



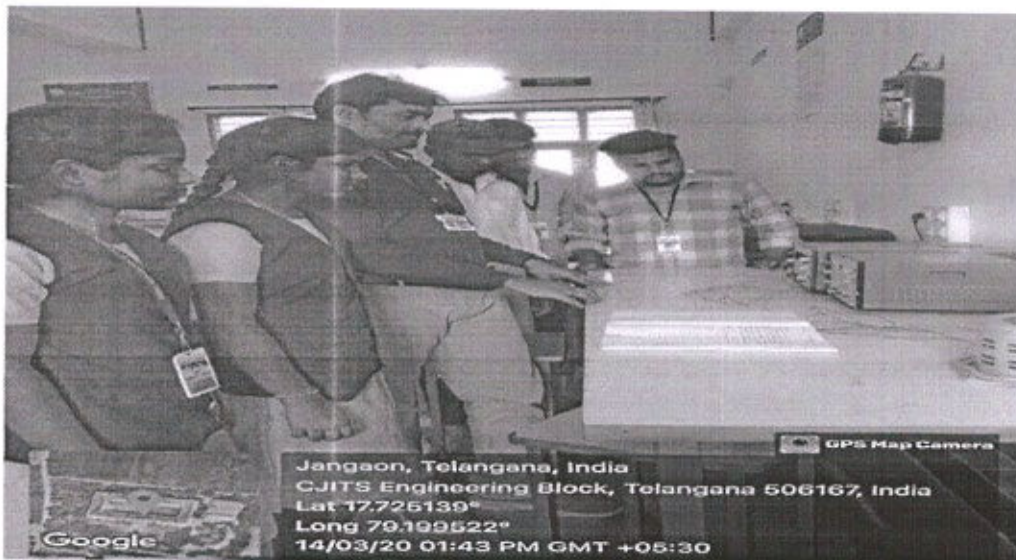
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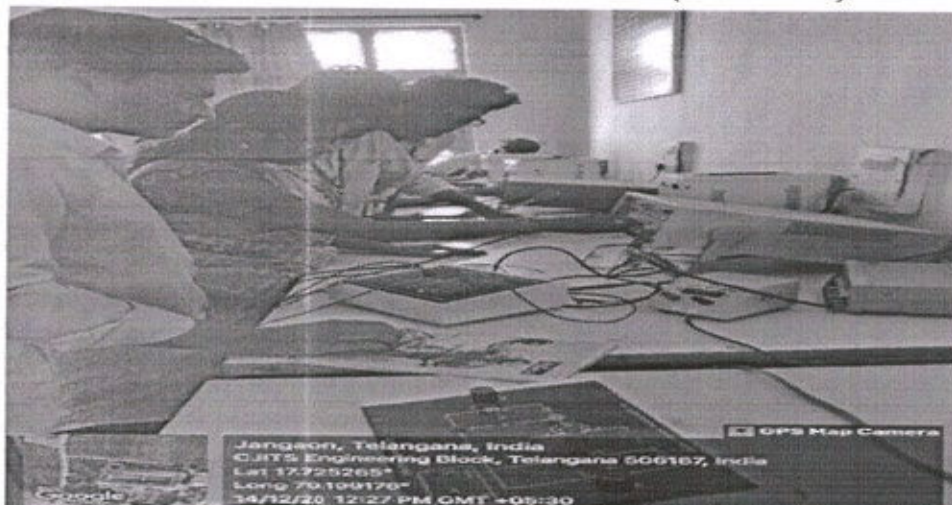
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Experiential Learning: The institution offers experiential learning for students with the following approaches:



Students of ECE Department, III Year I Semester performing Lab Experiments in
“DIGITAL ELECTRONICS LAB”(A.Y 20-21)



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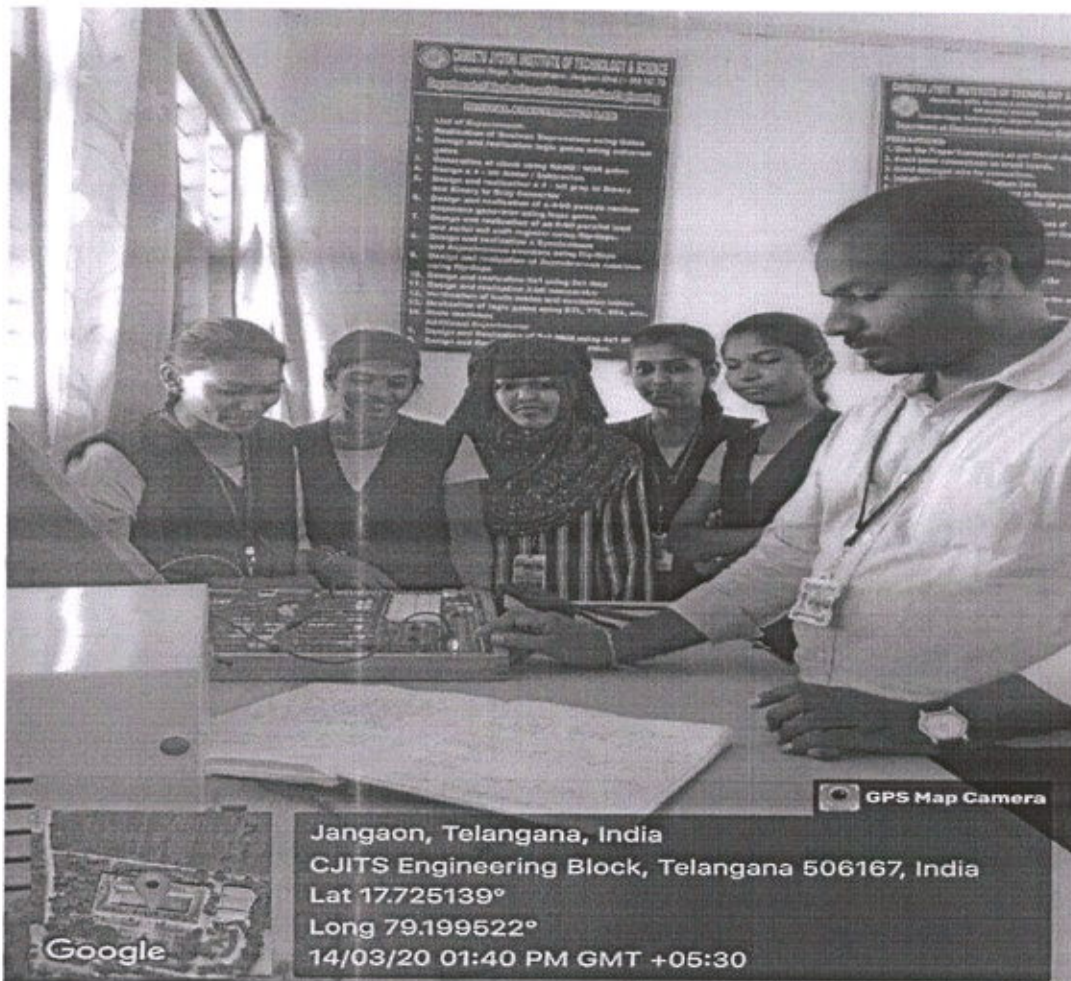
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Students of ECE Department, III Year I Semester performing Lab Experiments in (“A.Y 20-21”)

II-I SEM EDC lab provides the information about the uncontrollable and controllable electronic switches and the flow of current through these switches in different biasing conditions.

Electronic devices are usually small and can be grouped together into packages called integrated circuits.



Students performing experiments in the **POWER ELECTRONICS LAB**

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2. INTERNSHIPS: Internships are provided to the students.



