Excelssior Education Society's

# K.C. College of Engineering and Management Studies and Research

MithBunder Road, Near Hume Pipe, Kopri, Thane (E)-400603

## DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION2023-24

## A.Y. 2023-24

| Sr.No. | Name of faculty | Sem | Class | Subject | Methodology used |
|---|---|---|---|---|---|
| 1 | Ms.Reeta Shaktivel | III | S.E. EXTC | Digital System Design | Poster Making Activity |
| 2 | Dr. Aarti Bakshi | V | T.E. EXTC | Data Structure and Algorithm | PowerPoint Presentation on applications of applications of data structure and algorithm. |
| 3 | Dr. Aarti Bakshi | V | T.E. EXTC | Discrete Time Signal Processing | Screen Casting |
| 4 | Ms.Dhanashree Jadhav | V | T.E. EXTC | DVLSI | Flip class. |
| 5 | Mrs.Sushma Kore | V | T.E. EXTC | Digital Communication | GATE Questions on Digital Communication Topics |
| 6 | Mrs. Anupama Chaurasia | VII | B.E. EXTC | Microwave Engineering | Video Making Assignment |
| 7 | Dr.Baban Rindhe Ms. Sushma Kore | VII | B.E. EXTC | Mobile communication/Internet Communication Engineering | Presentation on "5G & Latest Trends in Internet Networking |

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## DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION2023-24

**Class:** SE (EXTC) **Academic year (2023-24)** **SEM**: III

**Poster Making Activity**

Subject: **DIGITAL SYSTEM DESIGN**

**Faculty Incharge : Prof. Reeta Shaktivel**

**Enhancing Understanding through Visual Representation**

Introduction: Digital System Design plays a pivotal role in modern technology, encompassing the creation and optimization of digital circuits and systems. To reinforce theoretical knowledge and promotecreative expression, a Poster Making Activity on Digital System Design was organized.

## Objectives:

Knowledge Reinforcement**:** Consolidate theoretical concepts through visual representation.

Creative Expression**:** Encourage students to express complex ideas in a visually appealing manner.

Collaboration**:** Foster teamwork and collaborative learning among students.

**Methodology:**

Topic Selection**:** Students were given the flexibility to choose a specific aspect of Digital System Design,such as logic gates, flip-flops, or sequential circuits.Research and Content Development**:** Participants were required to conduct research on their chosen topic and synthesize key information for inclusion in the poster.

Design and Layout**:** Students were guided on effective poster design principles, including the use of color,typography, and visuals to enhance comprehension.

Collaboration**:** To promote teamwork, participants were encouraged to work in pairs or small groups,ensuring diverse perspectives in the creation process.

**Results:**

Diverse Topics: The posters covered a wide array of topics, showcasing the versatility of Digital SystemDesign, including Boolean algebra, VHDL programming, and FPGA applications.

Creativity in Visuals: Participants demonstrated creativity in visual representation, using diagrams,flowcharts, and info graphics to elucidate complex concepts.

Effective Communication: Posters effectively communicated key aspects of Digital System Design,making it accessible to peers and instructors.

Engagement and Participation: The activity generated enthusiasm and active participation amongstudents, fostering a positive learning environment.

Application of Knowledge: The activity facilitated the application of theoretical knowledge in a practicalcontext, promoting a deeper understanding of Digital System Design principles.

**Communication Skills:** Students honed their communication skills by translating technical informationinto visually appealing and comprehensible content.

Teamwork: Collaborative learning was emphasized, fostering teamwork and peer-to-peer support.

**Difficulty Faced:**

Time Constraints: Some groups faced challenges in managing time effectively, balancing research,design, and the creation of the poster within the allocated timeframe.

Technical Proficiency: Students with varying levels of technical proficiency encountered challenges inaccurately representing complex concepts.

**Conclusion:**

The Poster Making Activity on Digital System Design proved to be an effective pedagogical tool, combining theoretical knowledge reinforcement with creativity. The diverse range of topics and creativeexpressions showcased the depth and breadth of understanding among the students. Addressing the challenges identified will further enhance the effectiveness of similar activities in the future.

**Outcome:**

Time Management Training: Provide guidance on effective time management for research, design, andimplementation phases.Technical Workshops: Offer additional workshops to enhance students' technical proficiency, ensuring amore accurate representation of complex concepts in future activities.

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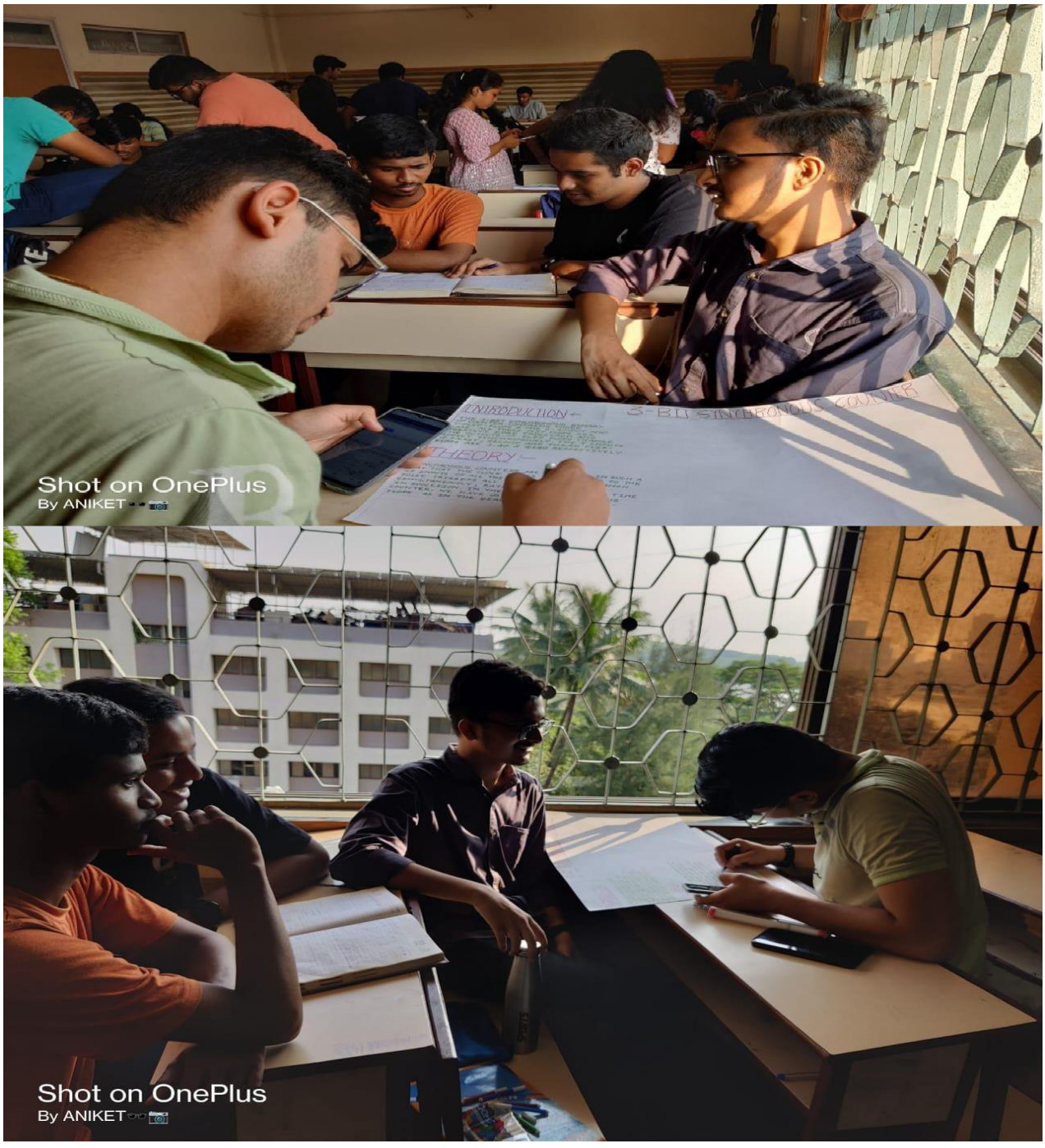

