

Information and Communication Technology (ICT): Students will be able to learned through digital media like computer, ppt, internet, etc

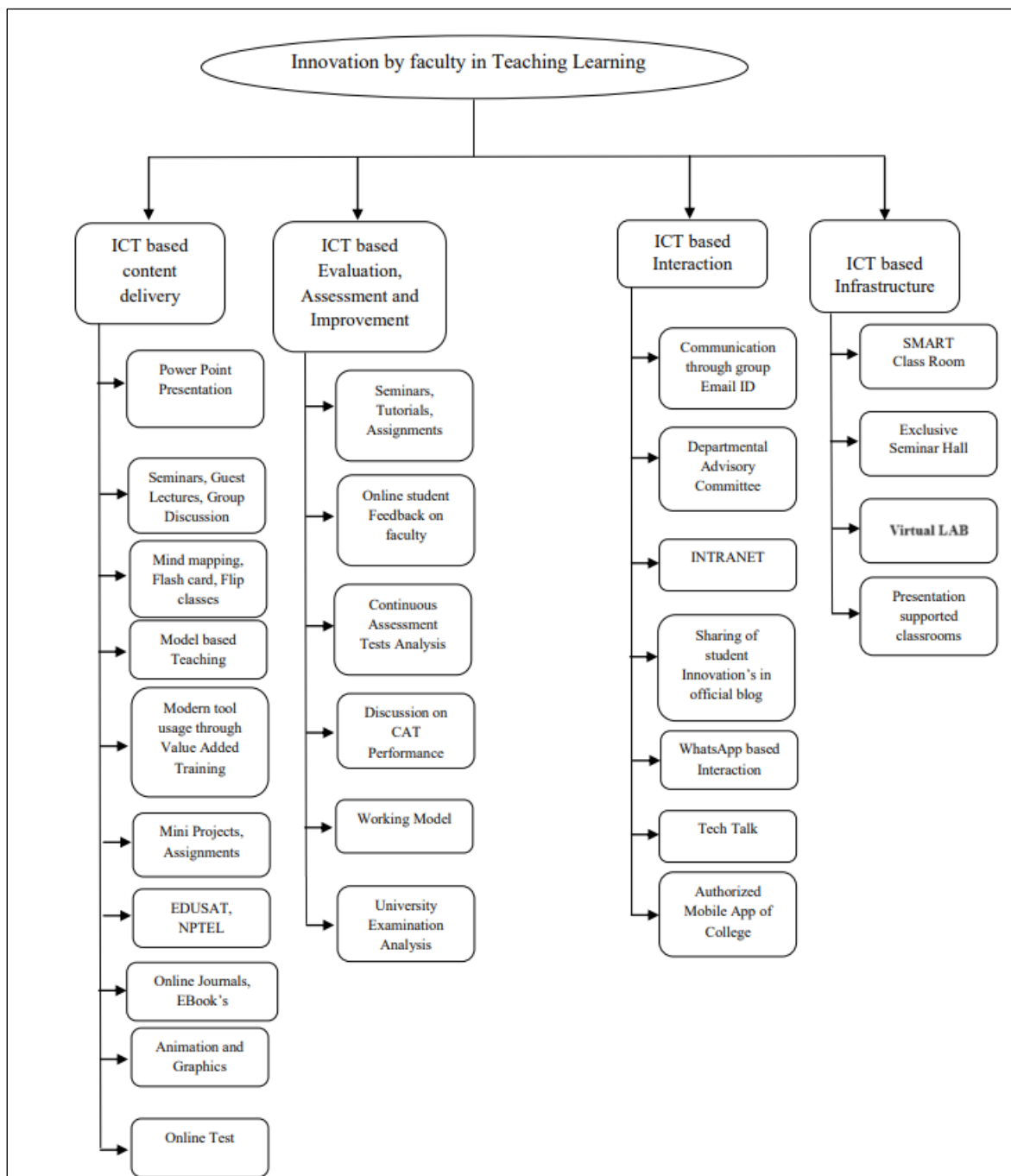


Figure 5.5 (i)flow chart of Information and Communication Technology (ICT)