CERTIFICATE OF COMPLETION



THIS CERTIFICATES THAT

Ms.V RAVALI

has successfully completed her **Technical Internship** with **KATE Technologies India Pvt. Ltd.** From **01-06-2020** to **08-07-2020**; She had done a phenomenal job completing all the duties allotted within the given tenure and was found hardworking, sincere, and meticulous.

Founder:
Mr. Kartheek Erumalla

Miss V.Ravil ,student of CSE Department has completed internship on 08/07/2020 at KATE TECHNOLOGIES (A.Y 2020-21)

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Mr.K MANOJ ANJAJI

has successfully completed her **Technical Internship** with **KATE Technologies India Pvt. Ltd.** From 01-06-2020 to 08-07-2020; he had done a phenomenal job completing all the duties allotted within the given tenure and was found hardworking, sincere, and meticulous.

Founder:
Mr. Kartheek Erumalla

MR K MANOJ student of CSE Department has completed internship on 08/07/2020 at KATE TECHNOLOGIES (A.Y 2020-21)

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Ms.V HANISHA

has successfully completed her **Technical Internship** with **KATE Technologies India Pvt. Ltd.** From 01-06-2020 to 08-07-2020; She had done a phenomenal job completing all the duties allotted within the given tenure and was found hardworking, sincere, and meticulous.

Founder:
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MS V HANISHA student of CSE Department has completed internship on 08/07/2020 at KATE TECHNOLOGIES (A.Y 2020-21)

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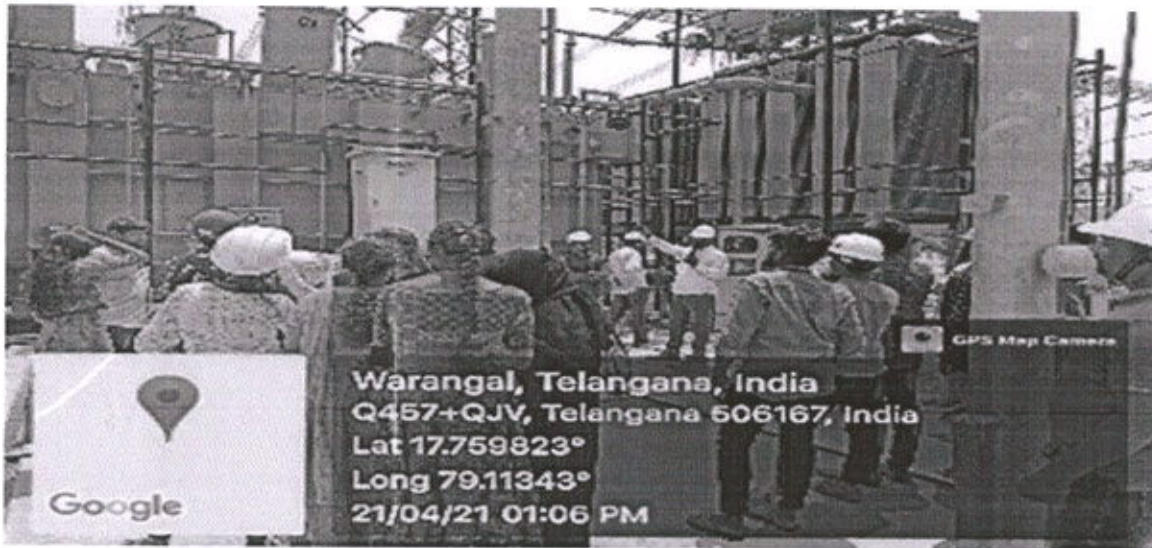
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3. **INDUSTRIAL STUDY VISITS & FIELD VISITS:** Organized to expose to current technologies and to provide an opportunity to learn practically through interaction

Students of EEE Department III Year I Semester at NAGARJUNA SAGAR powerplant control room (A.Y 2020-21)



students of EEE Department III Year II Semester at 400KV substation

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4. INDUSTRY DRIVEN COMPETITION:

Students encouraged to participate in competition to show their creative ideation and talent



Student & faculty of MECHANICAL Department with their creative idea



Students of CSE Department with their creative ideas

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5. **INTEGRATED TOOLS:** Students are encouraged to enrol in online courses



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THIS CERTIFICATES THAT

Mr. S CHAKRADHAR REDDY

has successfully completed her **Technical Internship** with **KATE Technologies India Pvt. Ltd.** From 01-06-2020 to 08-07-2020; he had done a phenomenal job completing all the duties allotted within the given tenure and was found hardworking, sincere, and meticulous.

Founder:
Mr. Kartheek Erumalla

Mr .S.CHAKRADHAR REDDY student of CSE Department has completed internship on 08/07/2020 at KATE TECHNOLOGIES (A.Y 2020-21)

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THIS CERTIFICATES THAT

Ms.T SOUNDARYA

has successfully completed her **Technical Internship** with **KATE Technologies India Pvt. Ltd.** From 01-06-2020 to 08-07-2020; She had done a phenomenal job completing all the duties allotted within the given tenure and was found hardworking, sincere, and meticulous.

Founder:
Mr. KartheekErumalla

Ms.T.SOUNDARYA student of CSE Department has completed internship on 08/07/2020 at KATE TECHNOLOGIES (A.Y 2020-21)

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THIS CERTIFICATES THAT

Mr.DILIP CHAND BUDDÉ

has successfully completed her **Technical Internship** with **KATE Technologies India Pvt. Ltd.** From 01-06-2020 to 08-07-2020; he had done a phenomenal job completing all the duties allotted within the given tenure and was found hardworking, sincere, and meticulous.

Founder:
Mr. Kartheek Erumalla

MR DILIP CHAND student of CSE Department has completed internship on 08/07/2020 at KATE TECHNOLOGIES (A.Y 2020-21)

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THIS CERTIFICATES THAT

Mr.V SAI CHAITHANYA

has successfully completed her **Technical Internship** with **KATE Technologies India Pvt. Ltd.** From 01-06-2020 to 08-07-2020; he had done a phenomenal job completing all the duties allotted within the given tenure and was found hardworking, sincere, and meticulous.

Founder:
Mr. Kartheek Erumalla

MR V SAI CHAITHANYA student of CSE Department has completed internship on 08/07/2020 at KATE TECHNOLOGIES (A.Y 2020-21)

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CERTIFICATE OF COMPLETION



THIS CERTIFICATES THAT

Ms.Y USHARANI

has successfully completed her **Technical Internship** with **KATE Technologies India Pvt. Ltd.** From 01-06-2020 to 08-07-2020; She had done a phenomenal job completing all the duties allotted within the given tenure and was found hardworking, sincere, and meticulous.