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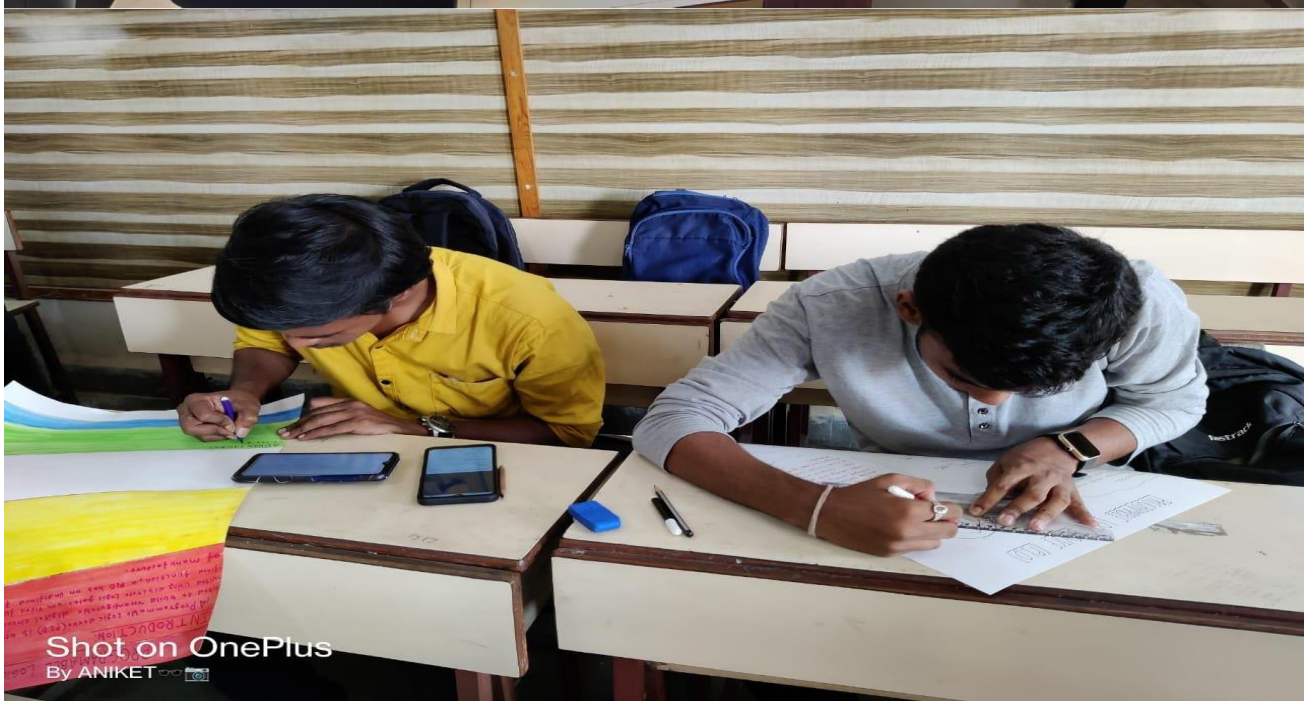