Figure 5.5.1 Faculty to adopt methods of teaching through real time examples

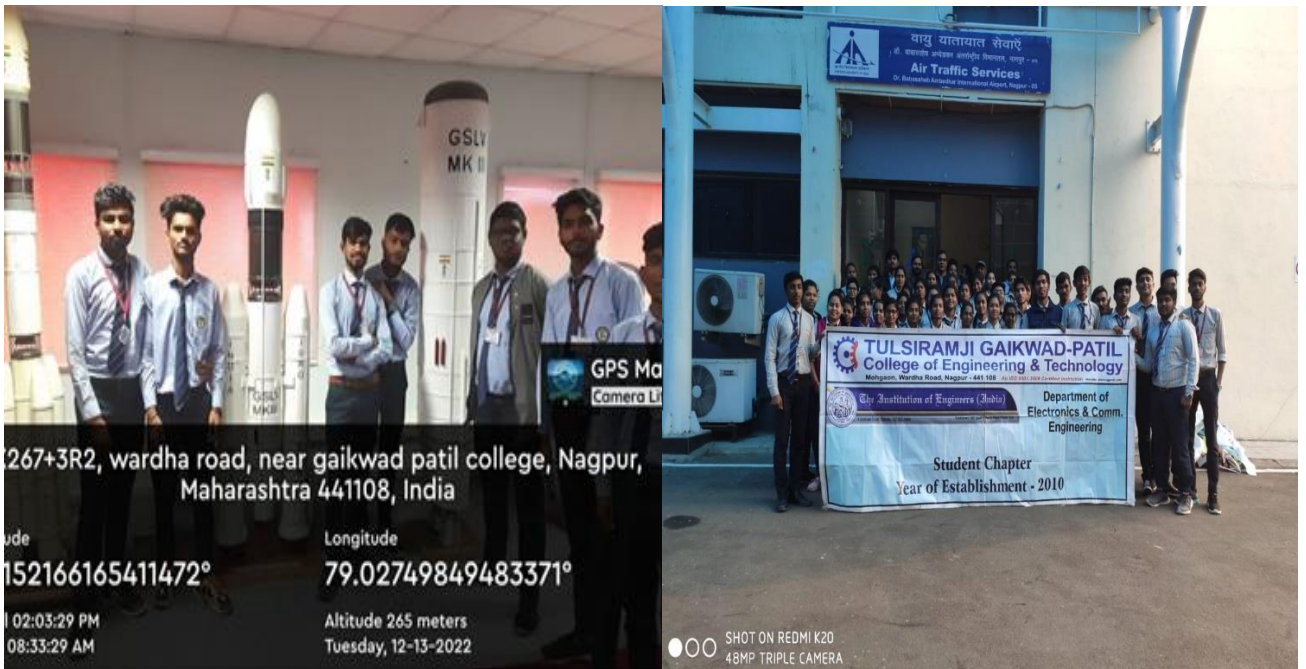


Figure 5.5.2 Enhance student's skills through industry Practical knowledge is improved with creating more interest in the subject.

