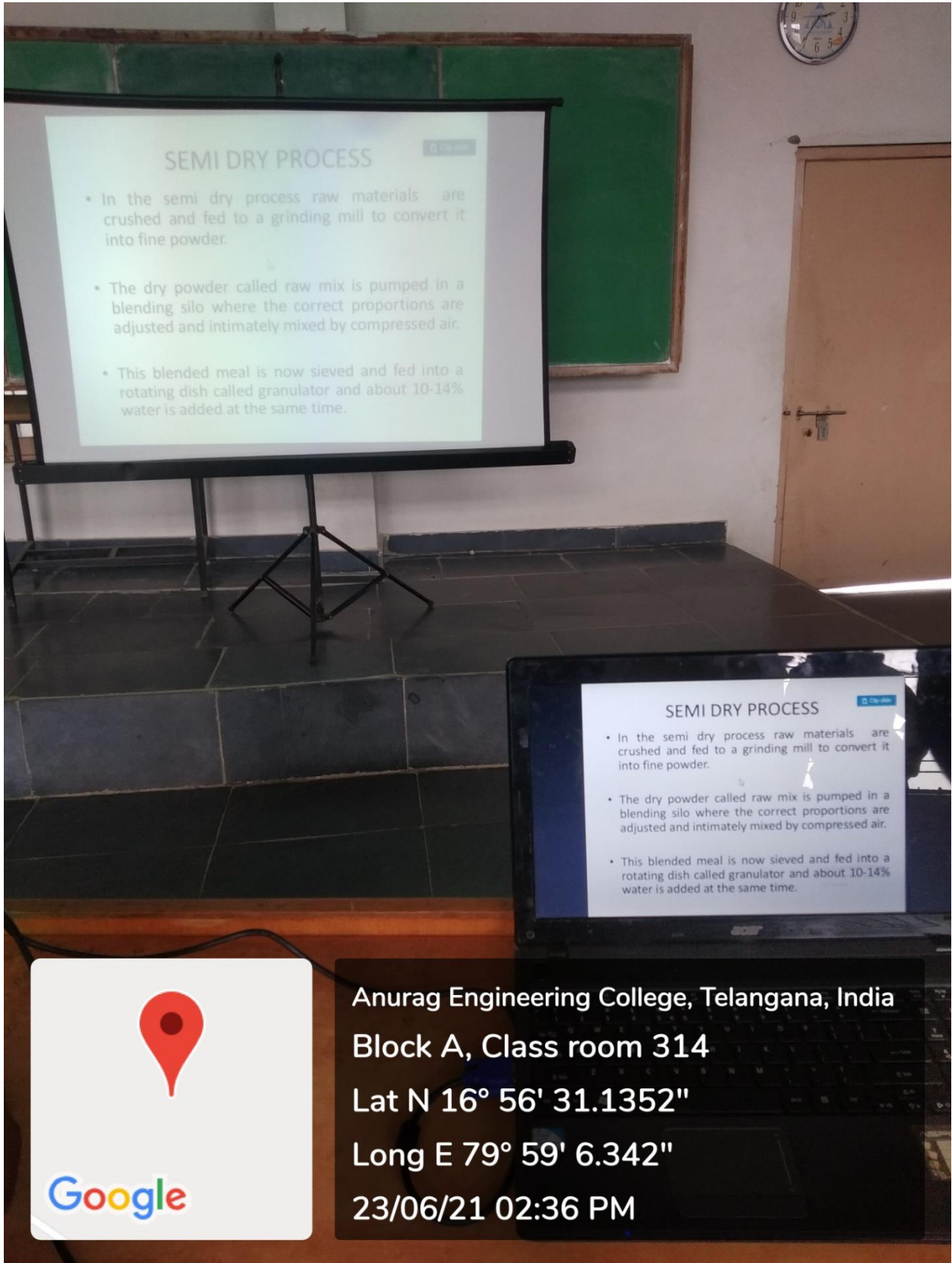
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## SEMI DRY PROCESS

- In the semi dry process raw materials are crushed and fed to a grinding mill to convert it into fine powder.
- The dry powder called raw mix is pumped in a blending silo where the correct proportions are adjusted and intimately mixed by compressed air.
- This blended meal is now sieved and fed into a rotating dish called granulator and about 10-14% water is added at the same time.

## SEMI DRY PROCESS

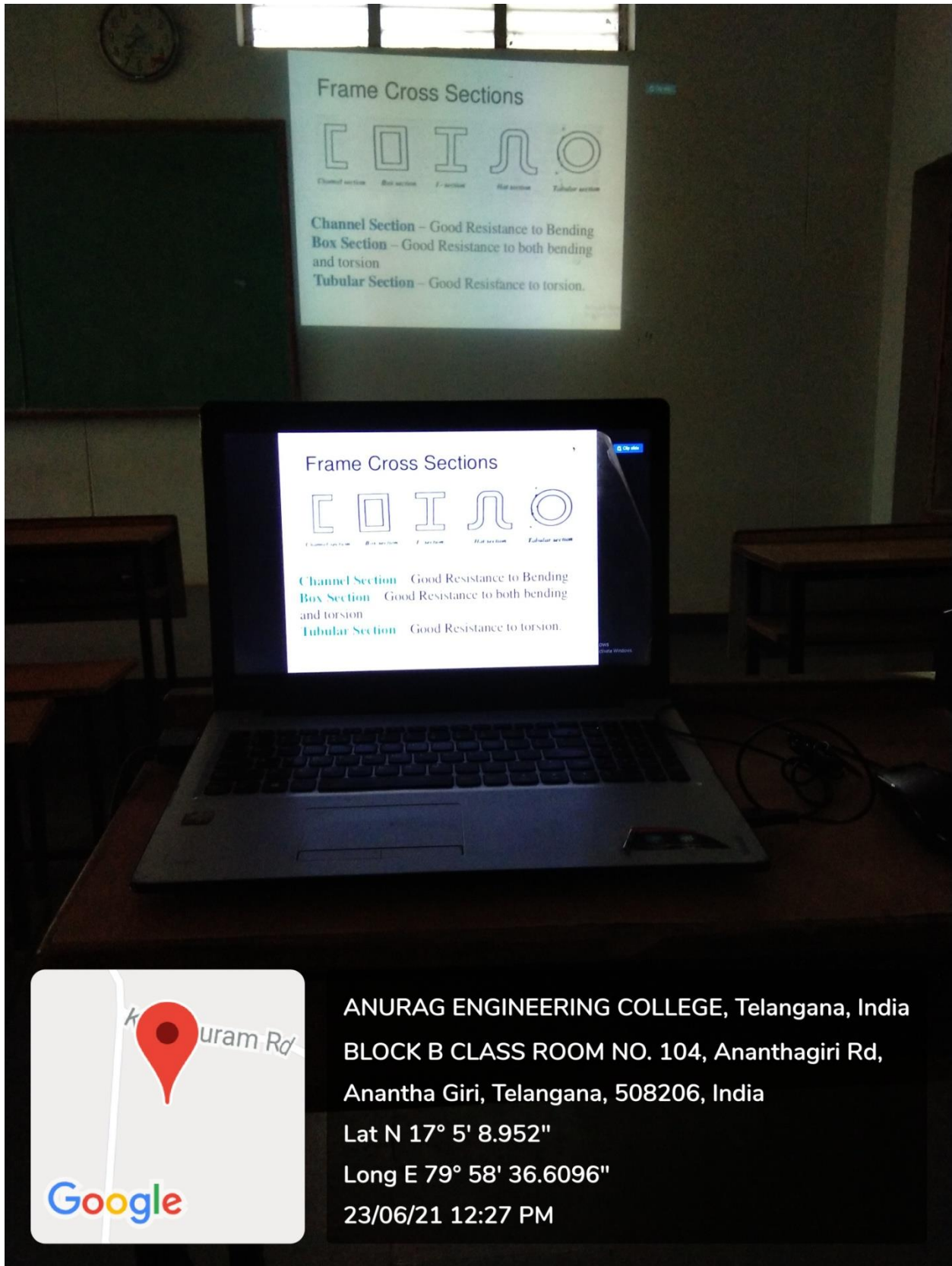
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# BLOCK B



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Anantha Giri, Telangana, 508206, India

Lat N 17° 5' 8.952"

Long E 79° 58' 36.6096"

23/06/21 12:27 PM

## Definition of Automobile

- Automobile is a "Self Propelled vehicle" generally driven by IC Engine and it is used for transportation of passengers & goods on **ground** – *W. H. Crouse*.
- Examples : Car, Bus, Truck, Scooter etc.

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Lat N 17° 5' 8.952"

Long E 79° 58' 36.6096"

23/06/21 12:26 PM



## Definition of heat transfer

Physical process by which thermal energy is exchanged between material bodies or inside the same body as a result of a temperature difference.

- Heat transfer is the study of the mechanism and rate of this process.

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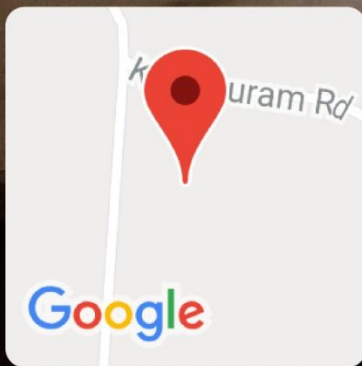
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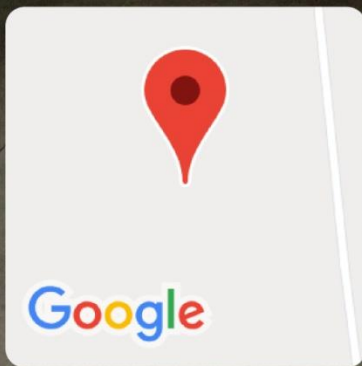
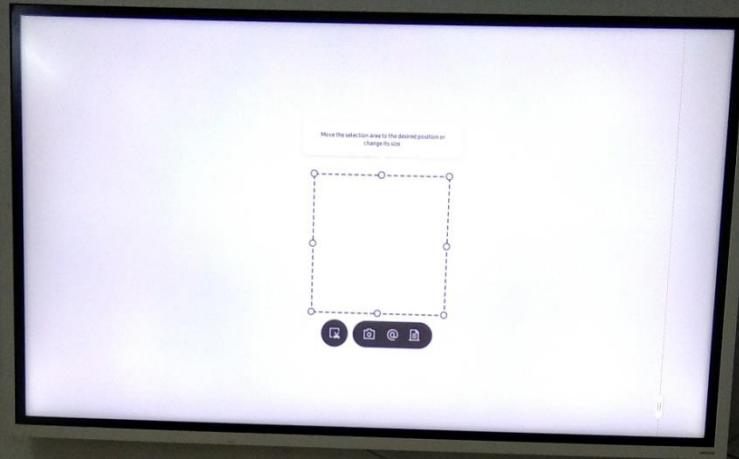
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Kinematics of Machines  
CHAPTER 1: Introduction to Kinematics of Machines