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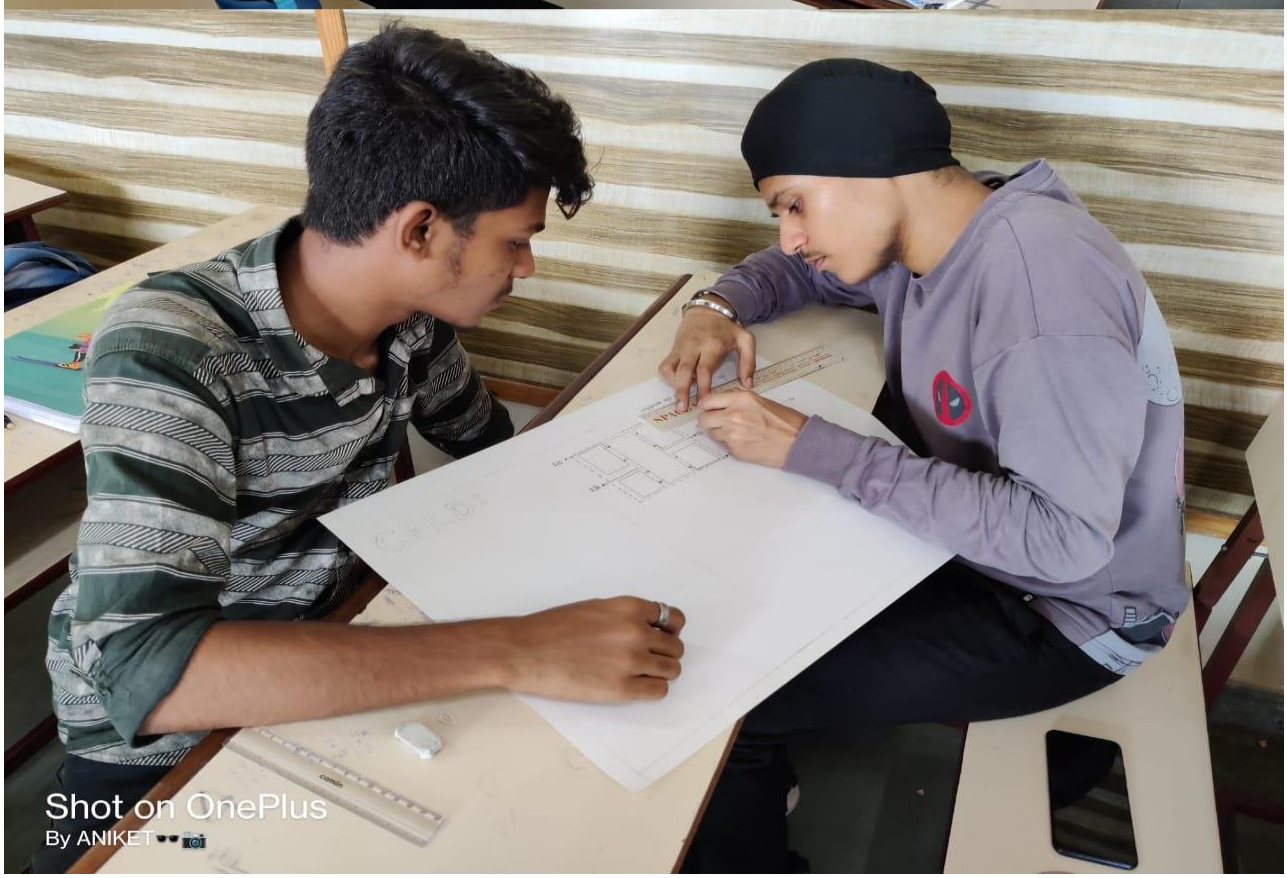

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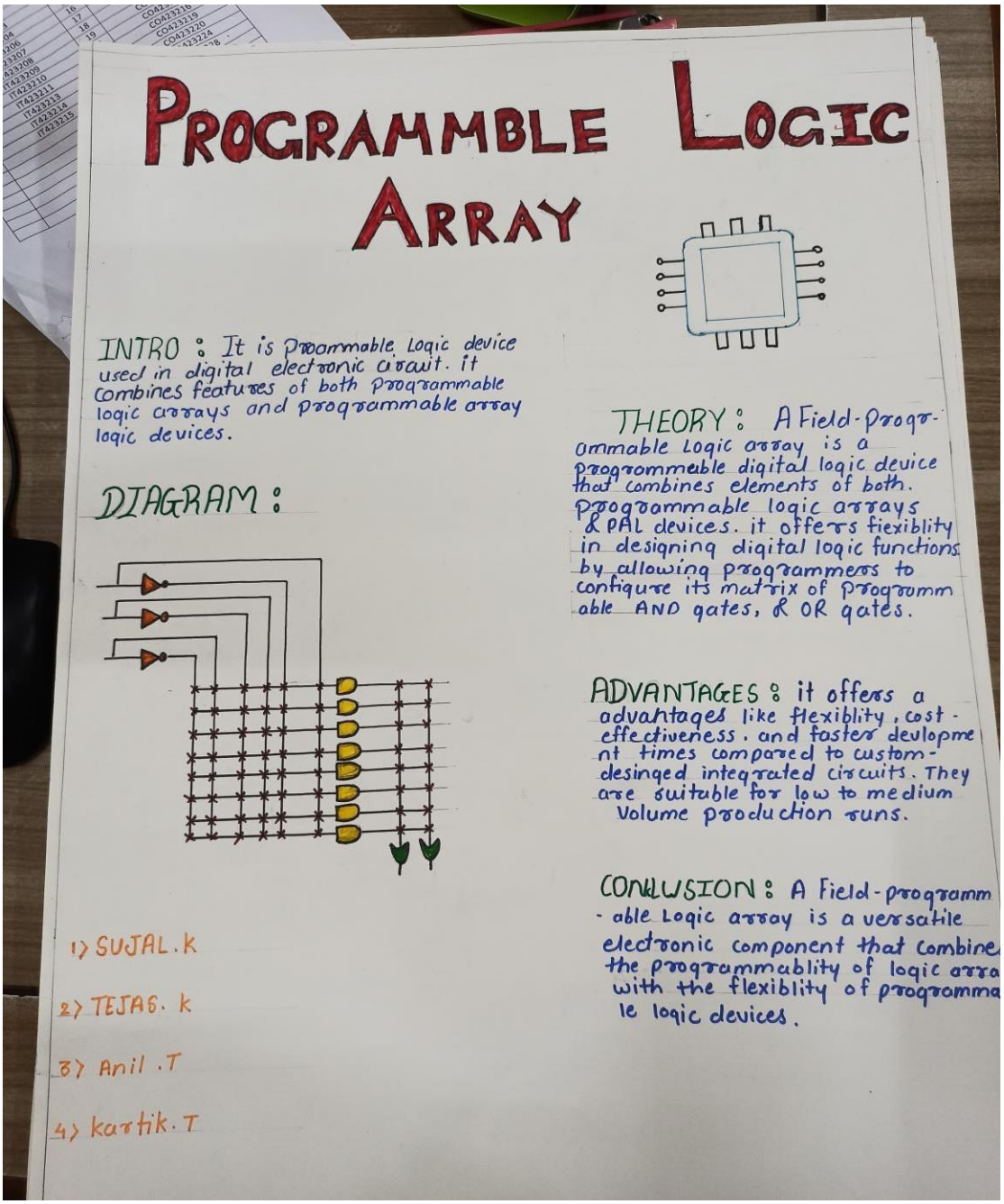