Founder:
Mr. KartheekErumalla

MS Y USHARANI student of CSE Department has completed internship on 08/07/2020 at KATE TECHNOLOGIES (A.Y 2020-21)

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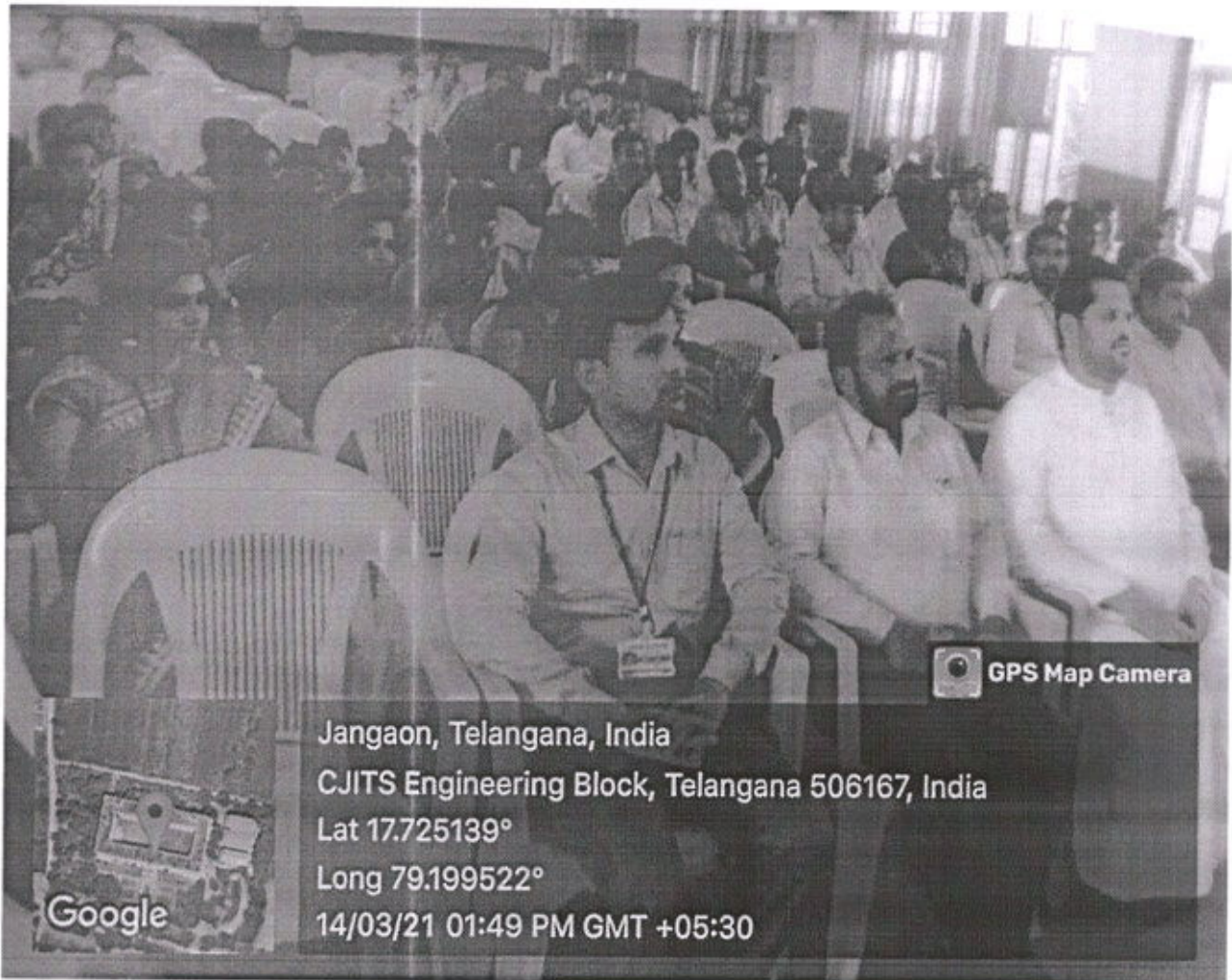
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6. **BRIDGE COURSE:** conducted bridge course for the students filling the gaps in academic year courses



Students of III year II Semester participated in add on program “ **LOAD FLOW ANALYSIS** ” From 9-07-2022 to 20 -07-2022 delivered by **DR. DM Vinod Kumar**, Professor of electrical department (A.Y 20-21)


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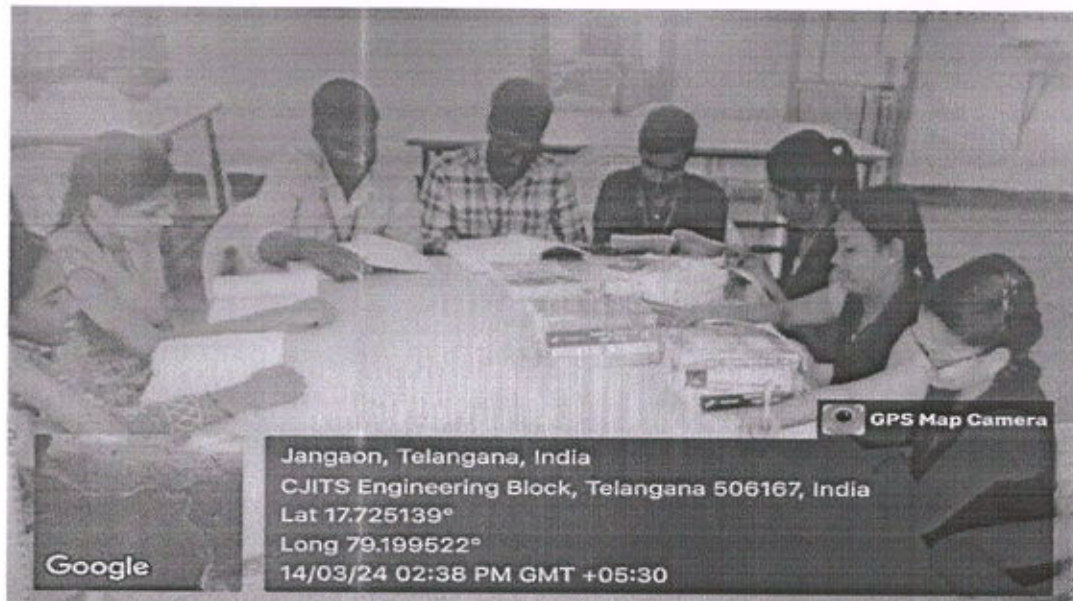
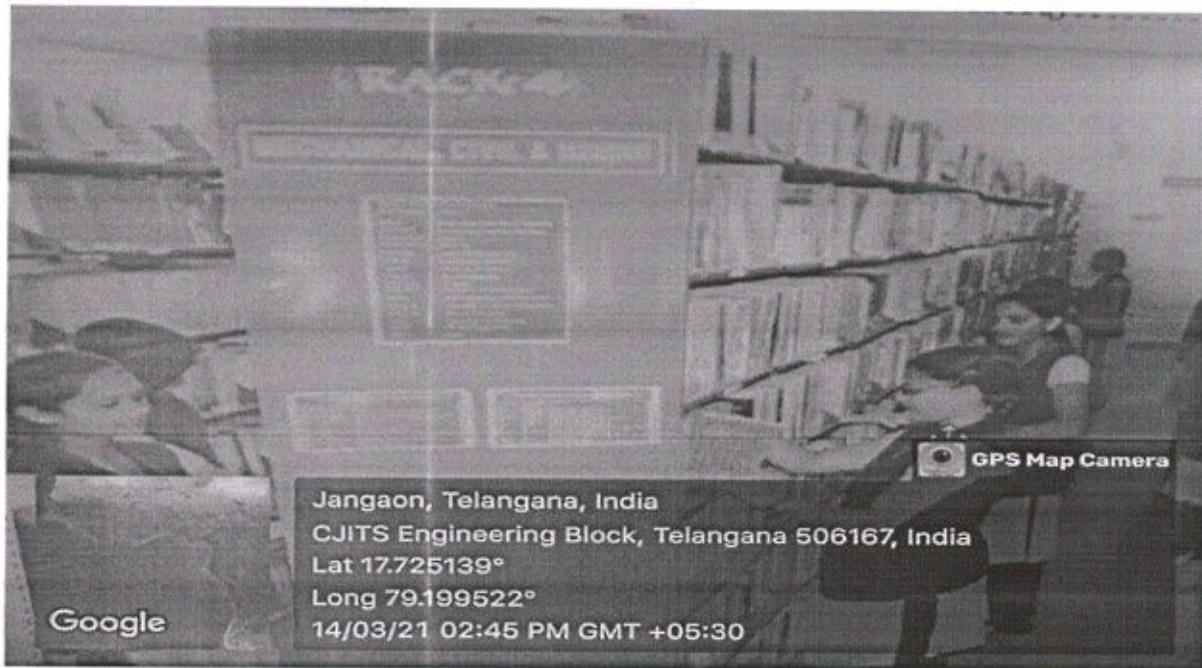
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7. **E-LEARNING:** The institute allowed in access text books & references, course materials, Projects Reports , magazines, printed journals &E-journals.