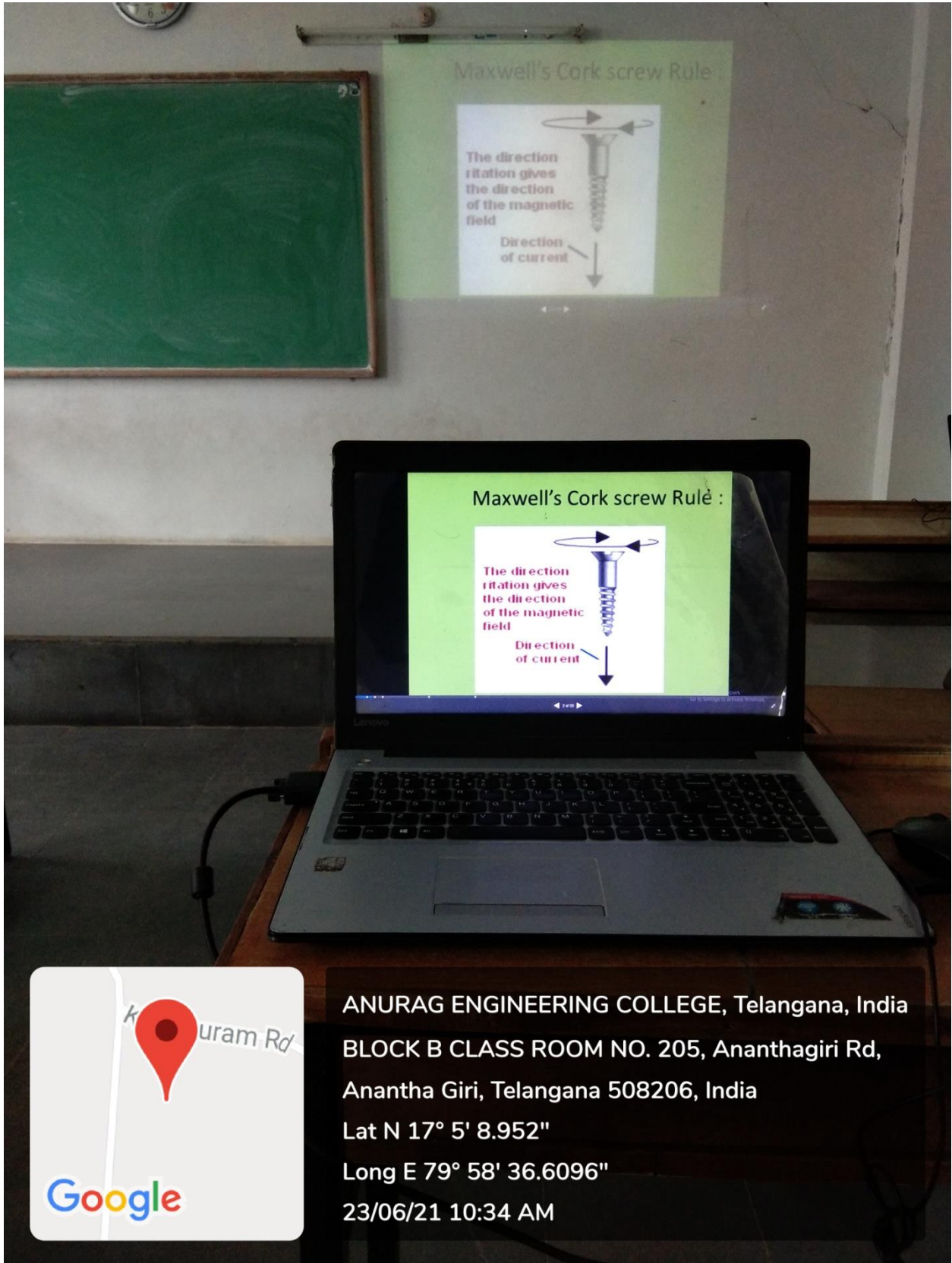
Kinematics of Machines  
CHAPTER 1: Introduction to Kinematics of Machines



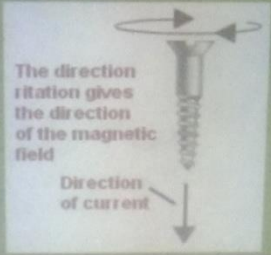
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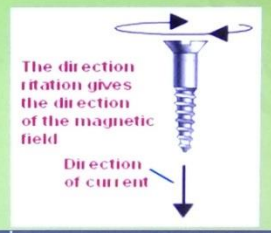
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BLOCK B Digital CLASS ROOM NO. 204, Anantha  
Giri Rd, Anantha Giri, Telangana 508206, India  
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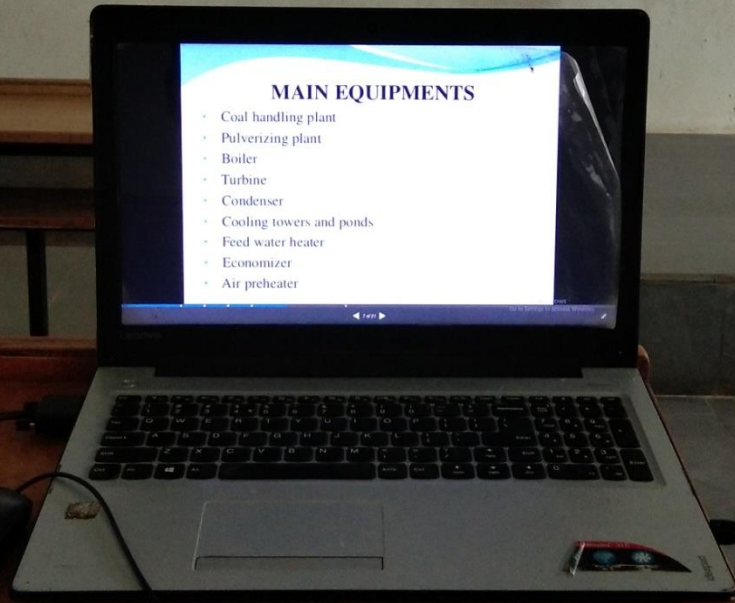
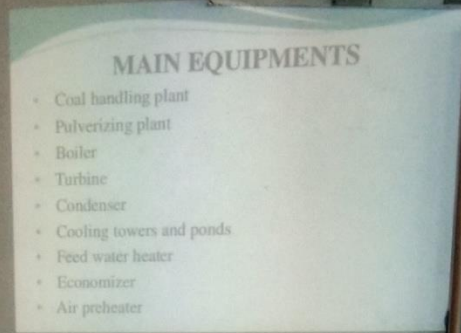
Maxwell's Cork screw Rule :



Maxwell's Cork screw Rule :



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**Anantha Giri, Telangana 508206, India**  
**Lat N 17° 5' 8.952"**  
**Long E 79° 58' 36.6096"**  
**23/06/21 10:47 AM**

## Theory of Operation

- The strong magnetic field is produced by a current flow through the field coil of the rotor.
- The field coil in the rotor receives excitation through the use of slip rings and brushes.
- Two brushes are spring-held in contact with the slip rings to provide the continuous connection between the field coil and the external excitation circuit.
- The armature is contained within the windings of the stator and is connected to the output.