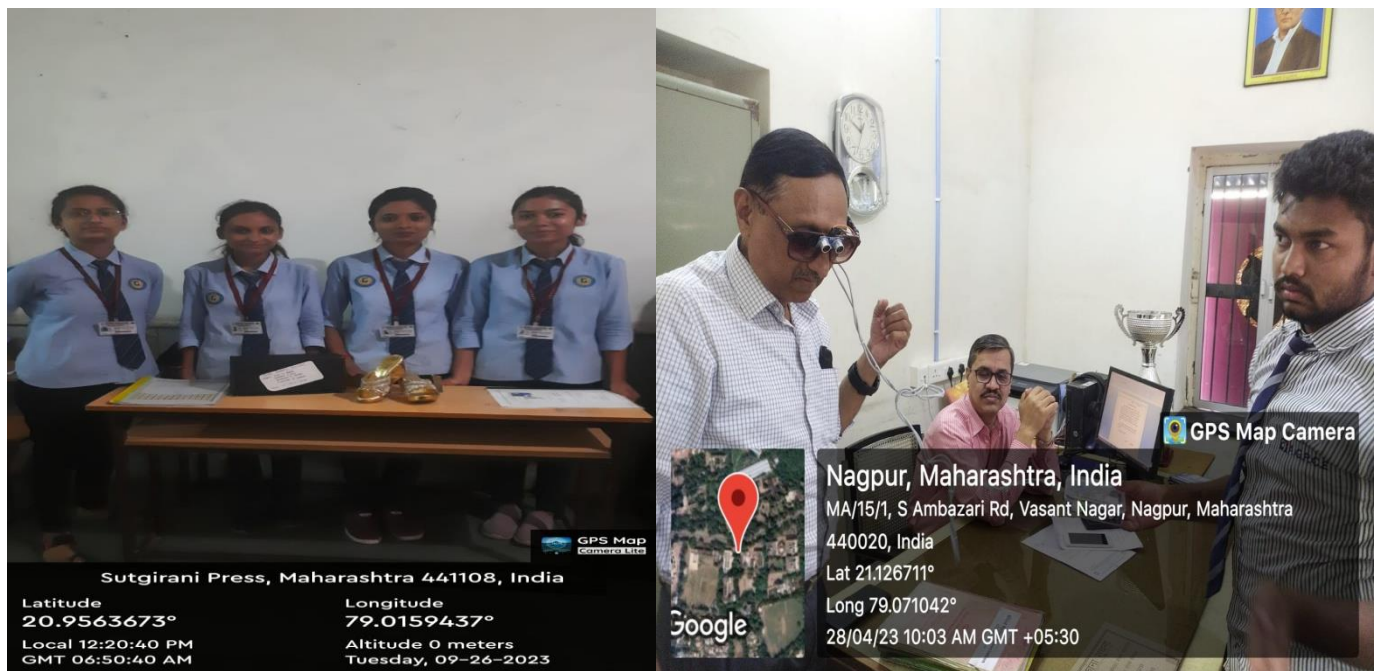


Figure 5.5.3 The concept of Project Based Learning (PBL) for implementation of mini projects using the technology learnt under Professional Skills (PS) was introduced as a group learning activity.



Figure 5.5.4 Co-teaching with industry experts from each subject are invited to conduct sessions for encouraging students and creating awareness about latest trends and techniques related to the subject.

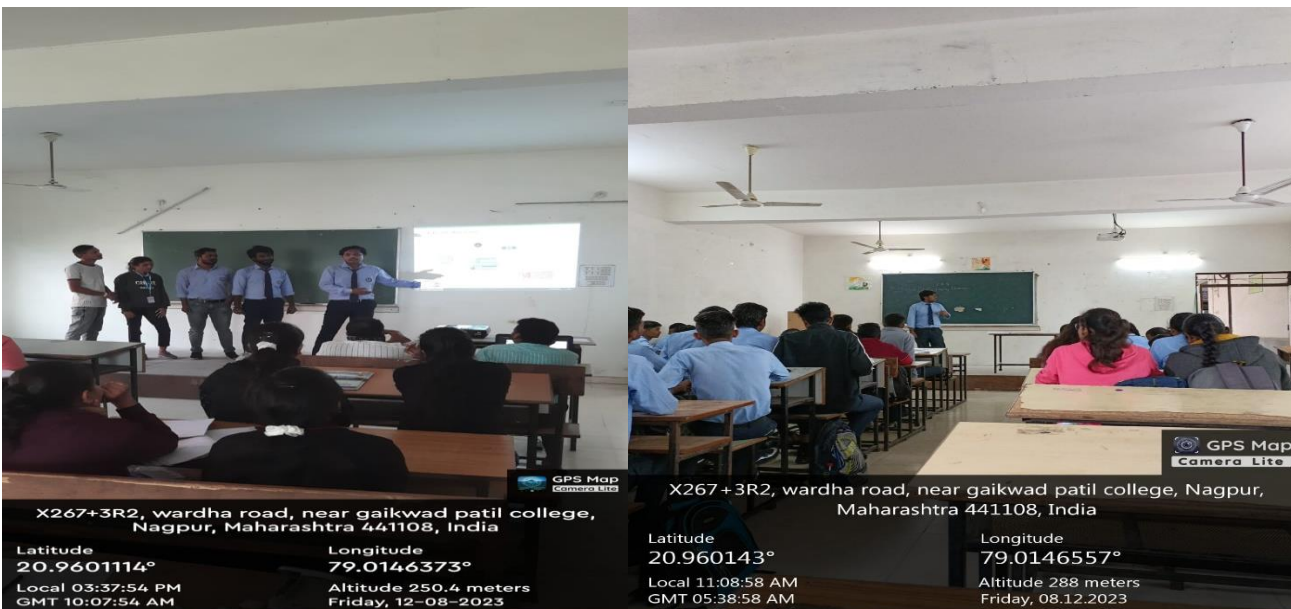


Figure 5.5.5 Innovative Teaching Learning Techniques of Brainstorming activity for provide diverse perspectives of respective subject topic.



Figure 5.5.6 Innovative Teaching Learning Techniques of Brainstorming activity for provide add on skill of VSAT Antennas which is related with program.