Students of CJITS in the central library

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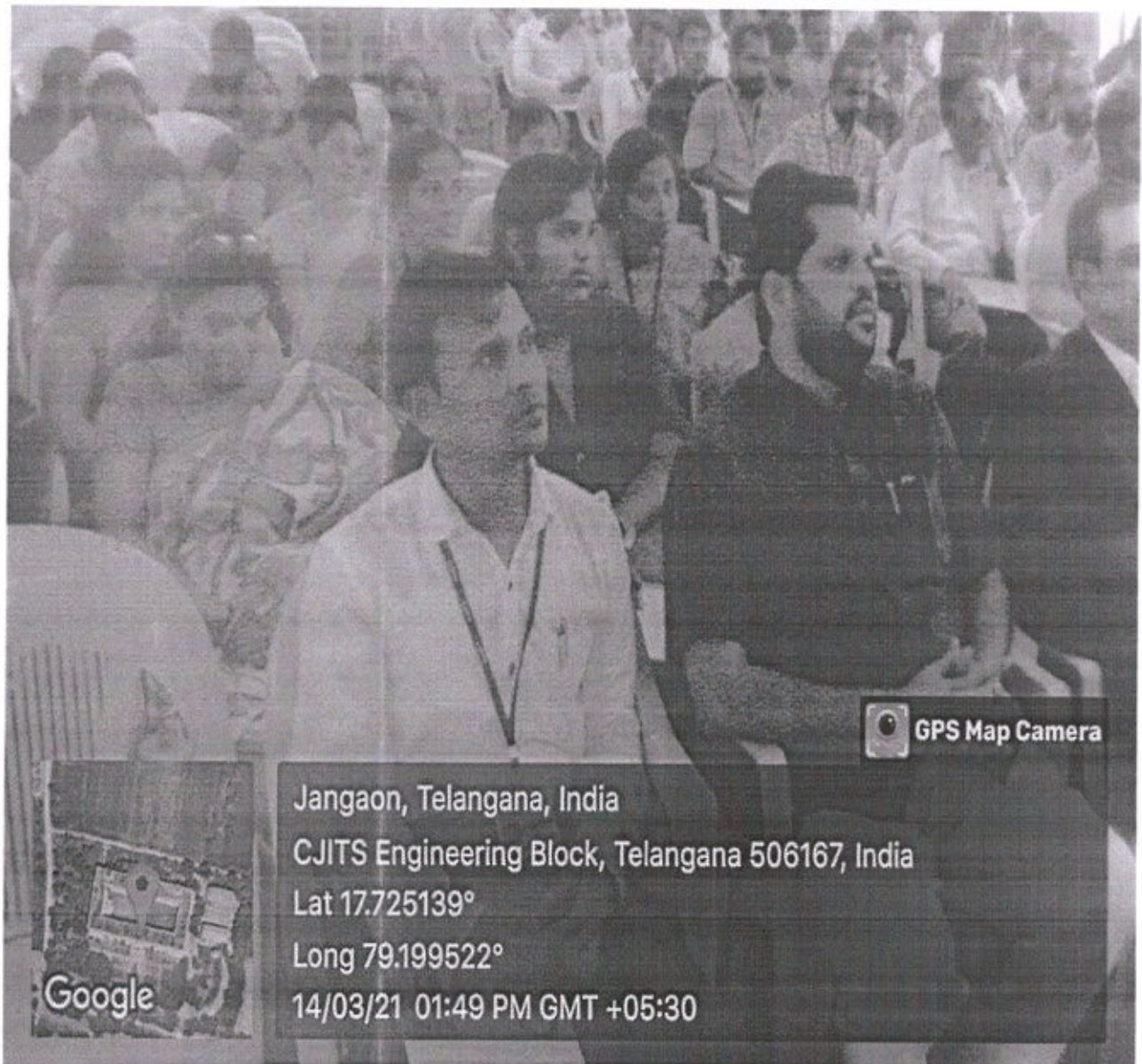
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8. **WORKSHOPS, GUEST LECTURES AND SEMINARS:** Students are encouraged to train on latest trends and innovative technologies by organizing workshops, guest lecturers and seminars



Guest lecture by M RAMA KRISHNA for the I Year students (A.Y 2020-21)

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9. GROUP DISCUSSION & DEBATES:

Encouraging students to participate in debates and discussions



Group discussion by the II Year EEE students (A.Y 2020-21)

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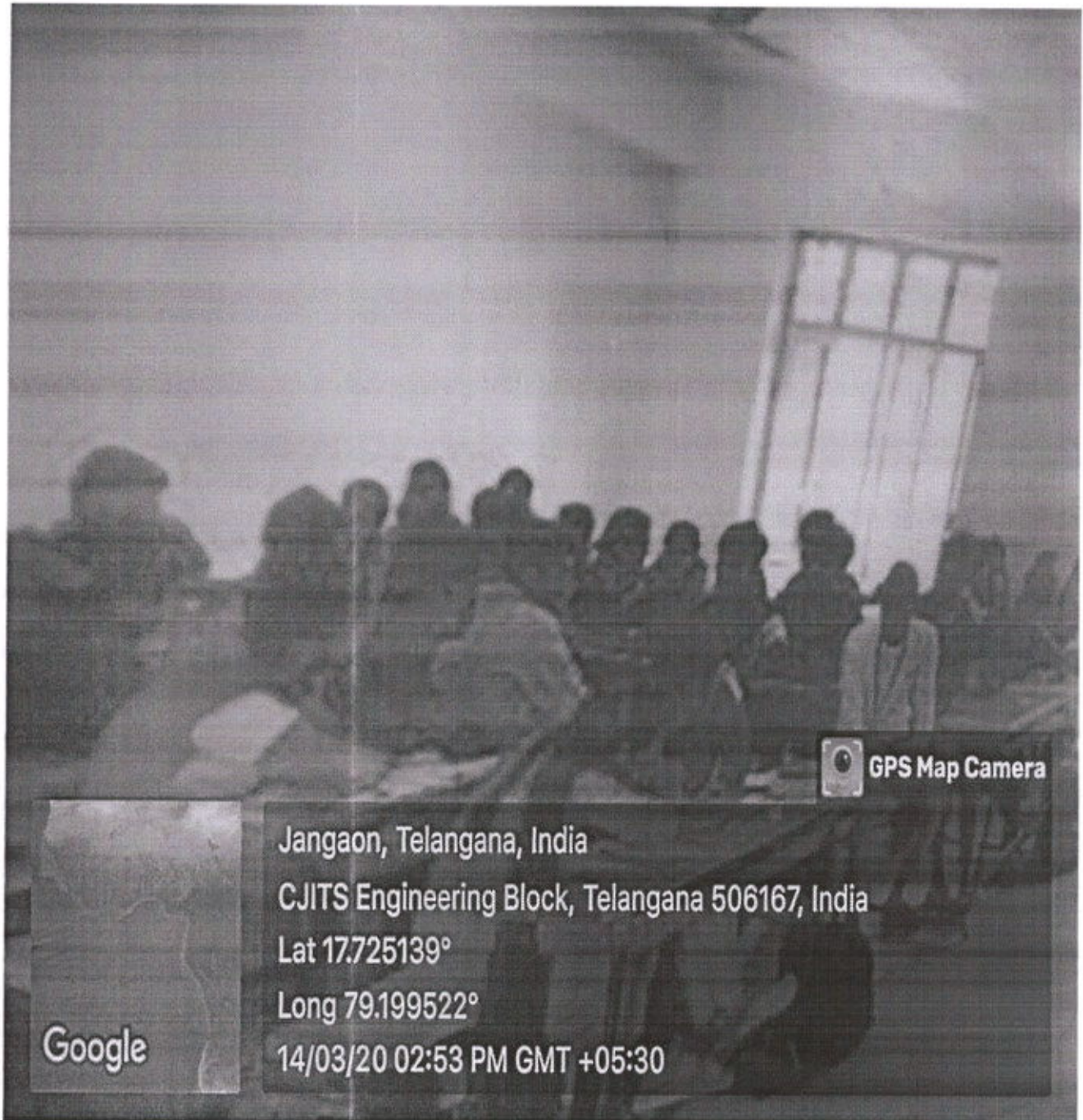