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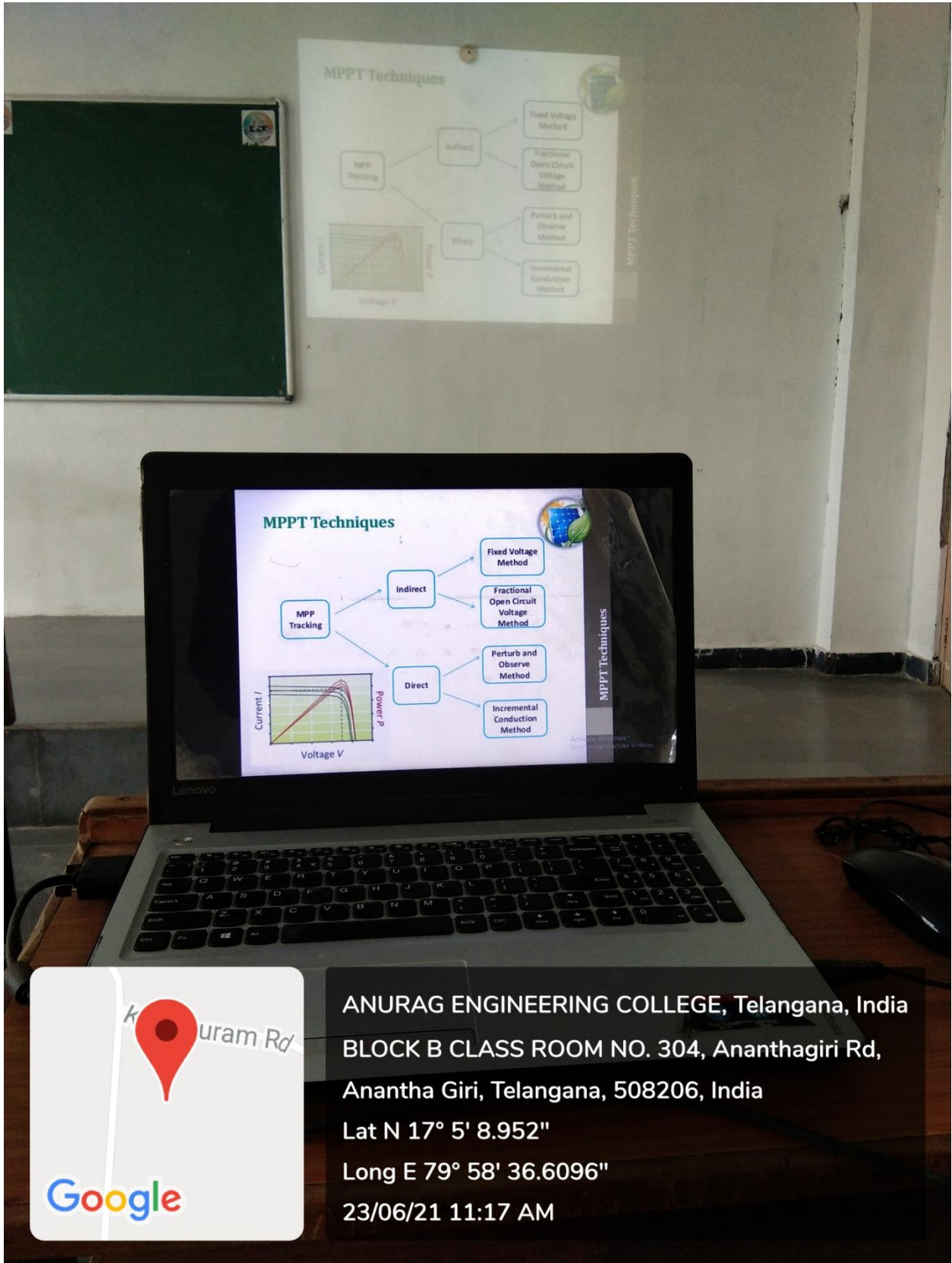
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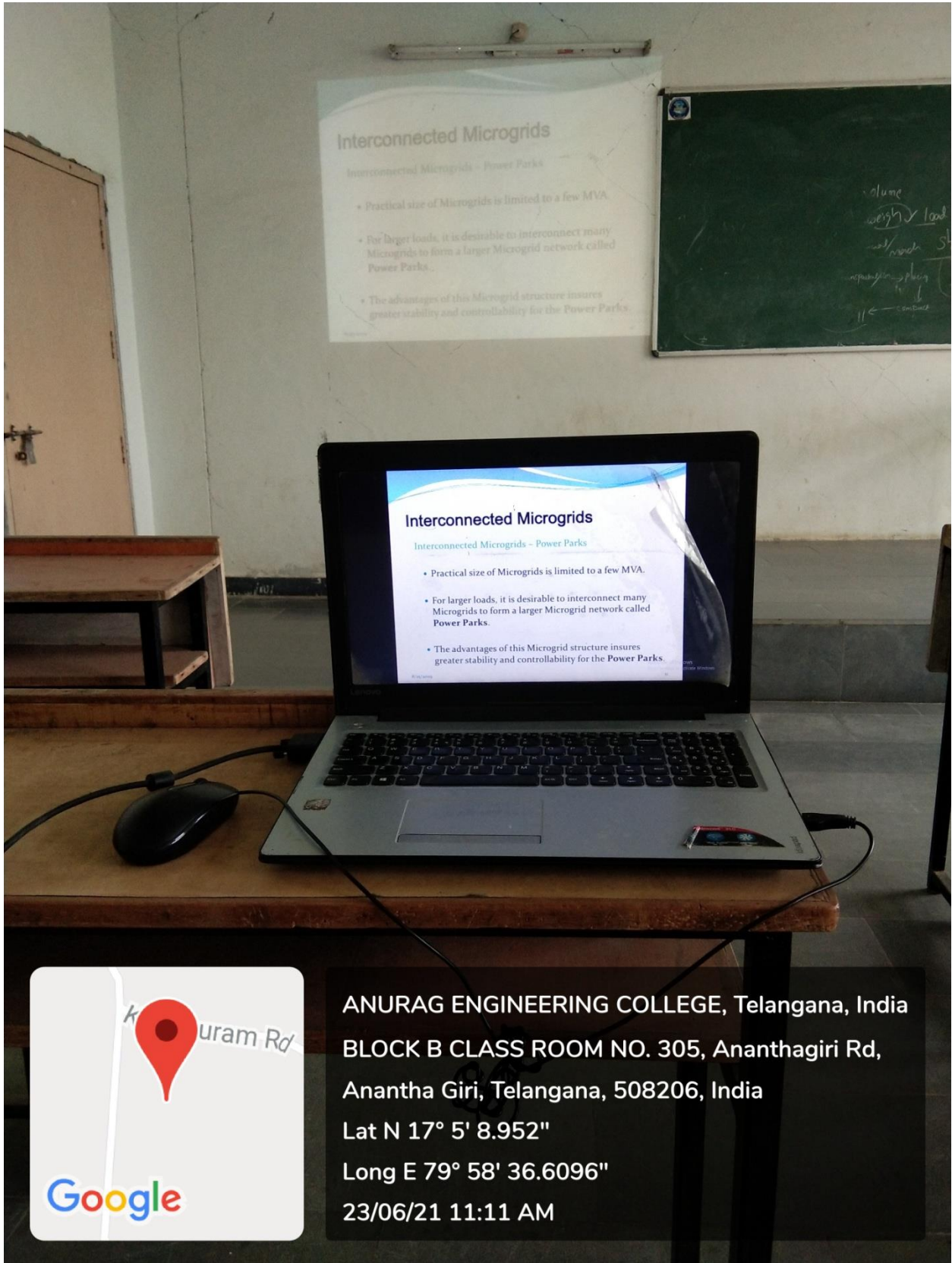
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K...uram Rd

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Lat N 17° 5' 8.952"  
Long E 79° 58' 36.6096"  
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## PULVERIZING PLANT

- In modern thermal power plant, coal is pulverized i.e. ground to dust like size and carried to the furnace in a stream of hot air. Pulverizing is a means of exposing a large surface area to the action of oxygen and consequently helping combustion.
- Pulverizing process consists 3 stages classified as:
  1. Feeding
  2. Drying
  3. Grinding

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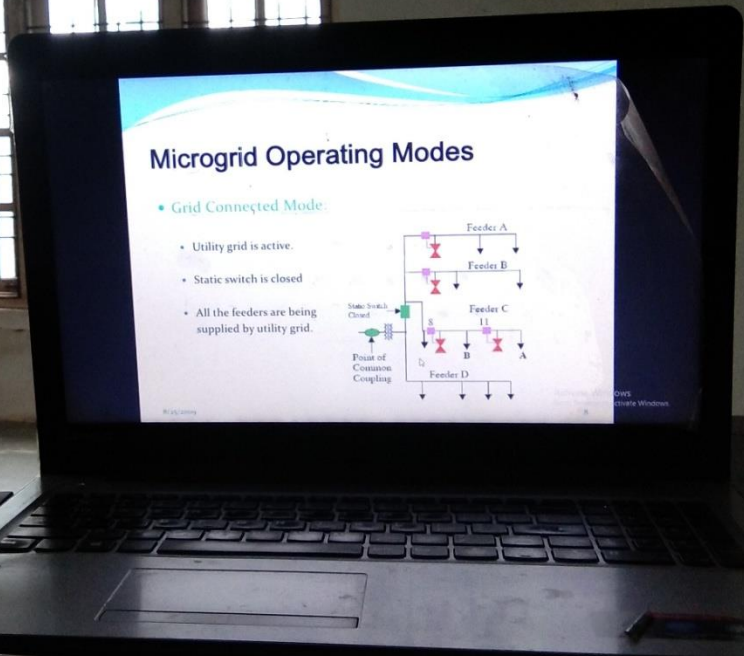
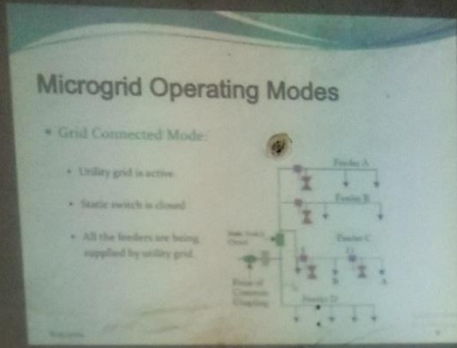
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Anantha Giri, Telangana, 508206, India

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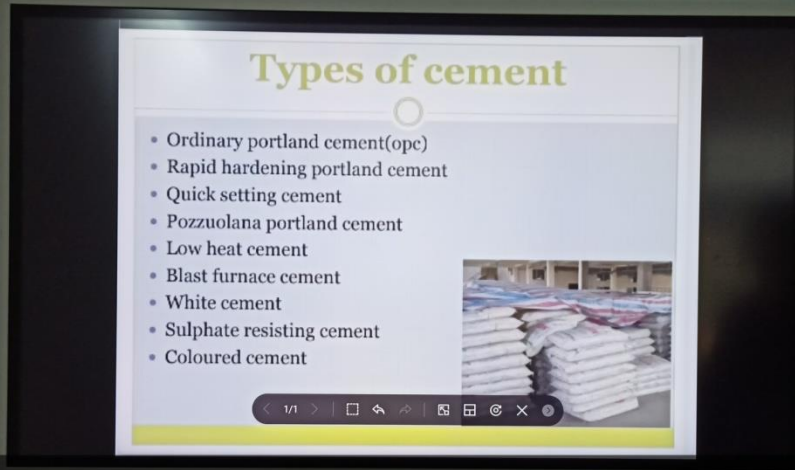
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Anantha Giri, Telangana, 508206, India  
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Long E 79° 58' 36.6096"  
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# BLOCK D