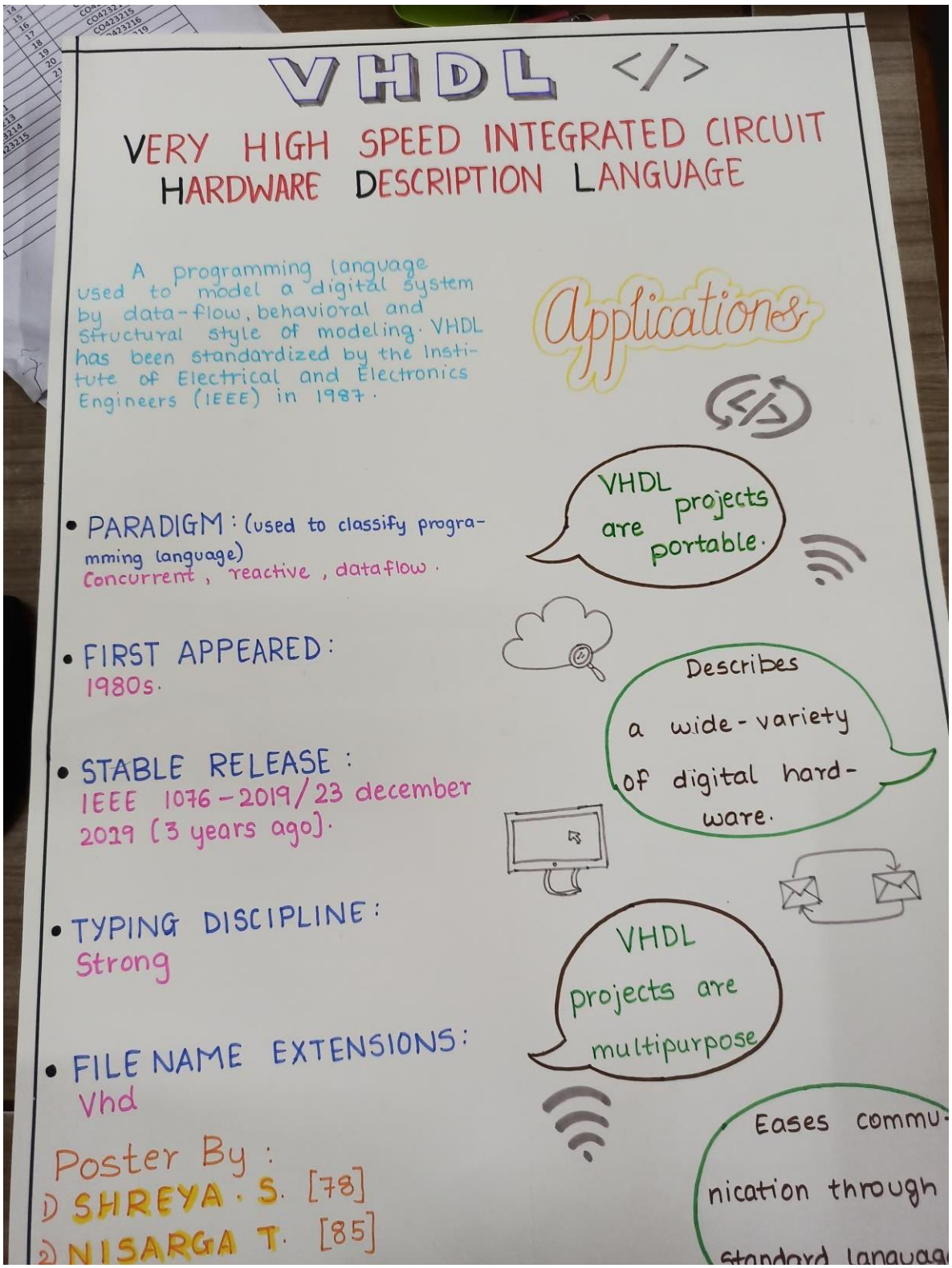
VHDL
VERY HIGH SPEED INTEGRATED CIRCUIT HARDWARE DESCRIPTION LANGUAGE
A programming language used to model a digital system by data-flow, behavioral and structural style of modeling. VHDL has been standardized by the Institute of Electrical and Electronics Engineers (IEEE) in 1987.
PARADIGM: (used to classify programming language) Concurrent, reactive, dataflow.
FIRST APPEARED: 1980s.
STABLE RELEASE: IEEE 1076-2019/23 december 2019 (3 years ago).
TYPING DISCIPLINE: Strong
FILE NAME EXTENSIONS: Vhd
Applications
VHDL projects are portable.
Describes a wide-variety of digital hardware.
VHDL projects are multipurpose
Eases commu-
nication through
Poster By :
1) SHREYA . S. [78]
2) NISARGA T. [85]

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**Class:** TE (EXTC) **Academic year (2023-24)** **SEM**: V

**Subject:** Data Structure and Algorithm

Subject Incharge: Dr. Aarti Bakshi

**Methodology followed**: Google classroom, PPTS.

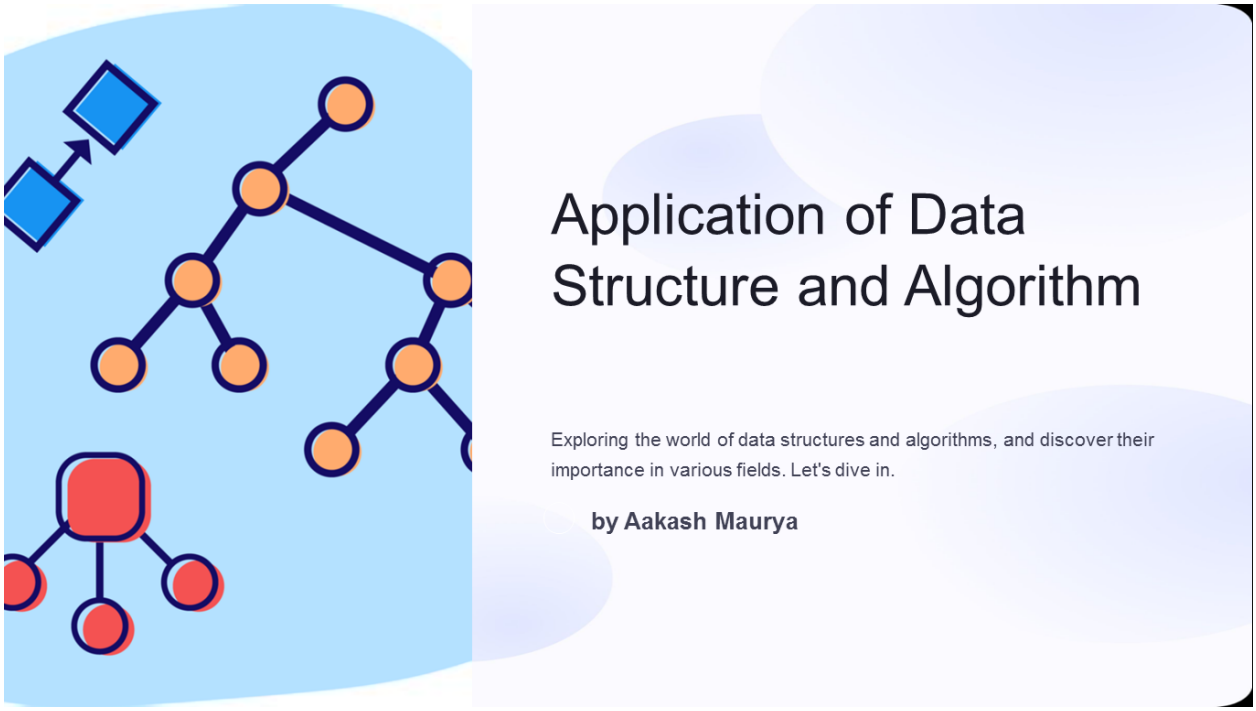
**Difficulty faced:** Students should know applications of data structure and algorithm