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Group Discussion by the I Year students (A.Y 2020-21)


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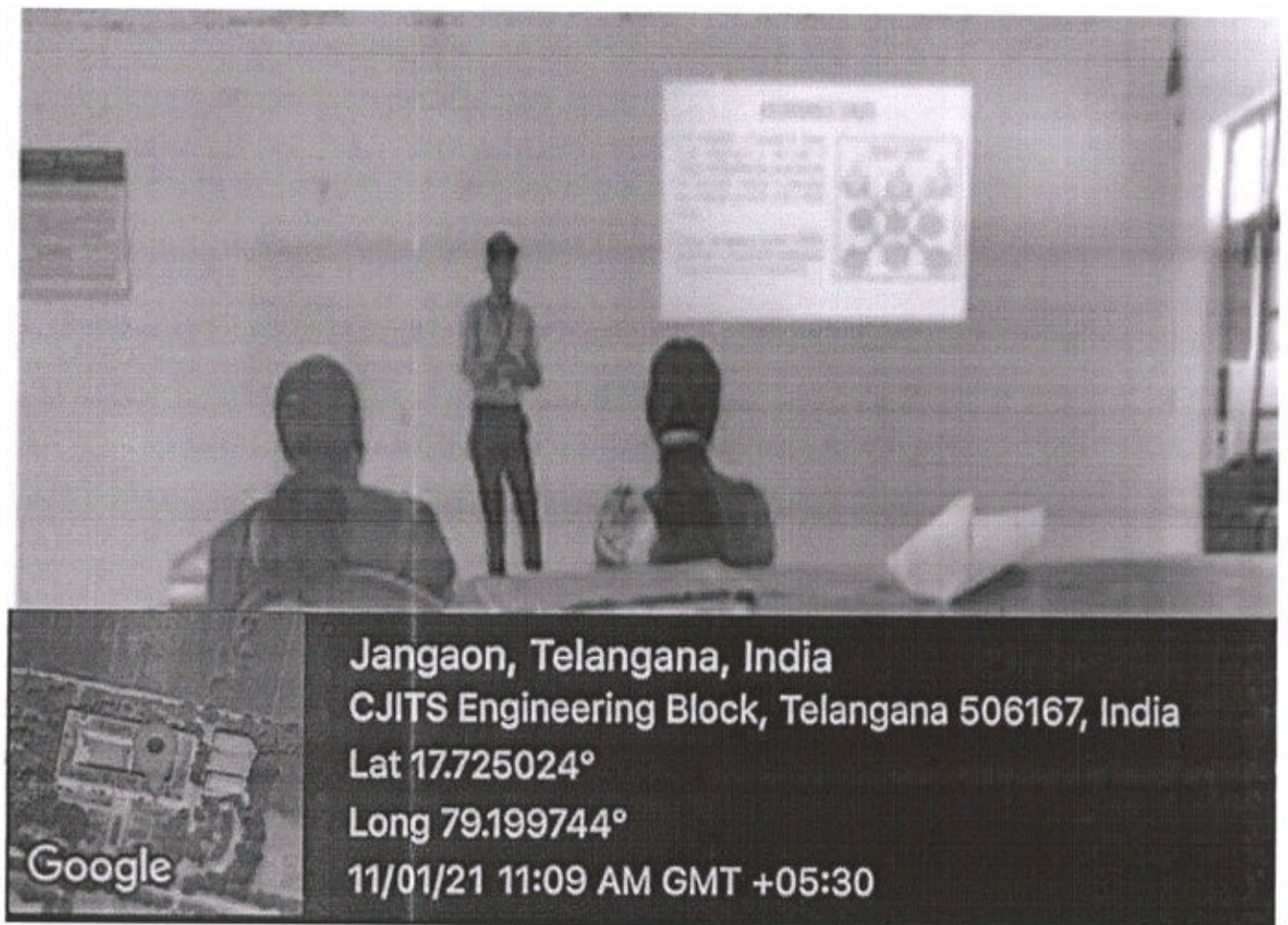
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10. TECHNICAL PRESENTATION: The students are encourage to participate in technical events to show case their presentation skills through poster, paper and model presentation and to contribute articles to the college magazines.



Paper presentation on topic “SMART GRID” by IV EEE Students from
CHRISTU JYOTHI INSTITUTE OF TECHNOLOGY & SCIENCE
COLLEGE (A.Y 20-21)


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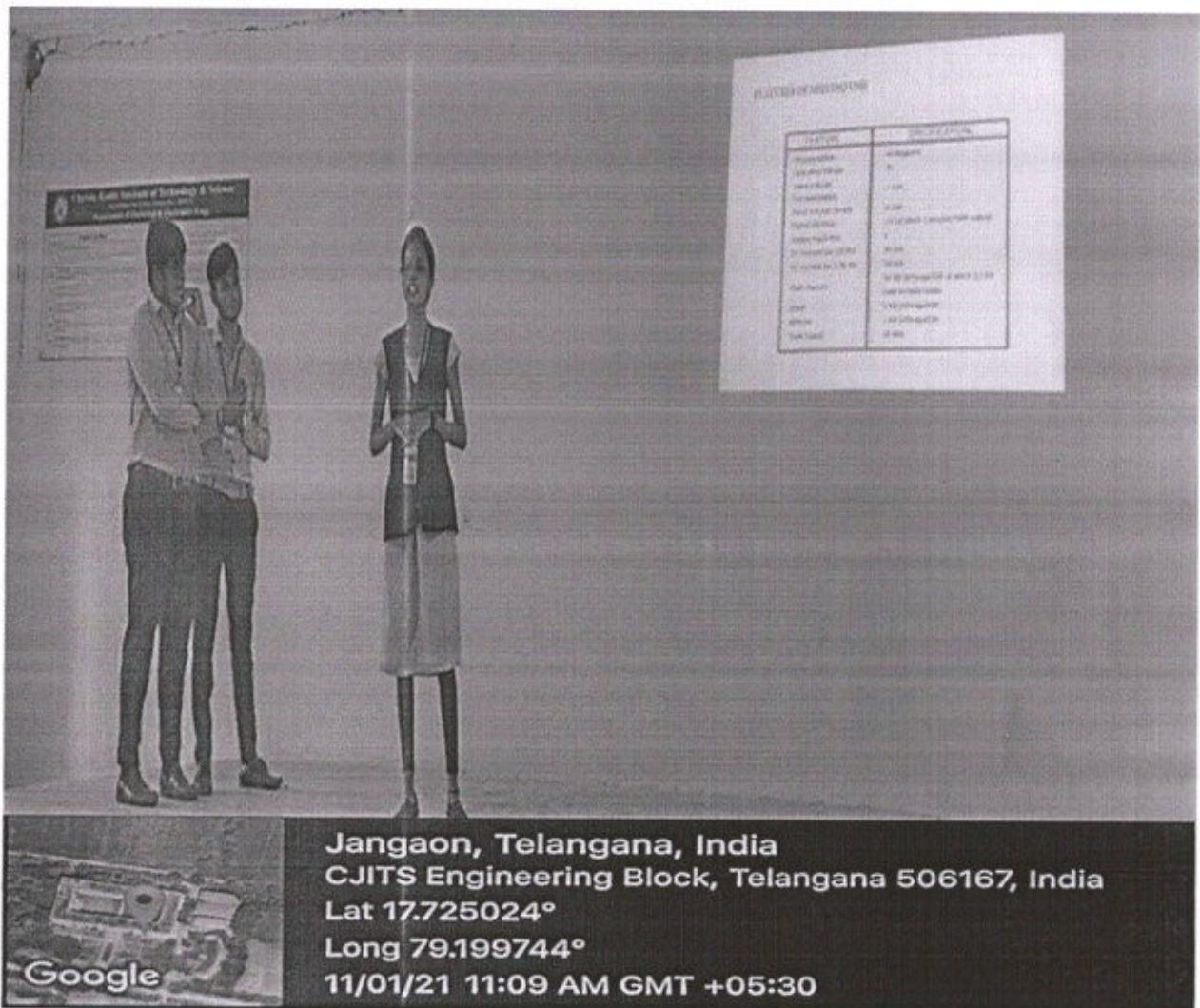