Figure 5.5.6 (i) Enhance student's skills through industry Practical knowledge is improved with creating more interest in the subject.

Virtual Lab Tools

Name of Course-Microwave and Radar Engineering Sem/Year-VII SEM/4th Year

Study of field pattern of various modes inside a rectangular waveguide cavity.

Objective:- Platform that facilitate group work, discussions and information sharing among the students.

For Students:-

- 1. Interactive Learning:-** Virtual labs offer hands-on experience in a controlled environment, enabling students to interact with equipment, settings, and parameters to observe real-time outcomes.
- 2. Concept Reinforcement:** Students can apply theoretical concepts learned in lectures to practical scenarios, reinforcing their understanding of microwave and radar engineering principles.
- 3. Risk-Free Experimentation:** Virtual labs eliminate risks associated with real-world equipment handling, allowing students to experiment freely without the fear of damaging expensive equipment.
- 4. Visual and Spatial Understanding:** Complex microwave and radar concepts, such as wave propagation and antenna radiation patterns, can be better understood through visualizations in a virtual lab.
- 5. Self-Paced Learning:** Students can repeat experiments as many times as needed, enabling self-paced learning and facilitating a deeper understanding of concepts.

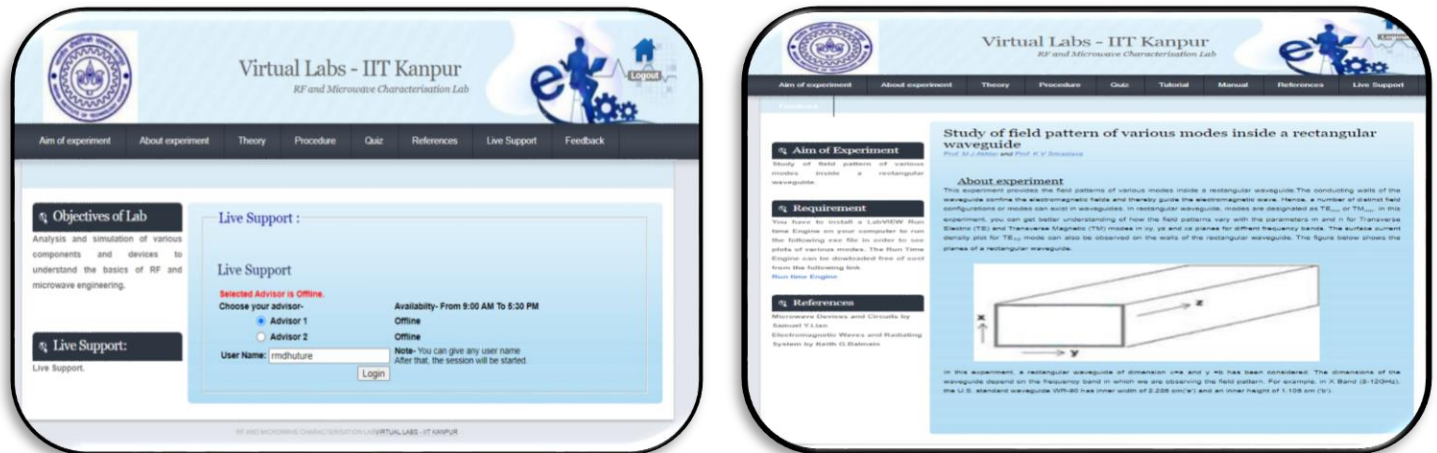


Fig.5.5.7 Study of field pattern of various modes inside a rectangular waveguide cavity.