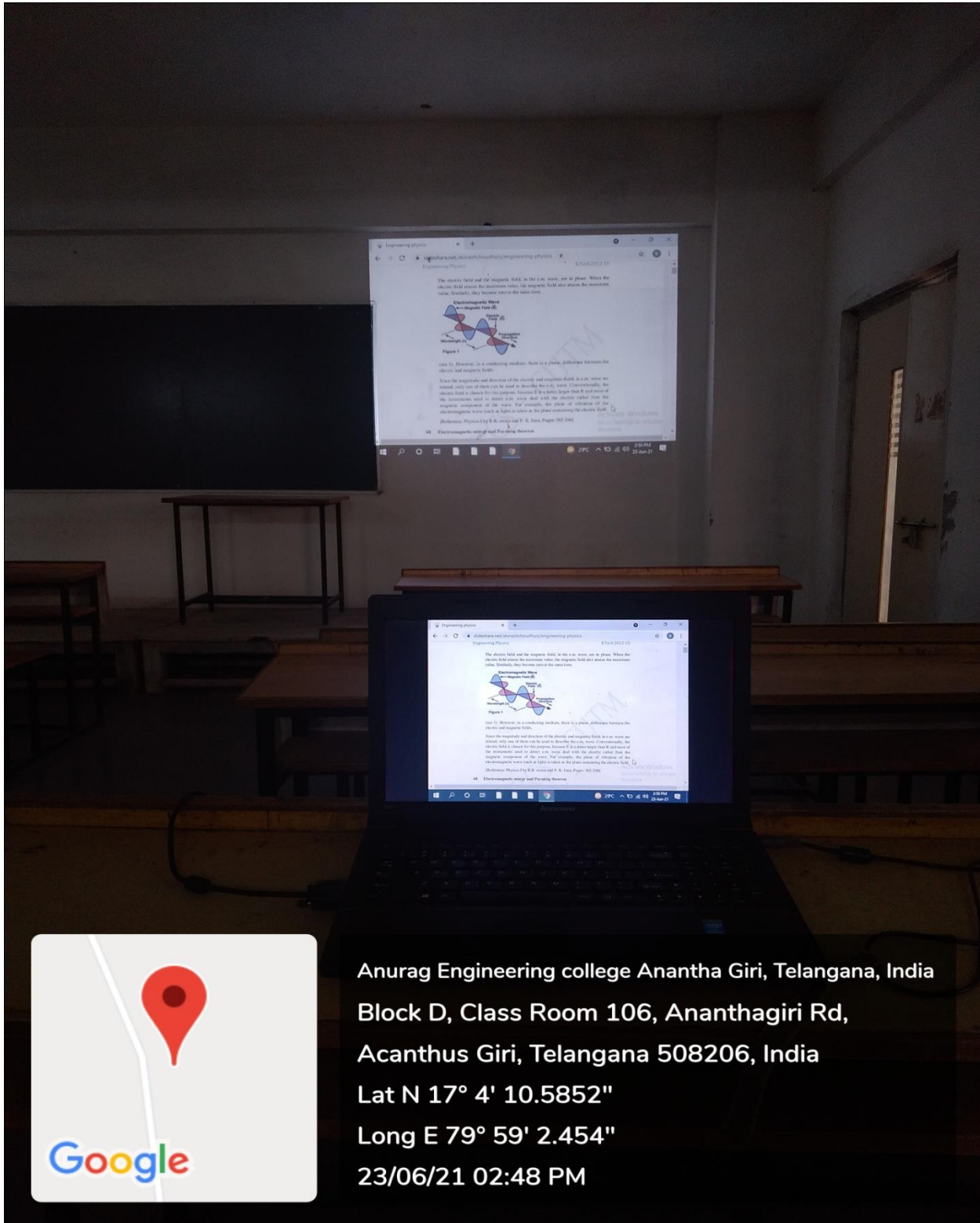
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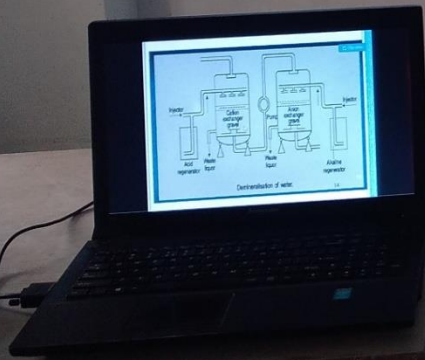
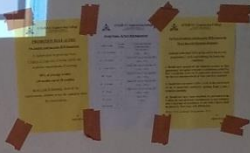
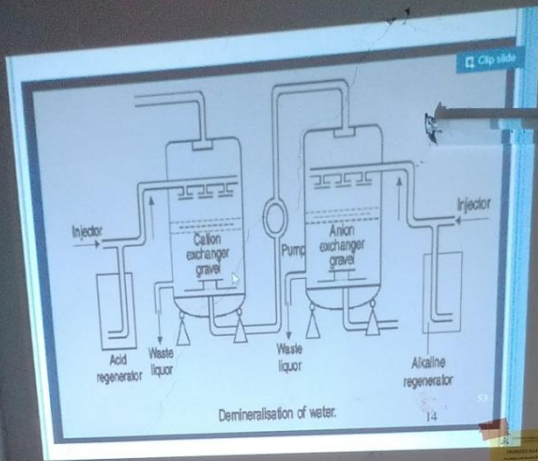
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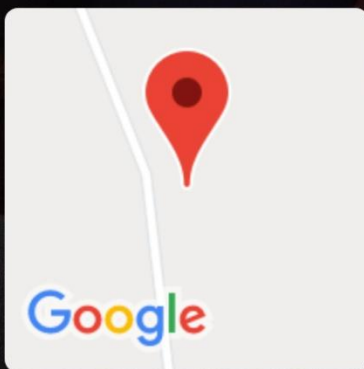
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Block D, Class Room 106, Ananthagiri Rd,  
Acanthus Giri, Telangana 508206, India  
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Long E 79° 59' 2.454"  
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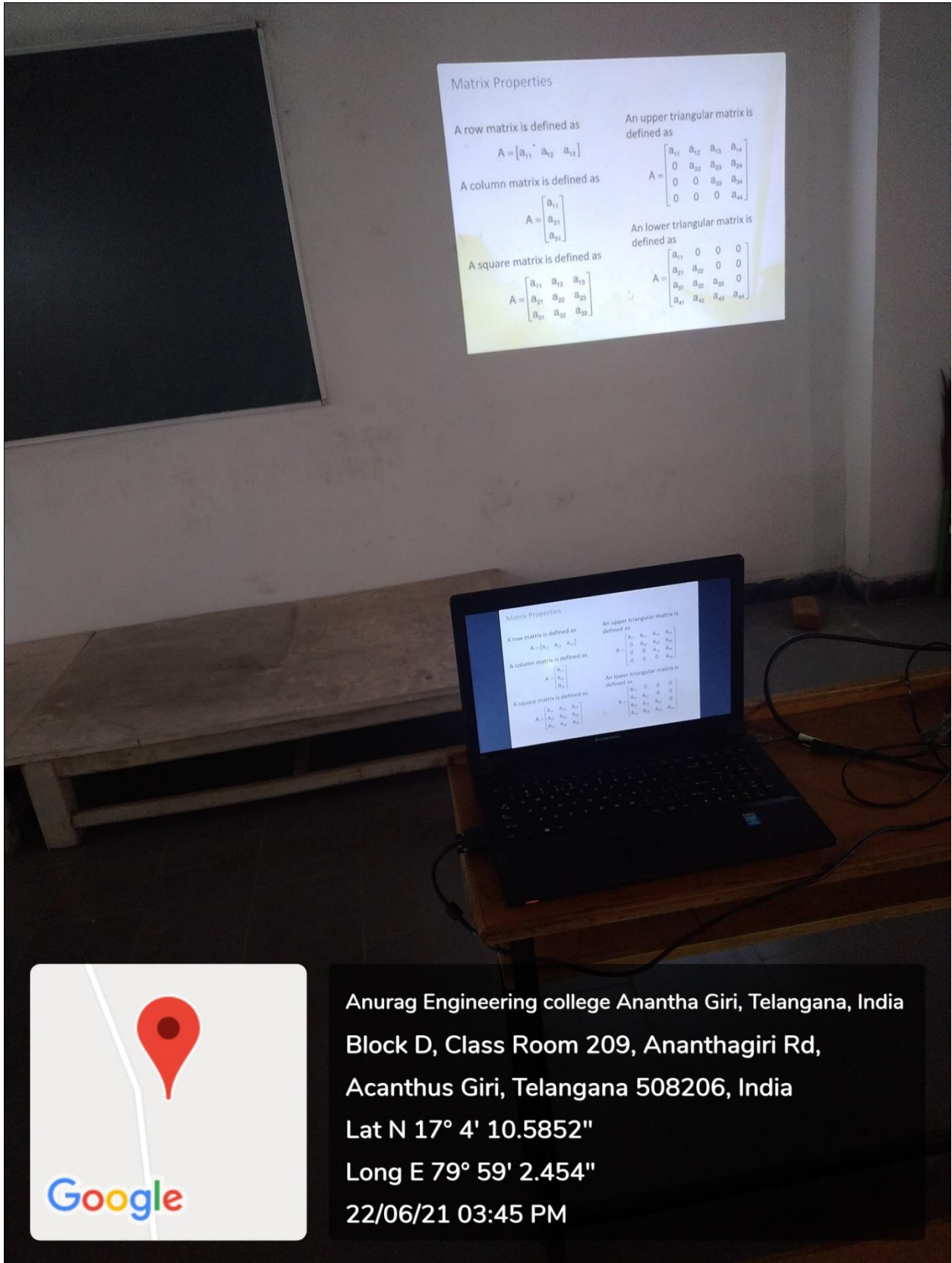
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Lat N 17° 4' 10.5852"  
Long E 79° 59' 2.454"  
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**Regeneration of mixed bed ion-exchanger**

1. When the bed (resins) are exhausted or cease to soften the water, the mixed bed is washed by forcing the water from the bottom in the upward direction.
2. Then the light weight anion exchanger move to the top and forms a upper layer above the heavier cation exchanger.
3. Then the anion exchanger is regenerated by passing caustic soda solution (NaOH) from the top and then rinsed with pure water.
4. The lower cation exchanger bed is then washed with dil. H<sub>2</sub>SO<sub>4</sub> solution and then rinsed.
5. The two beds are then mixed again by forcing compressed air to mix both and the resins are now ready for use.



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### Matrix Properties

A row matrix is defined as

$$A = [a_{11} \ a_{12} \ a_{13}]$$

A column matrix is defined as

$$A = \begin{bmatrix} a_{11} \\ a_{21} \\ a_{31} \end{bmatrix}$$

A square matrix is defined as

$$A = \begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{bmatrix}$$

An upper triangular matrix is defined as

$$A = \begin{bmatrix} a_{11} & a_{12} & a_{13} & a_{14} \\ 0 & a_{22} & a_{23} & a_{24} \\ 0 & 0 & a_{33} & a_{34} \\ 0 & 0 & 0 & a_{44} \end{bmatrix}$$

An lower triangular matrix is defined as

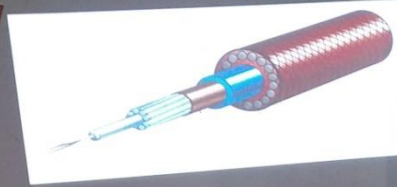
$$A = \begin{bmatrix} a_{11} & 0 & 0 & 0 \\ a_{21} & a_{22} & 0 & 0 \\ a_{31} & a_{32} & a_{33} & 0 \\ a_{41} & a_{42} & a_{43} & a_{44} \end{bmatrix}$$

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Acanthus Giri, Telangana 508206, India  
Lat N 17° 4' 10.5852''  
Long E 79° 59' 2.454''  
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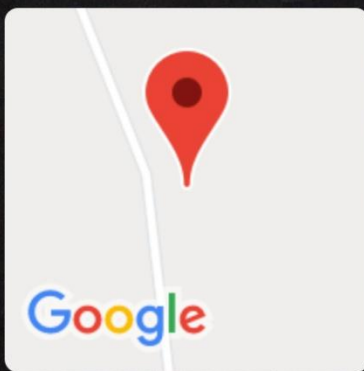
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## OPTICAL FIBER

© The **core**, and the lower-refractive-index **cladding**, are typically made of high-quality **silica glass**, though they can both be made of **plastic** as well.