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Paper presentation on topic “SUBSTATION MONITERING SYTEM ” by IV
EEE Students from CHRISTU JYOTHI INSTITUTE OF TECHNOLOGY
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11. ALUMNI INTERACTIONS:

Alumni meets are organized every year to build the strong relationship between students and alumni to share their experience and knowledge towards career building.



Gathering by the guests in the alumni meeting

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ALUMNI meet with the Passed out students in the CJITS (A.Y 2020-21)


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12. **THINK-PAIR & SHARE**: This module has been implemented to help students come out with their innovative or unique ideas where students work together to solve a problem or answer a question about an assigned reading.



Students of IV year II semester CSE discussing a technical topic in a class room
(Ac.Yr 2020-2021)

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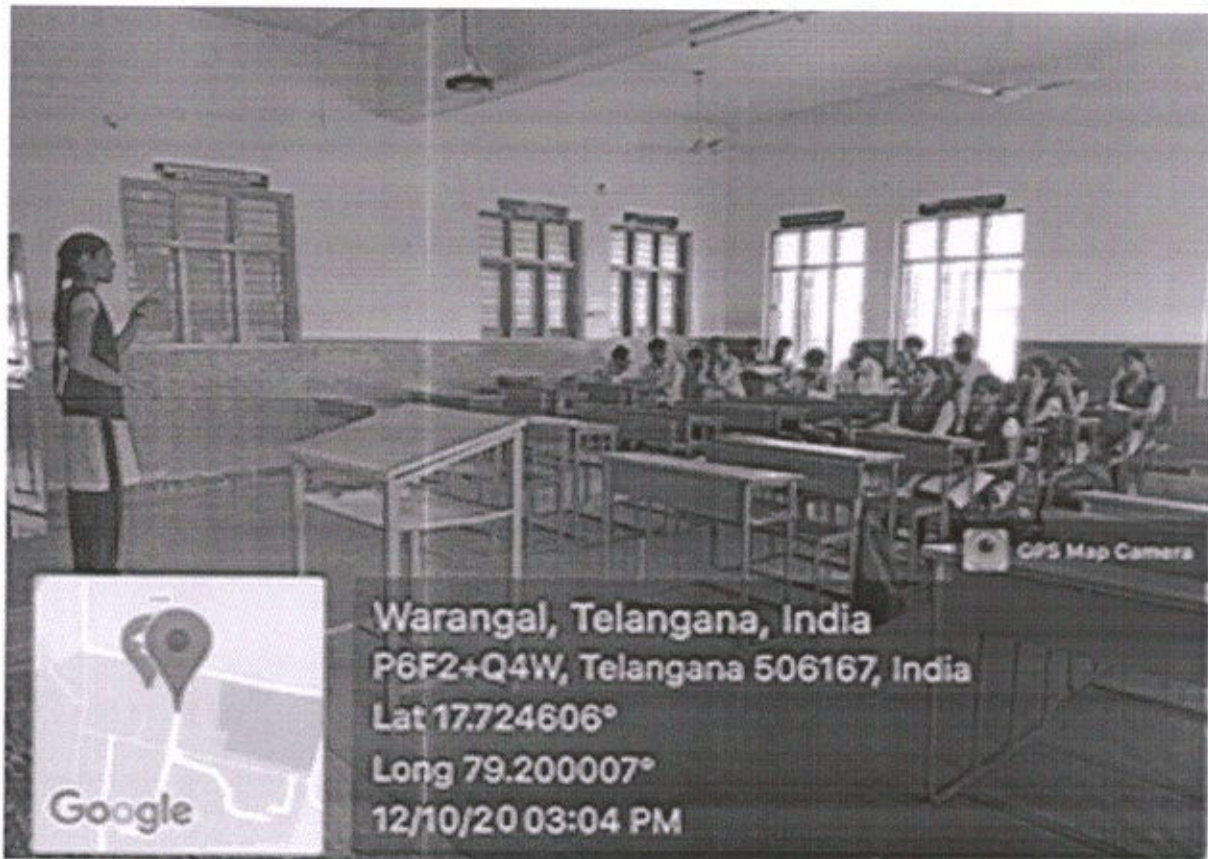
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13. TECHNICAL CLUB ACTIVITIES: The institution has various professional societies like I EEE, IETE, IEI, CSI, SAE, ISI E, ISO, where the students actively participate in activities.



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P6F2+Q4W, Telangana 506167, India
Lat 17.724606°
Long 79.200007°
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Students and Faculty participated in various professional societies like IEEE, IETE, IEI, CSI, SAE, ISI E, ISO activities. (A.Y 2020-21)