**New method identified**: Power Point Presentation on applications of applications of data structure and algorithm.

**Activity:** Power Point Presentation

**Activity Report:** This PowerPoint presentation allows students to present advanced topics-content beyond the syllabus by applying the concept of data structure and algorithm. It helps a student to learn applications of subjects.

**Outcome:** This provided student with the knowledge of the current advanced domain for the subject learned and gave the vision to think in that domain.



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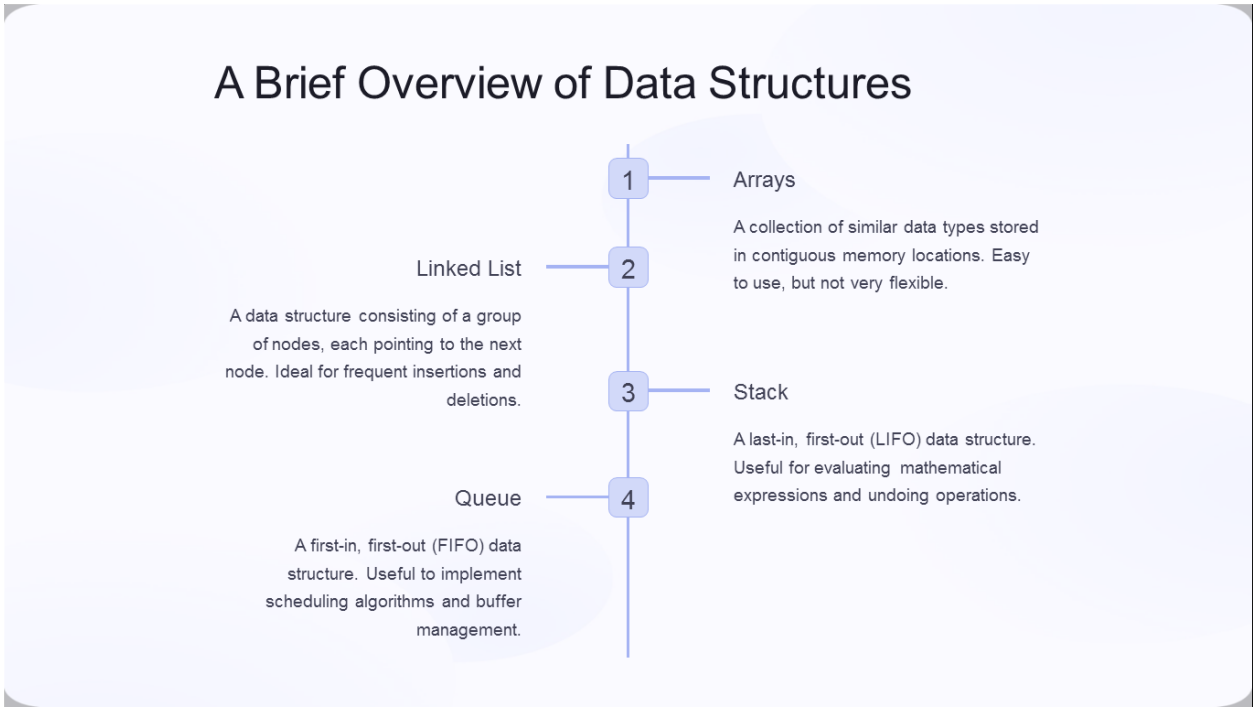