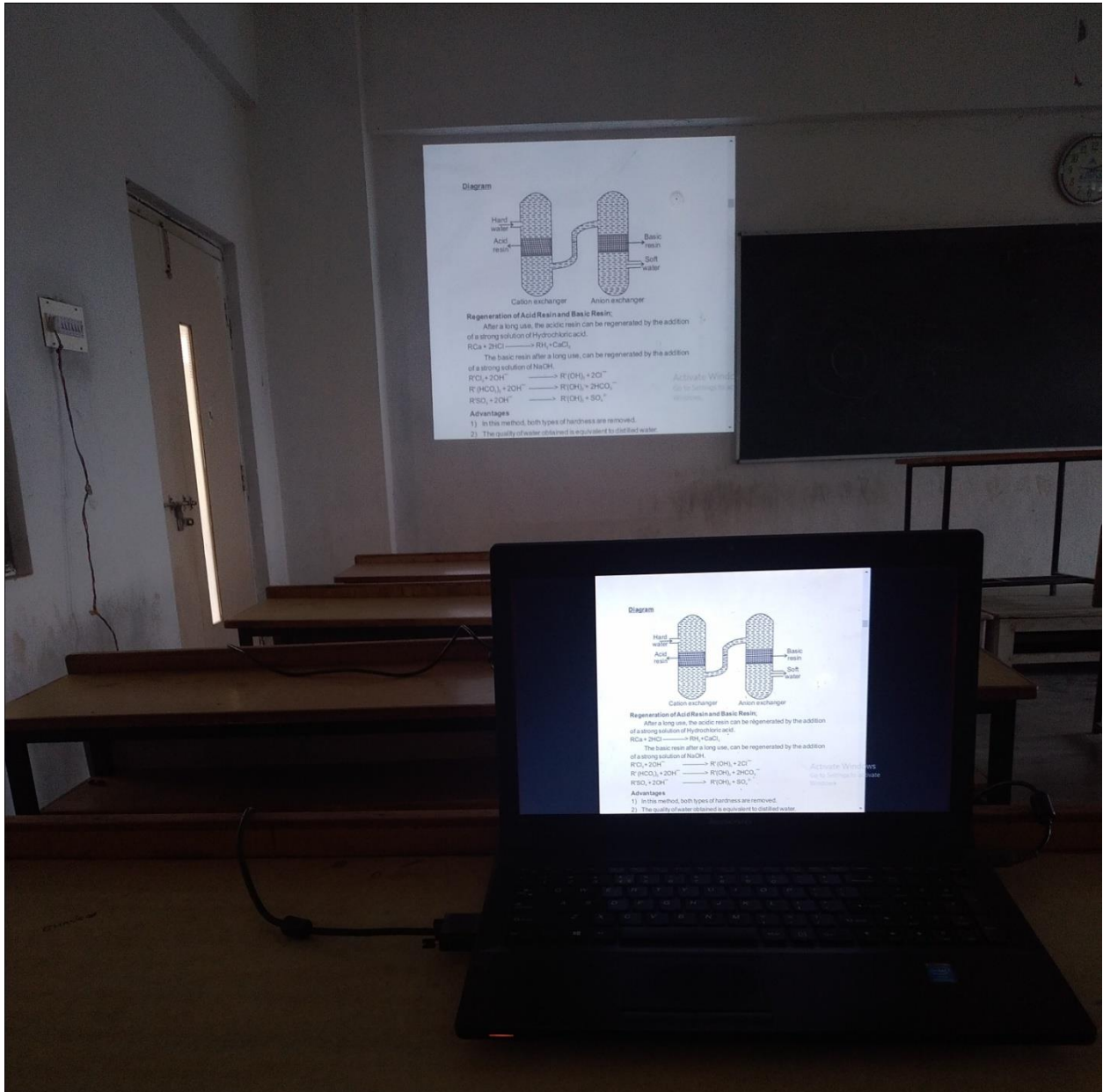


5



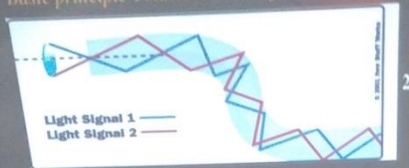
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Block D, Class Room 210, Ananthagiri Rd,  
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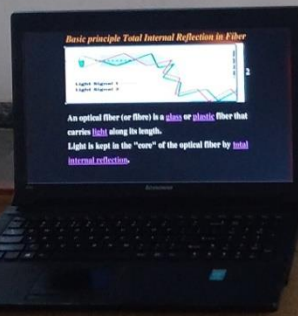
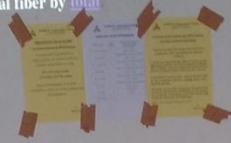
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### Basic principle Total Internal Reflection in Fiber



An optical fiber (or fibre) is a glass or plastic fiber that carries light along its length.

Light is kept in the "core" of the optical fiber by total internal reflection.



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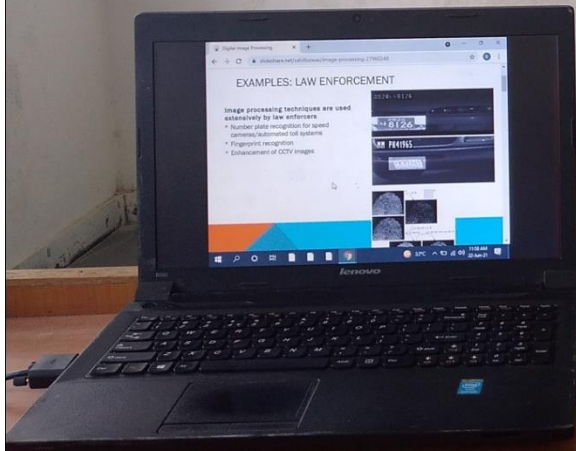
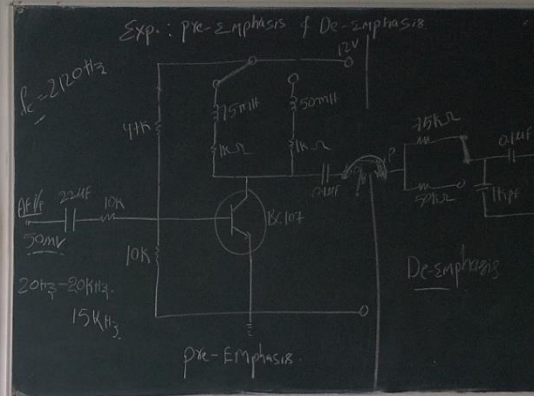
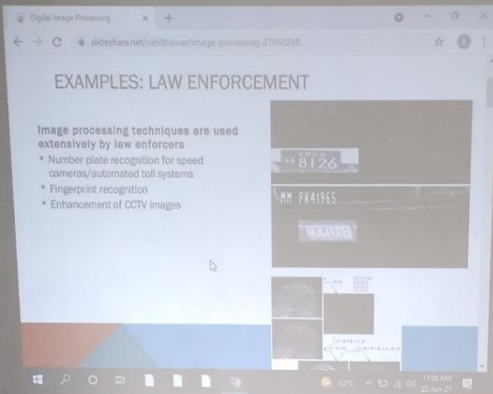
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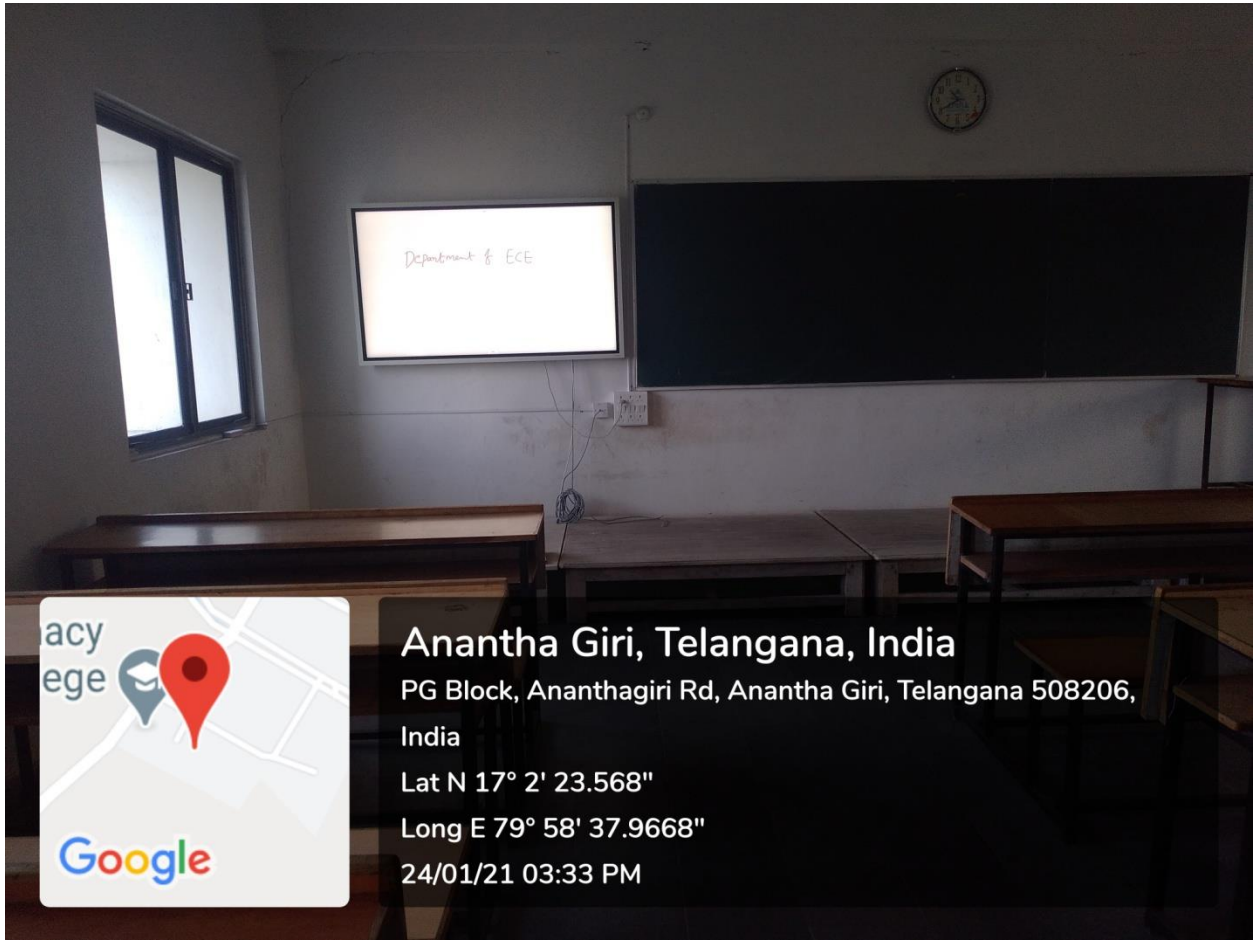
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India

Lat N 17° 2' 23.568"

Long E 79° 58' 37.9668"