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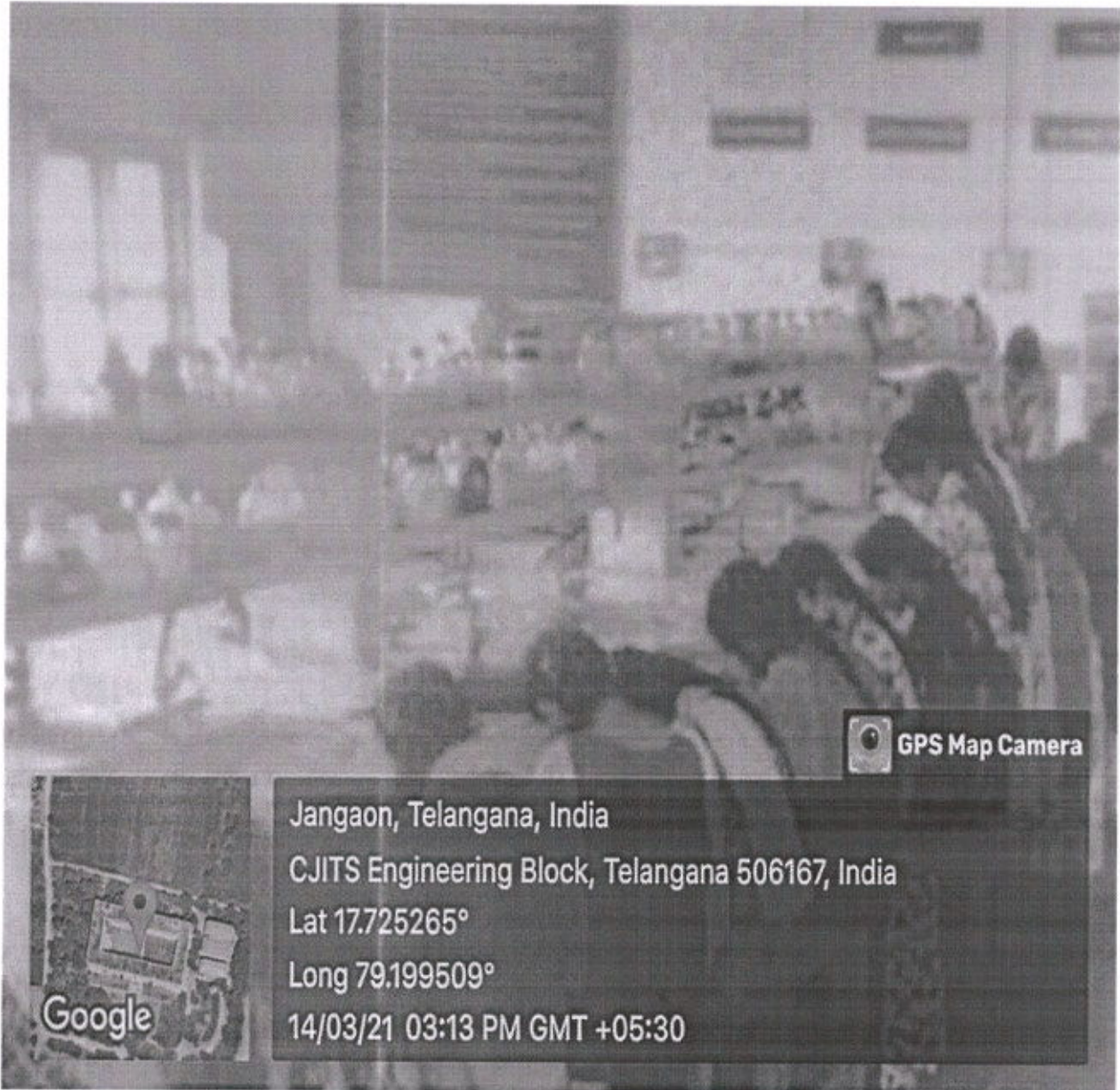


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Students of CSE Department I Year discussing with the faculty in the chemistry lab (A.Y 2020-21)


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14. HANDS-ON TRAINING PROGRAMMES: in every year students undergo the training activities to explore in industry and advanced technologies



Students of CSE Department IV Year with their creative talent


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15. INNOVATIVE MODEL DEVELOPMENT:

Students of EEE Department III year II Semester students, exhibiting POWER PLANT model in CJIT (A.Y 2020-21)




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16. ASSIGNMENTS & QUIZZES: Used to analyse the performance and the understanding capability of each student at the end of the concept.

Assignment - 2

M. Nandini
EEE
22681A0205
SUB: EME

1. Explain the behavior of conductors in electric field. *verif*

Ans: The conductor has an abundance of charge which is free to move.

Consider an isolated conductor such as shown in fig A. when an external field is applied the +ve free charges are pushed along the same direction as the applied field, while the -ve free charges as moves in opposite direction. This migration takes place very quickly.

The free charges accumulate on the surface of the conductor and form an induced surface charge. These induced charges setup an internal induced field which cancels the externally applied field as shown in fig B.

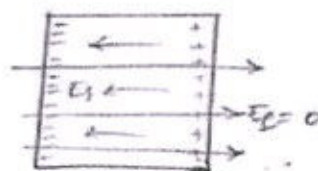


Fig A

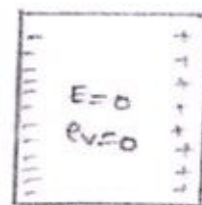


Fig B

- A perfect conductor (conductivity $(\sigma) = \infty$) cannot contain an electrostatic field within it.

- A conductor is called an equipotential body i.e the potential is same everywhere in the conductor.

$$E = -\nabla V = 0$$

under static condition $E=0$, $\rho_v=0$, $V_{ab}=0$ inside the conductor.

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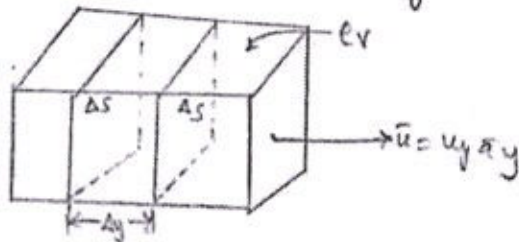
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3. Explain convection and conduction currents. Deduce ohm's in point form.

Ans:-
convection current:

It doesnot involve conductors and also doesnot satisfy ohm's Law.

It occurs when current flows to an insulating medium such as liquid, rare tied gas or a vaccum. A beam of electrons in a vaccum cube constitutes convection current. consider a filament as shown in fig.



$$\Delta I = \frac{\Delta Q}{\Delta t} = \frac{e v \Delta V}{\Delta t} = e v \Delta S \frac{\Delta y}{\Delta t} = e v \Delta S u_y \quad \text{--- ①}$$

current density directed along y-direction.

$$J_y = \frac{\Delta I}{\Delta S} = \frac{e v \Delta S u_y}{\Delta S} = e v u_y$$

$$\therefore \text{The current density} = \vec{J} = J_y \hat{a}_y \\ = e v u_y \hat{a}_y \\ \vec{J} = e v \vec{u}$$

conduction current:

It requires a conductor which is characteristics by a large no. of free e^- which constitute conduction current due to an impressed electric field. When an electric field is applied \vec{E} , the force on an electron with charge e^-

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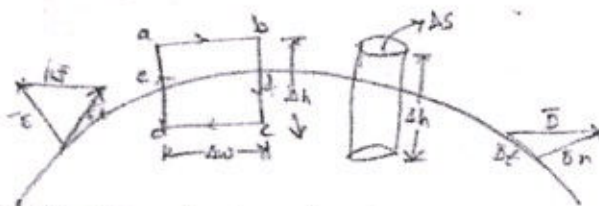
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4 State and prove the boundary conditions at the boundary between a conductor and dielectric in electric fields.



consider the electric field existing in the region that consists of two different dielectric characteristics by $\epsilon_1 = \epsilon_0 \epsilon_{r1}$ and $\epsilon_2 = \epsilon_0 \epsilon_{r2}$ as shown in fig.

$$\vec{E}_1 = \vec{E}_{1t} + \vec{E}_{1n}$$

$$\vec{E}_2 = \vec{E}_{2t} + \vec{E}_{2n}$$

To find tangential components;

consider a closed rectangular path abcd as shown in fig.

Apply $\oint \vec{E} \cdot d\vec{l} = 0$ to the path abcd

$$\oint_{abcd} \vec{E} \cdot d\vec{l} = 0$$

$$\left\{ \int_a^b + \int_b^c + \int_c^d + \int_d^e + \int_e^a \right\} E \cdot dl = 0$$

$$E_{1t} \Delta w - E_{2t} \frac{\Delta h}{2} + 0 + 0 + 0 + E_{2t} \frac{\Delta h}{2} = 0$$

$$E_{1t} = 0$$

$$\frac{D_{1t}}{\epsilon_0 \epsilon_{r1}} = 0$$

$$D_{1t} = 0$$

To find normal components;

consider a cylindrical gaussian surface across the boundary and apply gauss law to it.