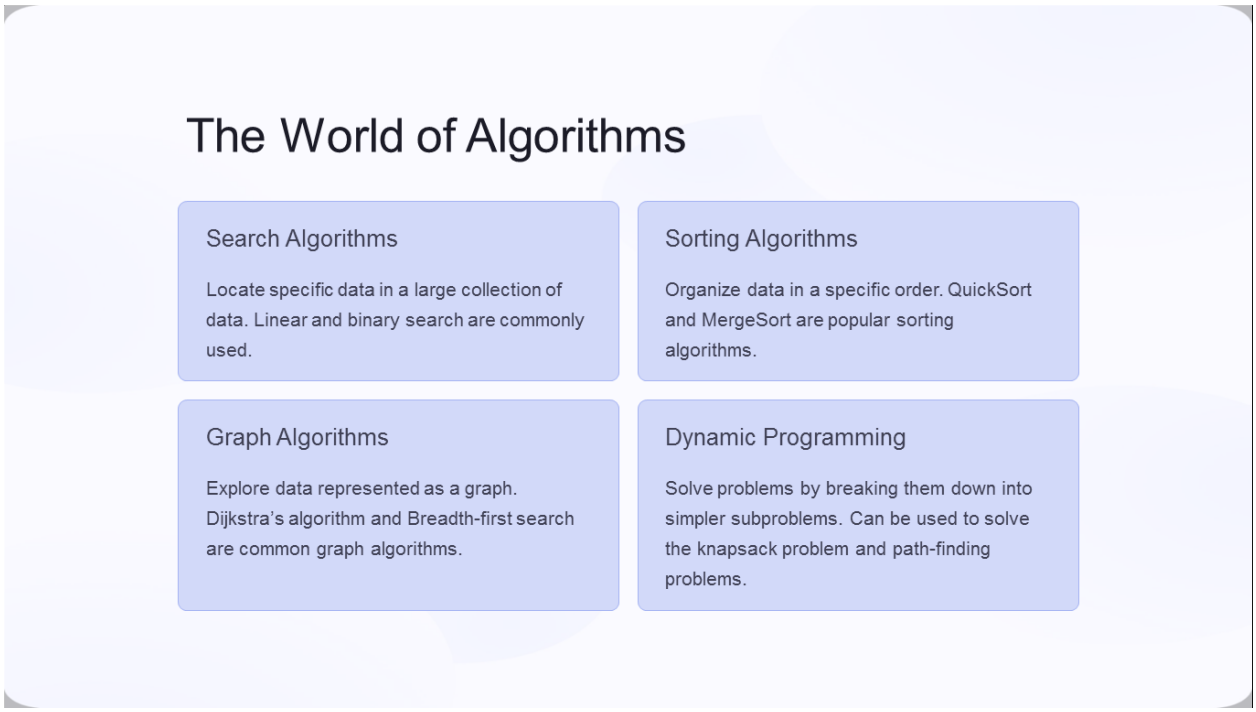

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MithBunder Road, Near Hume Pipe, Kopri, Thane (E)-400603

**Class:** TE (EXTC) **Academic year (2023-24)** **SEM**: V

**Subject:** Discrete Time Signal Processing

Subject Incharge: Dr. Aarti Bakshi

**Methodology followed**: Google classroom, PPTs.

**Difficulty faced:** Students will able to watch video at preferable time and able solve the problems.

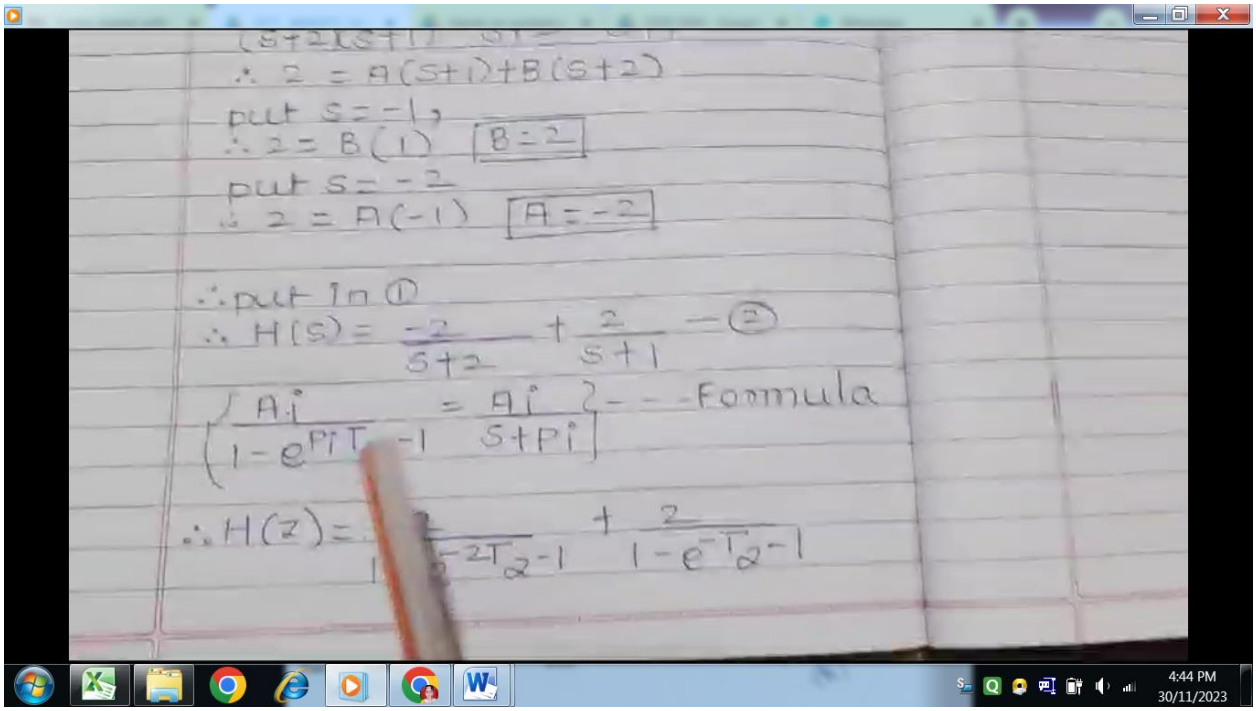
**New method identified**: Screen Casting.

**Activity:** Screen Casting

**Activity Report:** Screen Casting is to create instructional videos. These videos enable students to learn at their own pace, wherever they prefer. Screencasts can provide learners a student-centered and engaging learning experience in both distance and traditional learning settings.

Academically bright student solved discrete time signal processing different module numerical problems and recorded video to summarize it in their own words. This helps the other students to learn and practice the numerical problems whenever they prefer.

**Outcome:** Students learned to create video and uploading of it on YouTube. These videos help the students to learn the concept.



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**Class:** TE (EXTC) **Academic year (2023-24)** **SEM**: V

**Subject:** Digital VLSI

**Subject Incharge:** Ms. Dhanashree Jadhav

**Methodology followed**: Classroom teaching

**Difficulty faced:** Students are less attentive during theory lectures as compared to lectures involving implementations, designing and numericals.

**New method identified**: Flip class.

**Activity:** Flip Class

**Activity Report:** Flip class activity is basically introduced to increase involvement of students in the lecture. Students are given to prepare a topic from the syllabus. They have to first understand the topic and then prepare notes for assigned topic in given time. They have to deliver a lecture on the given topic to the fellow classmates.

This increases the involvement and attention of students during the lecture. Moreover it also helps them reduce stage fear and improves the communication skills as well..