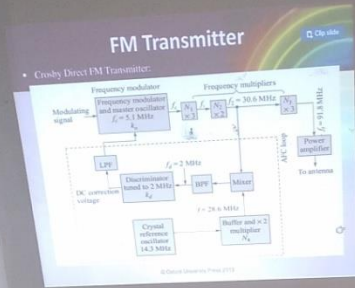
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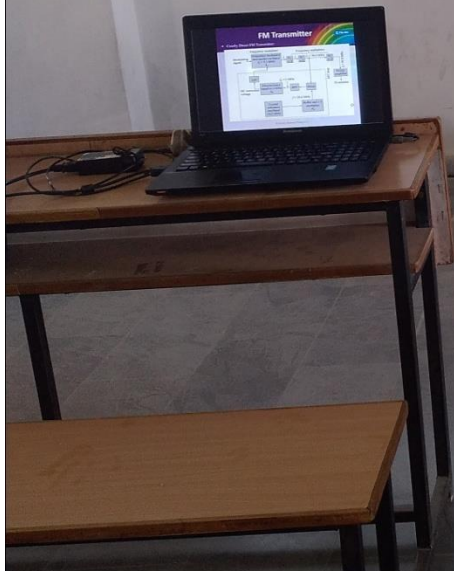
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$\beta = \frac{f_c}{f_m} = \frac{10k}{1k} = 10$     $R_1 = 1k$     $R_2 = 2k$     $R_3 = 5k$   
 Calculate  $A_v$ ,  $R_i$ ,  $A_v$ ,  $R_o$ ,  $A_v$ ,  $A_{vS}$   
 $h_{ie} = 100\Omega$     $h_{oe} = 2 \times 10^{-4} S$     $h_{fe} = 50$     $h_{oe} = 25 \times 10^{-6} S$   
 $A_v = \frac{h_{fe} R_L}{h_{ie} + h_{fe} R_L}$   
 $R_i = h_{ie} + h_{fe} R_L$   
 $A_v = A_v \frac{R_L}{R_i}$   
 $R_o = \frac{1}{h_{oe} + \frac{h_{fe} h_{oe}}{R_L}}$

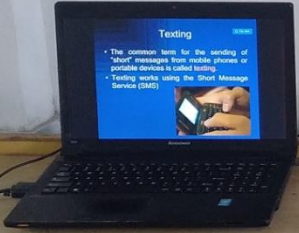


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Texting

- The common term for the sending of "short" messages from mobile phones or portable devices is called **texting**.
- Texting works using the Short Message Service (SMS)



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## FAX

- A **fax** is a document sent over a telephone line.
- Fax machines were a very common way to send documents from one location to another.
- Fax machines are still used today but are not considered as reliable as other options that are available.

operation of cellular Mobile system

- 1) Mobile user registration ✓
- 2) Mobile originated calls ✓
- 3) Network originated calls ✓
- 4) Call termination ✓