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$$\nabla \cdot (\epsilon \nabla v) = \rho_v$$

$$-\nabla \cdot (\epsilon \nabla v) = \rho_v$$

↳ for inhomogeneous medium

For Homogeneous medium,

$$-\epsilon \nabla \cdot \nabla v = \rho_v$$

$$-\epsilon \nabla^2 v = \rho_v$$

$$\nabla^2 v = -\frac{\rho_v}{\epsilon} \rightarrow \text{poisson's eqn}$$

for a charge free region $\rho_v = 0$

$$\nabla^2 v = 0 \rightarrow \text{Laplace eqn.}$$

Continuity equation:

$$I_{out} = -\frac{dq_{in}}{dt}$$

$$\oint_S \vec{J} \cdot d\vec{s} = -\frac{dq_{in}}{dt}$$

By divergence theorem, $\oint_S \vec{A} \cdot d\vec{s} = \int_V (\nabla \cdot \vec{A}) dV$

$$\oint_S \vec{J} \cdot d\vec{s} = \int_V (\nabla \cdot \vec{J}) dV$$

$$Q_{in} = \int_V \rho_v dV$$

$$\int_V (\nabla \cdot \vec{J}) dV = -\frac{d}{dt} \left[\int_V \rho_v dV \right]$$

$$\int_V (\nabla \cdot \vec{J}) dV = -\int_V \left(\frac{\partial \rho_v}{\partial t} \right) dV$$

$$\nabla \cdot \vec{J} = -\frac{\partial \rho_v}{\partial t} \rightarrow \text{continuity eqn}$$

For steady charges $\frac{\partial \rho_v}{\partial t} = 0$

$$\nabla \cdot \vec{J} = 0.$$


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IV-B.Tech -II-SEM R18-I-Mid Examination

Objective paper

Name: _____ Roll no: _____

Answer all questions

10*1=10marks

1. What is flexibility of electric power transmission?

The ability accommodate changes in the electric transmission system operating conditions while maintaining sufficient steady state and transient margins

2. Write the difference between TSSC and TCSC?

TSSC: (Thyristor switched series capacitor) which permits the discrete control of the capacitive reactance
TCSC: (Thyristor controlled series capacitor) which allows a continuous control of the capacitance or inductive reactance

3. How is reactive power controlled in an electrical network?

Compensated using VVR generators, providing it circulation b/w the load and the source therefore improving voltage stability on the power system.

4. What are the objectives of FACTS?

FACTS technologies allow for the improve the system operation which minimal Infrastructure investment, environment impact as and implementation time compared.

5. What are the various categories of FACTS controllers?

- (i) Shunt FACTS controllers
- (ii) Series FACTS controllers
- (iii) Combined series-series FACTS
- (iv) Combined series-shunt FACTS.

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6. What are the applications of FACTS devices?

- (i) power transmission,
- (ii) power quality
- (iii) Railway and wind grid connections

7. What is reactive power compensation?

Reactive power control in a line is often called reactive power compensation.

8. What is compensator?

External devices or subsystems that control reactive power on transmission line are known as compensator.

9. What are the types of passive compensation?

- (i) shunt compensation
- (ii) series compensation

10. What is load compensation?

It is compensation for the reactive power current I_x of the load by adding a parallel capacitor so that $\cos \phi = 1$ doing so causes effective power factor.

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17. VIRTUAL LABS: Used to provide remote-access to Labs in various disciplines can avail the various tools for learning, including additional web-resources, video-lectures, an imated demonstrations and self-evaluation.



**Students using their free time in learning various things by using the resources
(A.Y 2020-21)**


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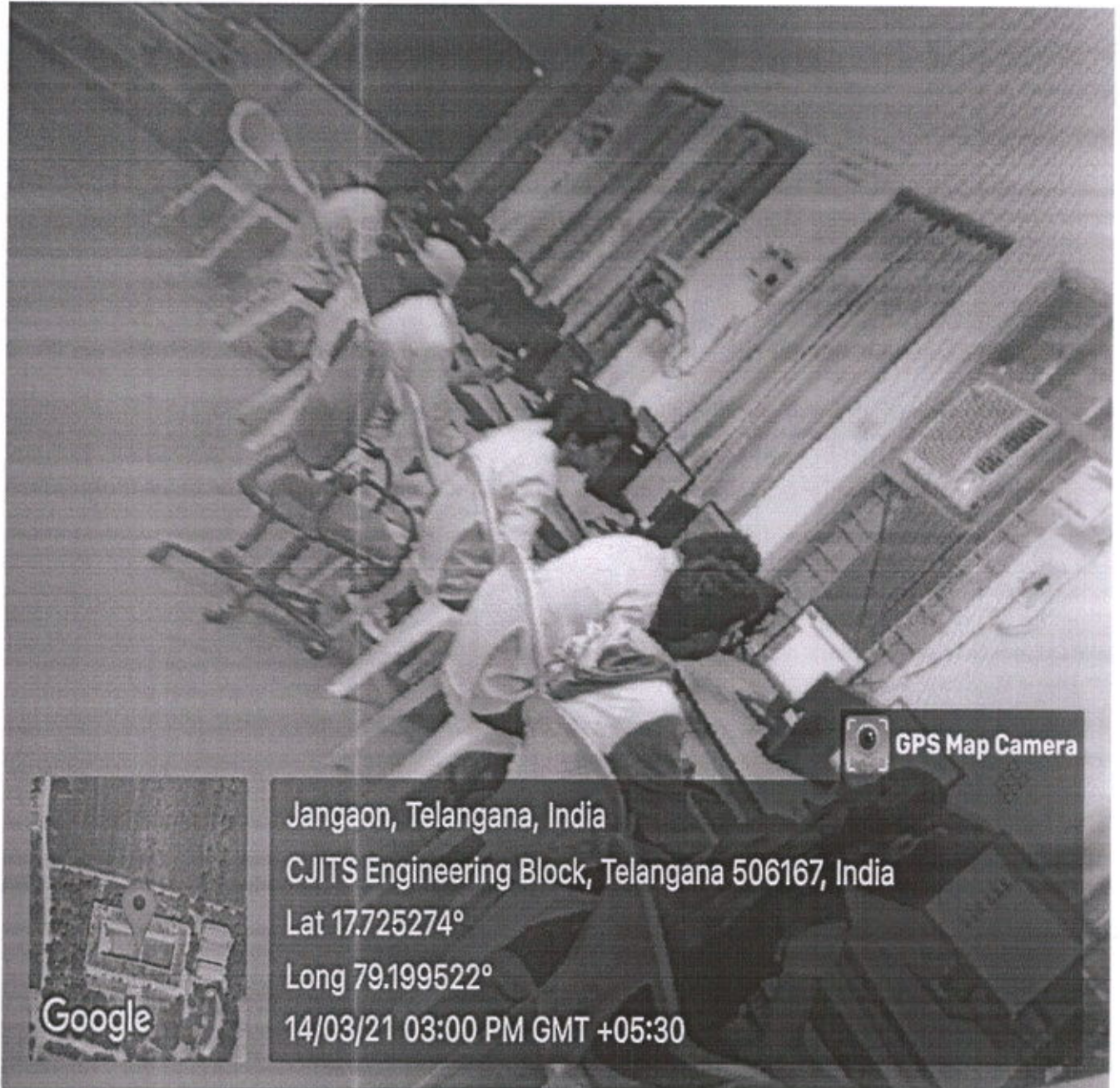



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students in the JKC lab while attending the video-lectures (A.Y 2020-21)


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