**Outcome:** Students learned the concept and also worked on their communication skills.

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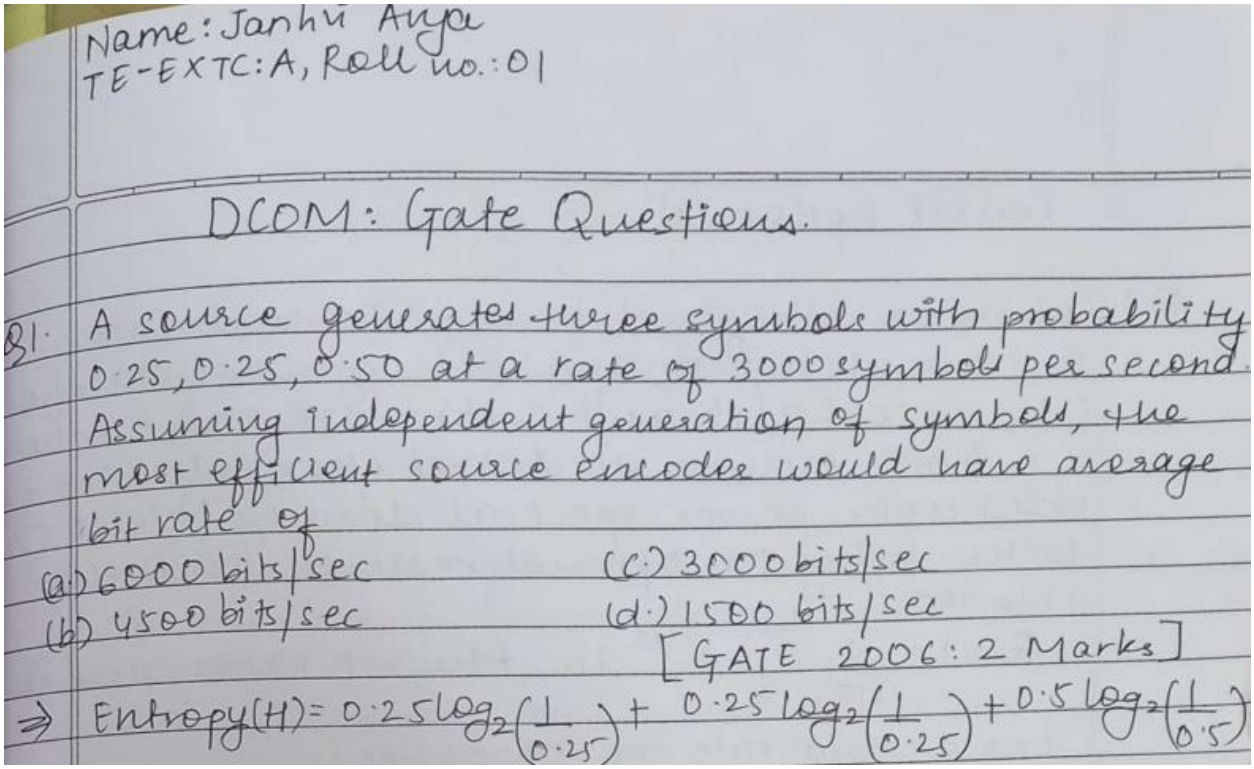
**Class:** TE (EXTC) **Academic year (2023-24)** **SEM**: V

**Name of Faculty**: Mrs. Sushma Kore **Subject**: Digital communication

**Methodology followed**: Teaching, Written Assignments, Remedial lectures

**Difficulty faced**: Students do not get the exact understanding of the topic through regular offline classroom teachings and basic written subject assignments.
**New method identified**: GATE Questions on Digital Communication Topics

**Activity report**: The selected students were given previous GATE Exam questions modulation, source coding, entropy, error detecting and correcting codes to help them revise and prepare for GATE Exam


Name: Janhvi Anja
TE-EXTC: A, Roll no.: 01

DCOM: Gate Questions.

Q1. A source generates three symbols with probability 0.25, 0.25, 0.50 at a rate of 3000 symbols per second. Assuming independent generation of symbols, the most efficient source encoder would have average bit rate of

(a.) 6000 bits/sec
(b) 4500 bits/sec
(c.) 3000 bits/sec
(d.) 1500 bits/sec

[GATE 2006: 2 Marks]

⇒ Entropy(H) = $0.25\log_2\left(\frac{1}{0.25}\right) + 0.25\log_2\left(\frac{1}{0.25}\right) + 0.5\log_2\left(\frac{1}{0.5}\right)$

**Outcome:** Applying the concept of the subjects it helped the students to learn for the competitive exam GATE which is beneficial for further opportunities in Masters or Government Jobs.

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**Class:** TE (EXTC) **Academic year (2023-24)** **SEM**: VII

**Name of Faculty**: Mrs. Anupama Chaurasia

**Sub**: **Microwave Engineering**

**Class:** B.E.EXTC SEM: VII-R19

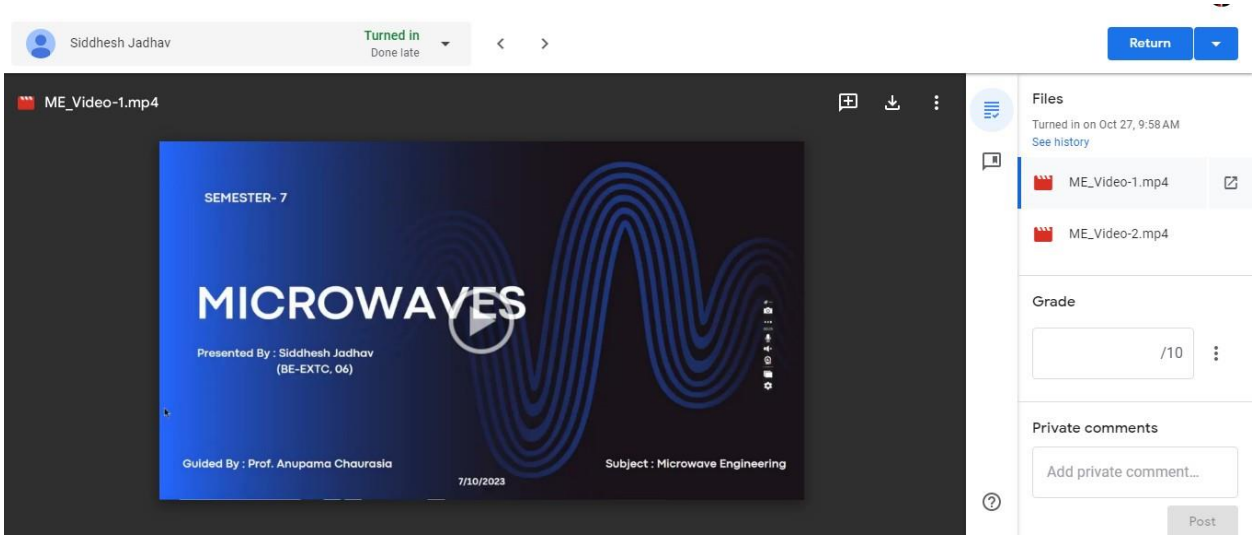
**Methodology followed**: Teaching, Written Assignments, Remedial lectures

**Difficulty faced:** Students do not get the exact understanding of the topic through regular offline classroom teachings and basic written subject assignments.