Handoff / Handover

Mobile

Handoff / Handover

L-L  
L-M  
M-L

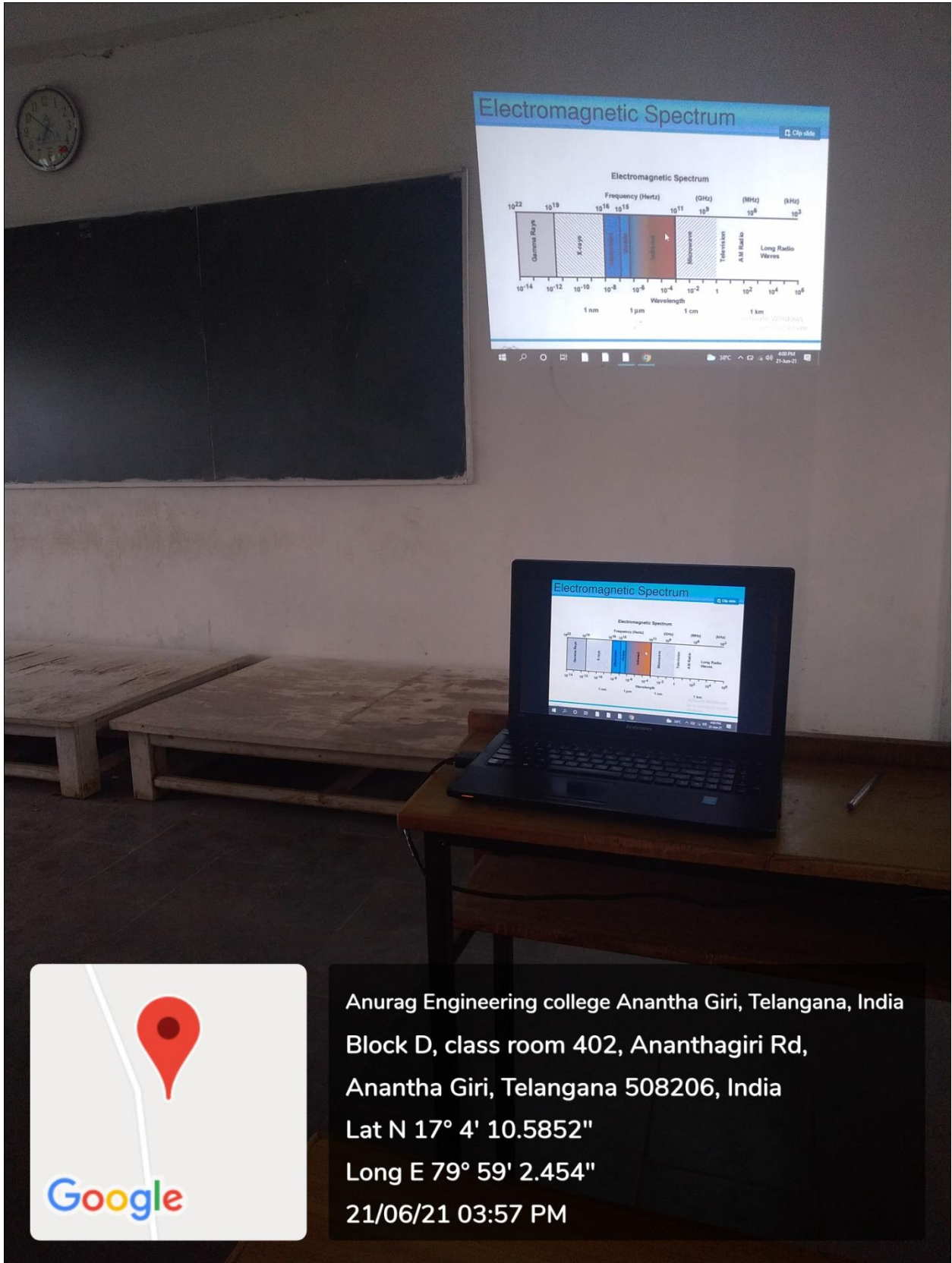
3G  
2G

9 Subchannels

1) F.S.S  
2) P.A.S.C



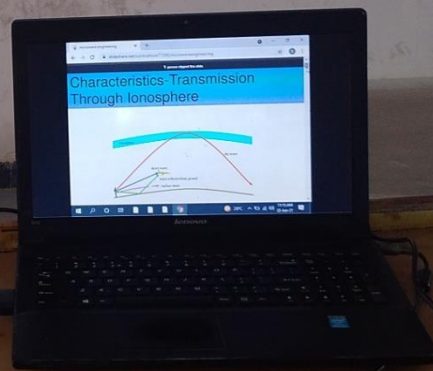
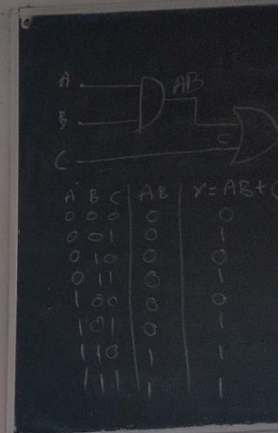
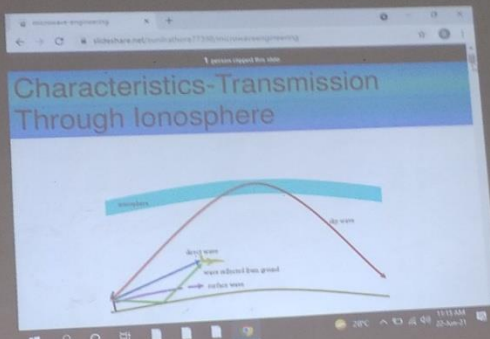
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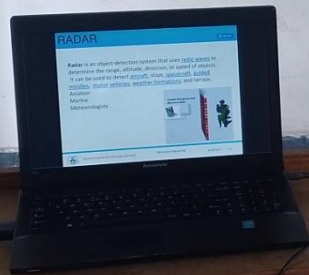
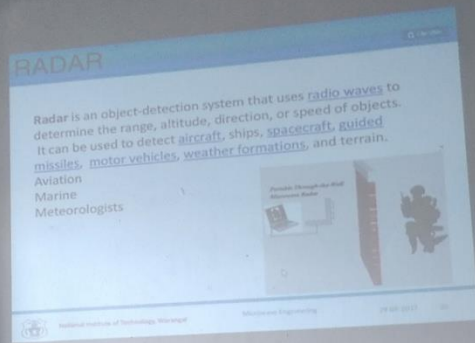
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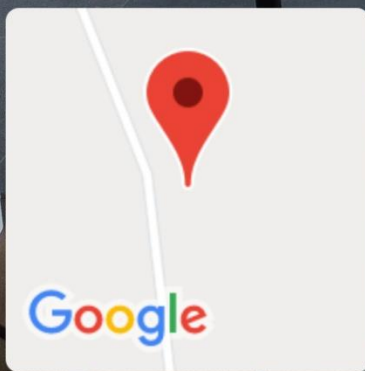
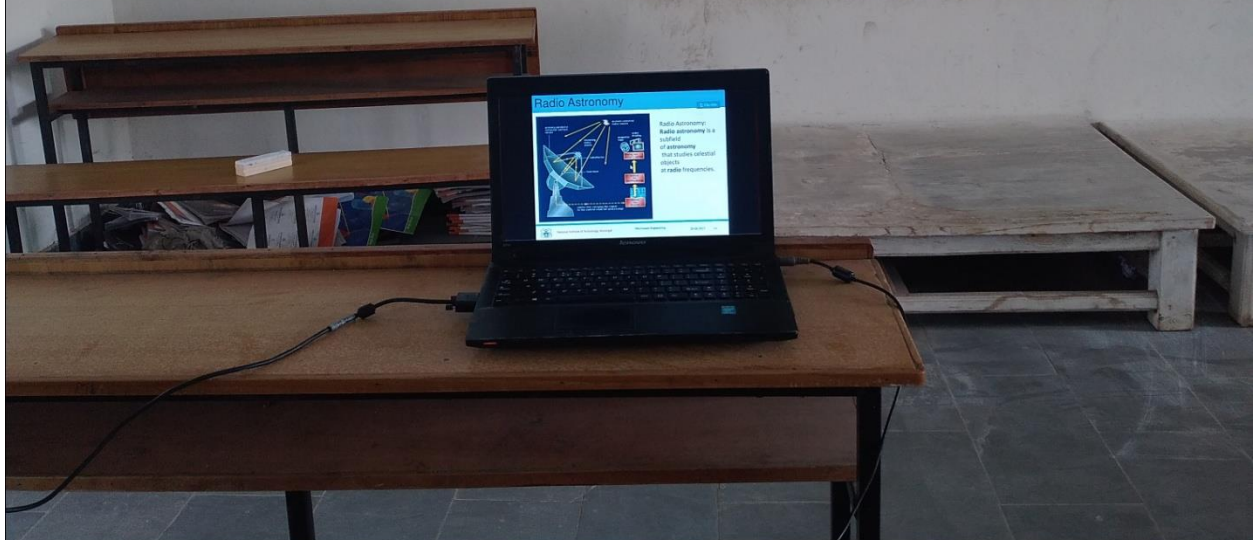
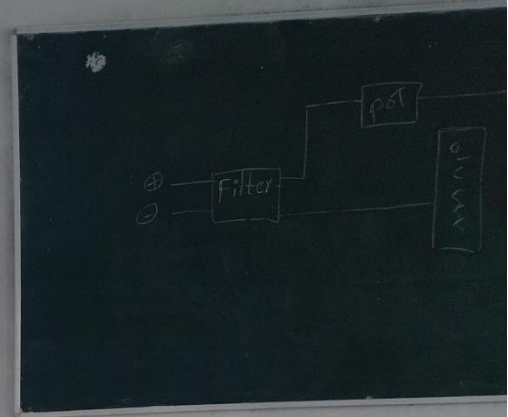
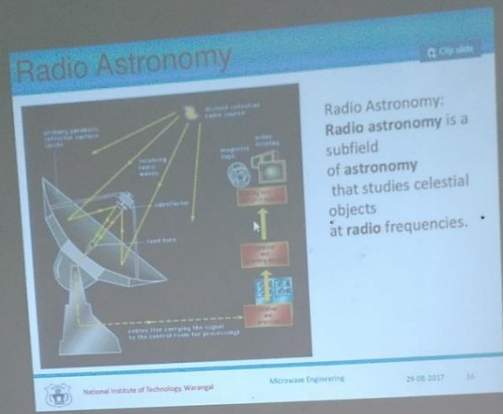
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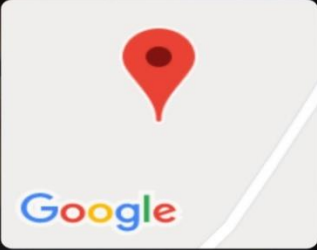
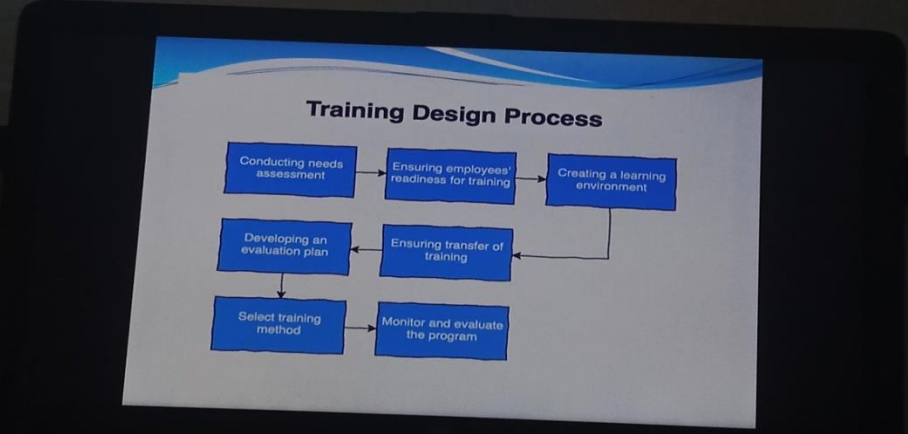
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# BLOCK E





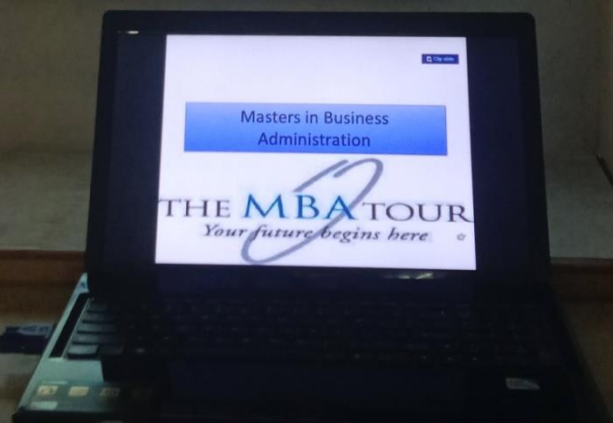
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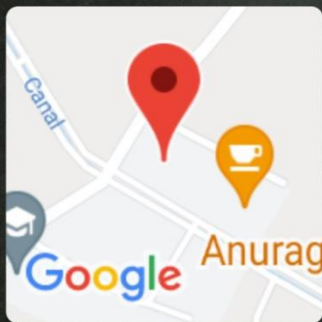
## What is an Embedded System?

- An embedded system is some combination of computer hardware and software, either fixed in capability or programmable, that is specifically designed for a particular function.
- It is embedded as part of a complete device often including hardware and mechanical parts.
- Modern embedded systems are often based on microcontrollers (i.e. CPUs with integrated memory or peripheral interfaces), but ordinary microprocessors (using external chips for memory and peripheral interface circuits) are also common, especially in more complex systems.



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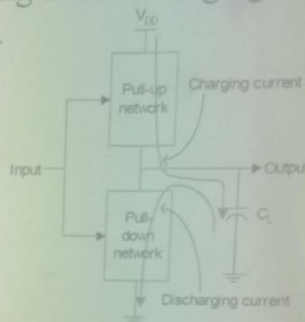
Long E 79° 58' 43.1472"

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# Switching Power Dissipation

- ♦ Caused by the charging and discharging of the node capacitance.

Figure 1: Switching power dissipation [1].



6/22/2021

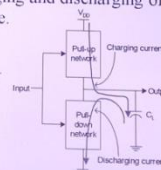
Low power design in VLSI

5

# Switching Power Dissipation

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Figure 1: Switching power dissipation [1].



6/22/2021

Low power design in VLSI

5



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## SYSTEM DESIGN

- Evaluation of alternative solutions to a business design.
- Specification of hardware, software and communication technology for the selected solution.
- Purpose : Devise means to meet all the business requirements detailed in the requirements report.

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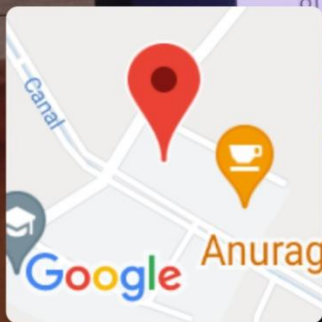
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## Why IR?

- ▶ Every online database, every search engine, everything that is searched online is based in some way or another on principles developed in IR
  - IR is at the heart of searching used in systems such as DIALOG, LexisNexis & others
- ▶ Understanding the basics of IR is a prerequisite for understanding how searching of online systems works.

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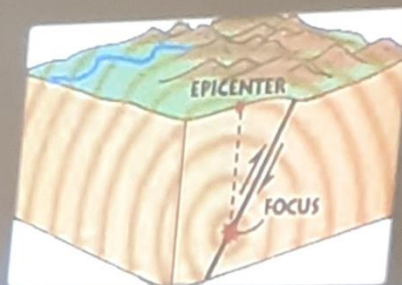
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## Terms Related To Earthquake

### Focus(Hypocenter):

Focus is the point on the fault where rupture occurs and the location from which seismic waves are released.

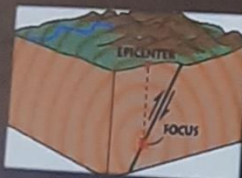


### Epicenter:

Epicenter is the point on the earth's surface that is directly above the focus, the point where an earthquake or underground explosion originates.

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## FOLDED SLAB ROOFS

- A thin-walled building structure of the shell type
- Movable form work can be employed.
- Form work required is relatively simpler.
- Design involves simpler calculations.
- Folded plate consumes more material than shells.

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### A TYPICAL STRESS-STRAIN DIAGRAM

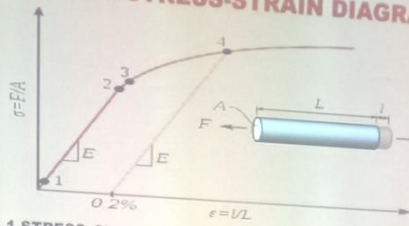


FIG.1 STRESS-STRAIN CURVE SHOWING TYPICAL YIELD BEHAVIOR FOR NONFERROUS ALLOYS. STRESS IS SHOWN AS A FUNCTION OF STRAIN.

- 1: TRUE ELASTIC LIMIT
- 2: PROPORTIONALITY LIMIT
- 3: ELASTIC LIMIT

### A TYPICAL STRESS-STRAIN DIAGRAM

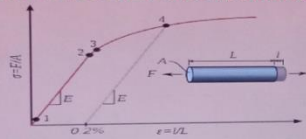
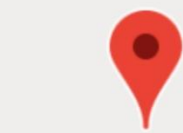


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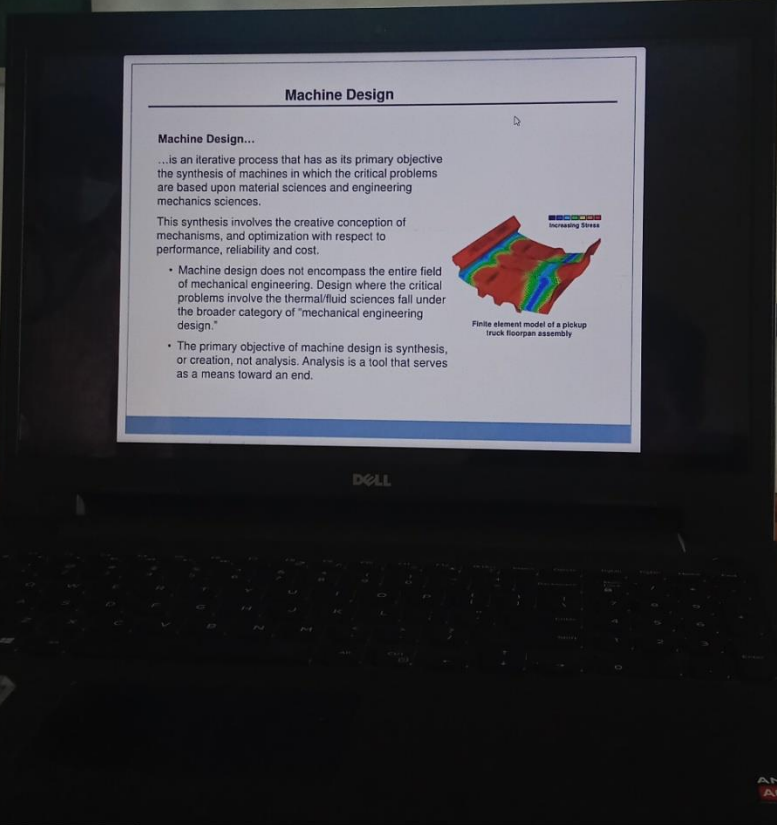
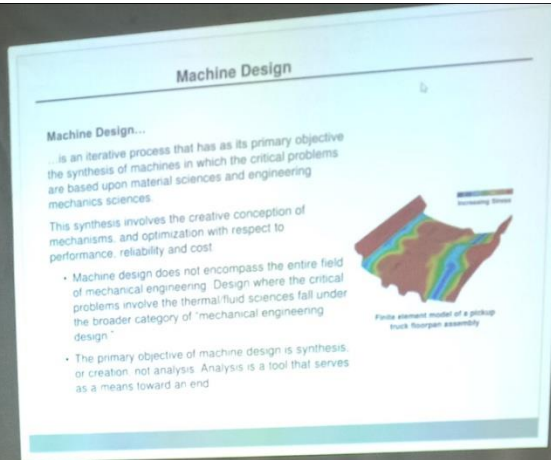
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Long E 79° 58' 43.7916"  
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## WHAT IS WIRELESS COMMUNICATION?

- ◉ Transmitting/receiving voice and data using electromagnetic waves in open space.
- ◉ The information from sender to receiver is carried over a well defined channel.
- ◉ Each channel has a fixed frequency bandwidth & capacity(bit rate).
- ◉ Different channels can be used to transmit information in parallel and independently.

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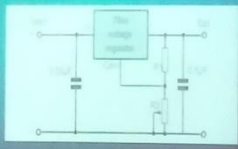
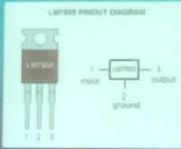
Long E 79° 58' 43.7916"

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7805 VOLTAGE REGULATORS & INTERNAL DIAGRAM

- IC7805 is a voltage regulator that restricts the output voltage to 5v output for various ranges of input voltage.

EXTERNAL PINOUT DIAGRAM

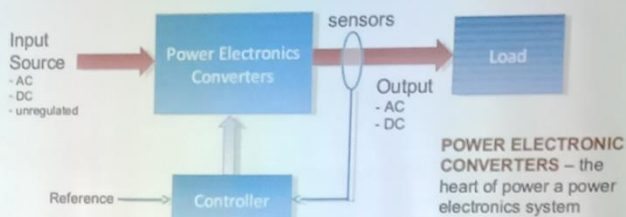


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## Power Electronic Systems

### What is Power Electronics ?

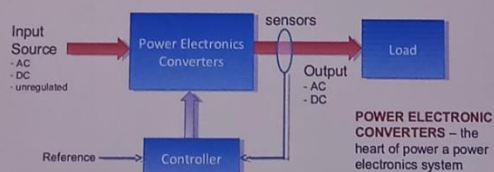
A field of Electrical Engineering that deals with the application of power semiconductor devices for the control and conversion of electric power.



## Power Electronic Systems

### What is Power Electronics ?

A field of Electrical Engineering that deals with the application of power semiconductor devices for the control and conversion of electric power.



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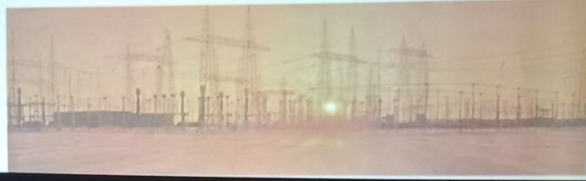
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Long E 79° 58' 43.7916"

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## OBJECTIVE OF POWER SYSTEM PROTECTION

- To isolate a faulty section of electrical power system from rest of the live system so that the rest portion can function satisfactorily without any severer damage due to fault current.



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- To isolate a faulty section of electrical power system from rest of the live system so that the rest portion can function satisfactorily without any severer damage due to fault current.



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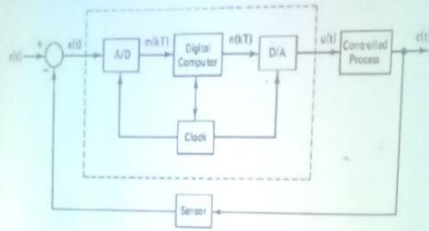
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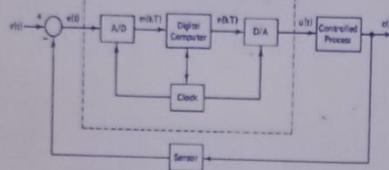
## Digital Control System

A control system which uses a digital computer as a controller or compensator is known as digital control system. The advantages of using a digital computers for compensation include: accuracy, reliability, economy and most importantly, flexibility.



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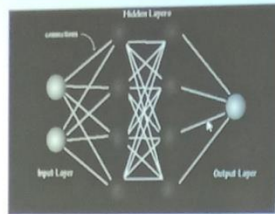
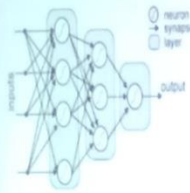
Block E, Class room 307, Telangana 508234, India

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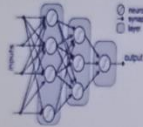
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# ARTIFICIAL NEURAL NETWORK



Architecture of a feedforward

# ARTIFICIAL NEURAL NETWORK



Architecture of a feedforward



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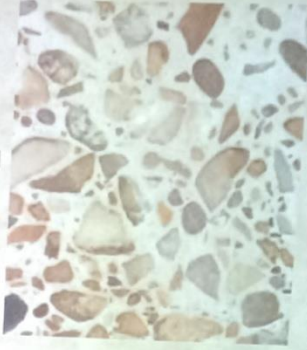
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## Structure of Concrete

- Macroscopically, concrete may be considered to be composed of 2 phases – coarse aggregate and mortar (paste + fine aggregate) or aggregate and paste.
- heterogeneous distribution  
At the *microscale*, we see that these 2 phases are not homogenous themselves!



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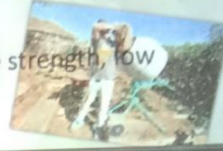
Long E 79° 58' 43.7916"

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## WHAT IS REINFORCED CONCRETE?

- Principal materials used in many civil engineering applications (buildings, retaining walls, foundations, water retaining structures, highways, bridges etc)
- A composite material: reinforcing bars embedded in concrete
- Concrete: high compressive strength, low tensile strength



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## ROOF DESIGN



The roof design and roofing materials have a significant impact on the finished appearance of the residence.

3

### ROOF DESIGN

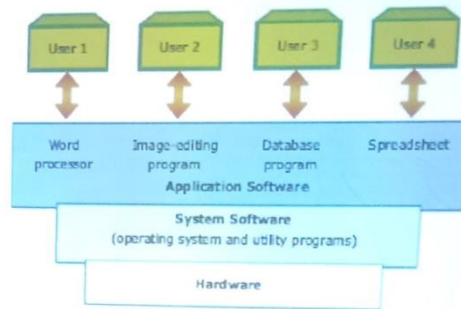


### SHED ROOF

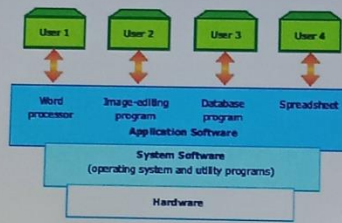


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## Hierarchy of computer software



## Hierarchy of computer software



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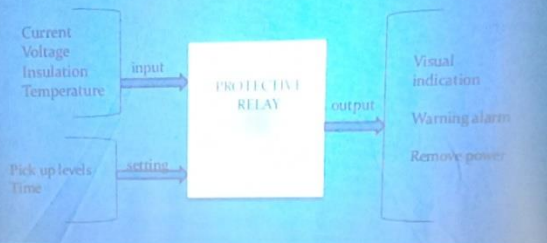
Lat N 17° 2' 45.5028"

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## Relay

A protection relay is a smart device that receive inputs, compares them to set points, and provide outputs .  
Inputs can be current ,voltage ,resistance or temperature.  
Outputs can include visual feedback in the form of indicator lights.  
A diagram is shown below.



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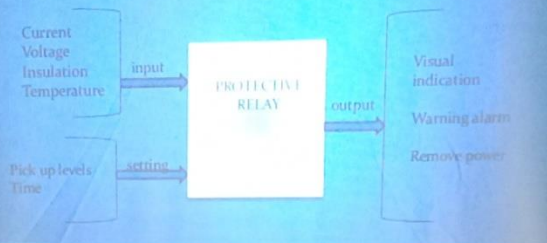
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## Importance of Training

- o High Productivity
- o Morale Booster
- o Better Quality of work
- o Cost Reduction
- o Low accidental rate
- o Development of Skills
- o Reduced supervision



A laptop screen displaying the same presentation slide as the projector. The slide is titled 'Importance of Training' and lists seven benefits: High Productivity, Morale Booster, Better Quality of work, Cost Reduction, Low accidental rate, Development of Skills, and Reduced supervision. An illustration of a presenter and audience is also visible on the screen.

Importance of Training

Training programs are essential for the organization to develop employees' knowledge and skills to perform job tasks effectively.

On the other hand, employees' lack of ability, knowledge, and technical skills can be a source of the general management of the individual employees in the company.

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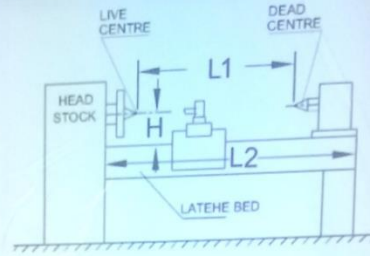
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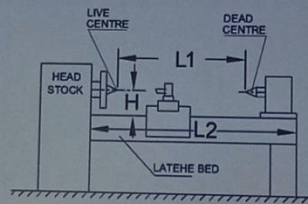
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Fig.- Specifications of lathe machine



SPECIFICATION OF LATHE MACHINE

Fig.- Specifications of lathe machine



SPECIFICATION OF LATHE MACHINE



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