**New method identified**: Video Making Assignment

**Activity report**:Video making can provide learners a student-centered and engaging learning experience in both distance and traditional learning settings. Video making enable teachers to create a digital recording of any instructional activity performed on a computer screen, and they can be used as learning resources, learning tasks, and learning support.

A major benefit of video making is that the viewer can watch the screencast at a time when it's best for them because learning doesn't always take place in an academic setting. Additionally, the viewer can absorb the information at their own pace. The students can record a video explaining the steps of difficult numerical or summarizing a concept.



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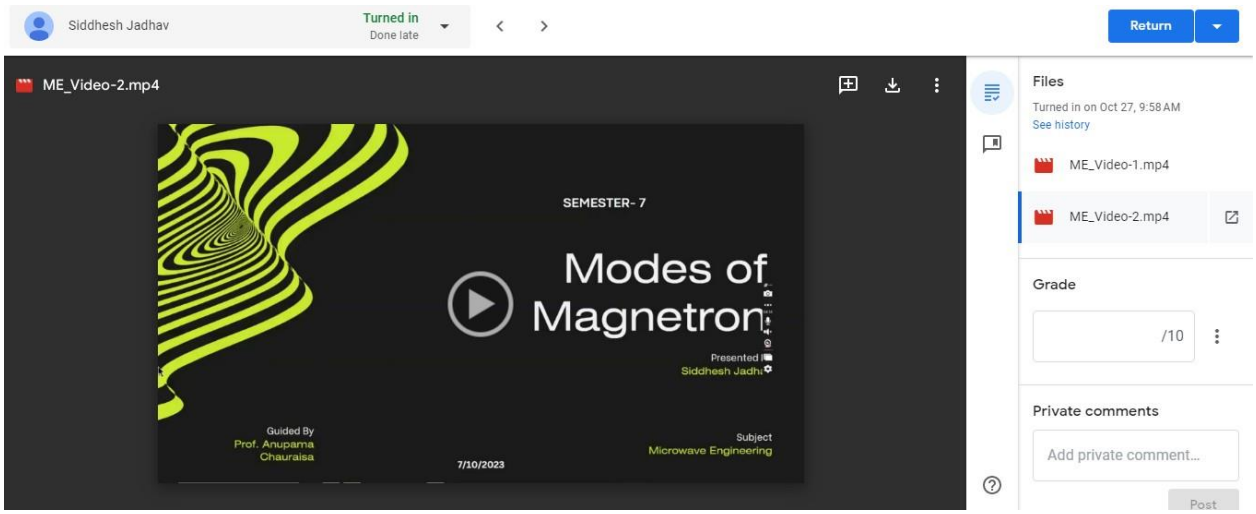
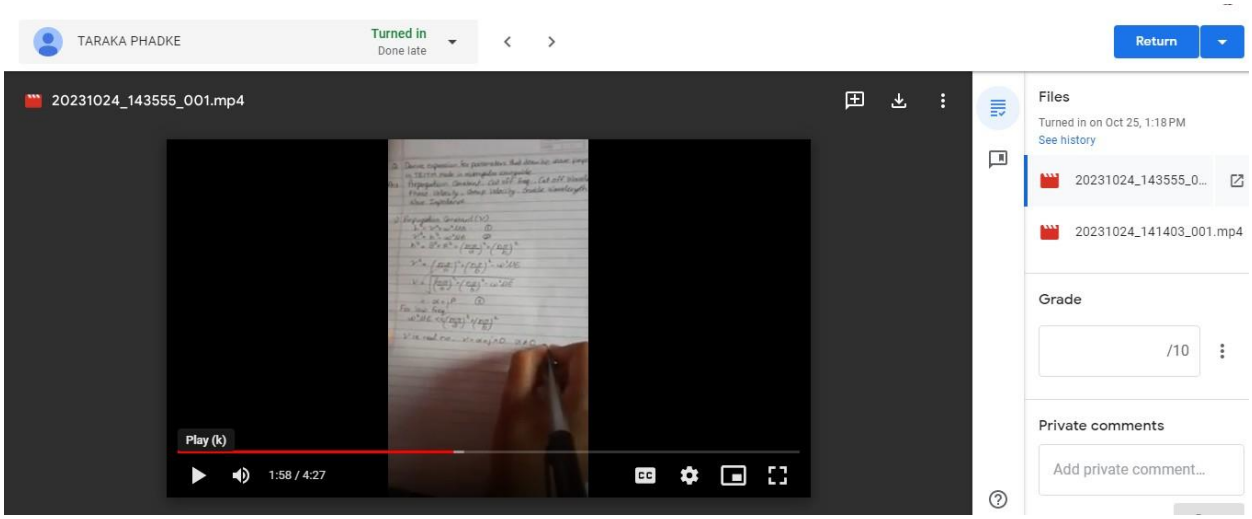
# Department of Electronics and Telecommunication




**Outcome**: This video can be uploaded on YouTube or on drive links or on websites so that other students can watch it any time and learn the concept. Video is an efficient and memorable way to deliver information to students of all ages. But having students create video projects themselvesis also a great way to help them actively engage with subject matter learning from one another. This is the best option for peer-to-peer learning.

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# Department of Electronics and Telecommunication

**Class:** BE EXTC **Academic Year 2023-24 (Odd)** **SEM**: VII, R-2019, C-Scheme

**Subject:** Mobile Communication System and Internet Communication Engineering

**Subject In charge:** Dr. Baban Rindhe, Ms. Sushma Kore,
**Activity:** Presentation on "5G & Latest Trends in Internet Networking

**Activity Report:** The activity is assigned to Devendra Girase and Siddhesh Jadhav. They are asked to prepare power point presentation on the latest topic from the subjects Internet Communication Engineering and Mobile Communication System. These students are asked to give presentation in front of the class.



**Outcome:** Given presentation on the concept of the subjects in front of the class build the confidence in students. It also helped the students to understand the new trends related to the subject.