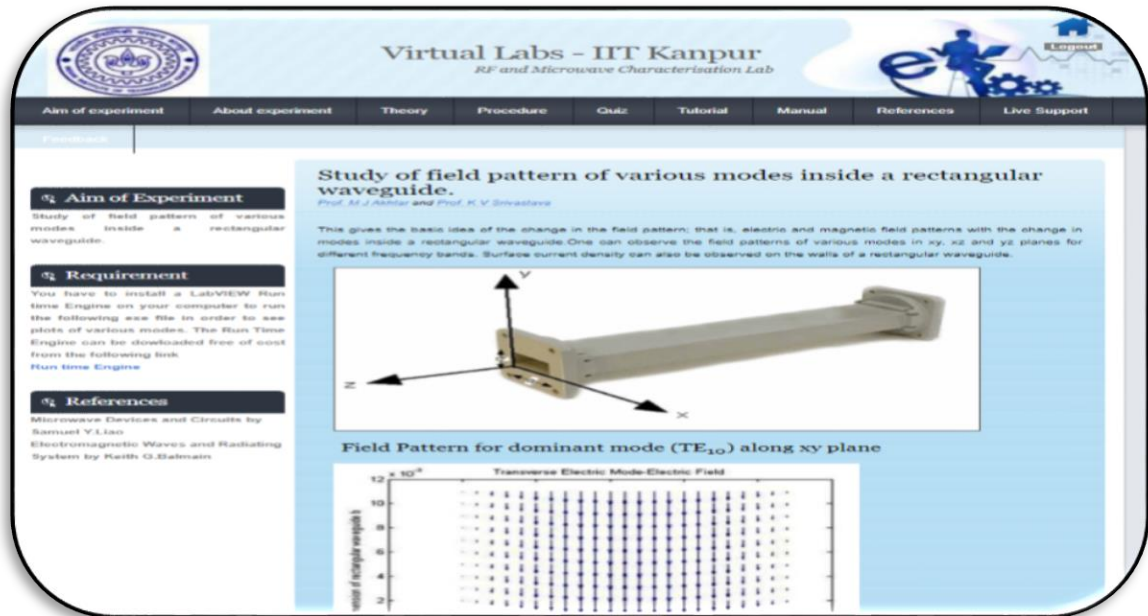


Fig.5.5.8 Field Pattern for dominant mode in rectangular waveguide

Link for Learning topics from Virtual Lab

1. [Measurement of VSWR on a line:- http://eem-iitd.vlabs.ac.in/exp1.html](http://eem-iitd.vlabs.ac.in/exp1.html)



Fig.5.5.9 Measurement of VSWR on a line

2. [Relationship between guide \$\lambda_g\$ and \$\lambda_0\$:- http://eem-iitd.vlabs.ac.in/exp3.html](http://eem-iitd.vlabs.ac.in/exp3.html)

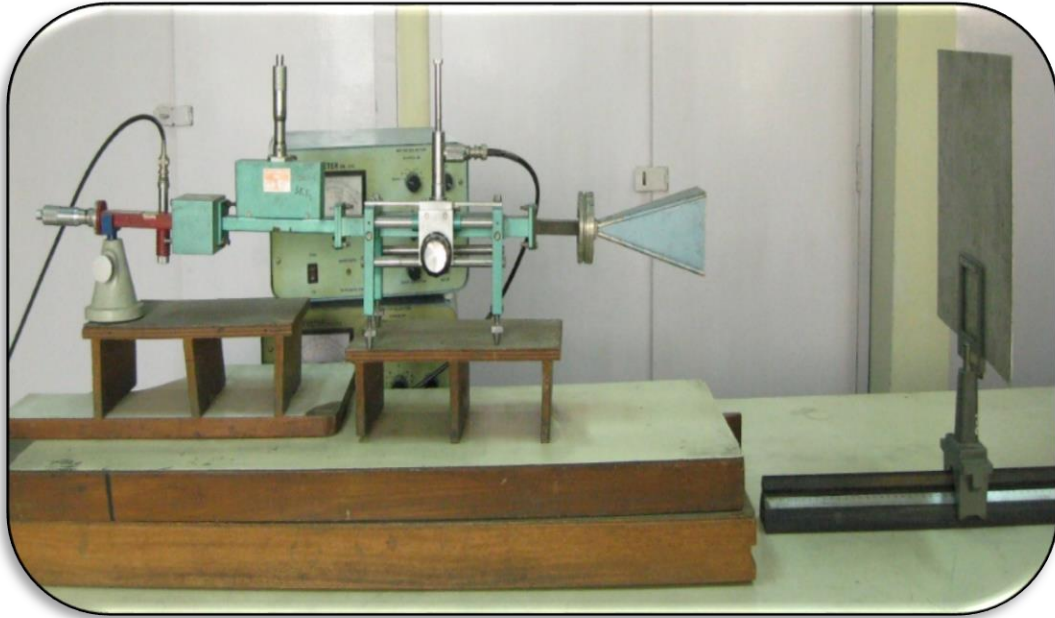


Fig.5.5.10 Relationship between guide λ_g and λ_0

3. **Experiment of Microwave Cavity:** - <http://eem-iitd.vlabs.ac.in/exp4.html>



Fig.5.5.11 Experiment of Microwave Cavity

4. **Radiation Pattern of Horn Antenna:** - <http://eem-iitd.vlabs.ac.in/exp7.html>

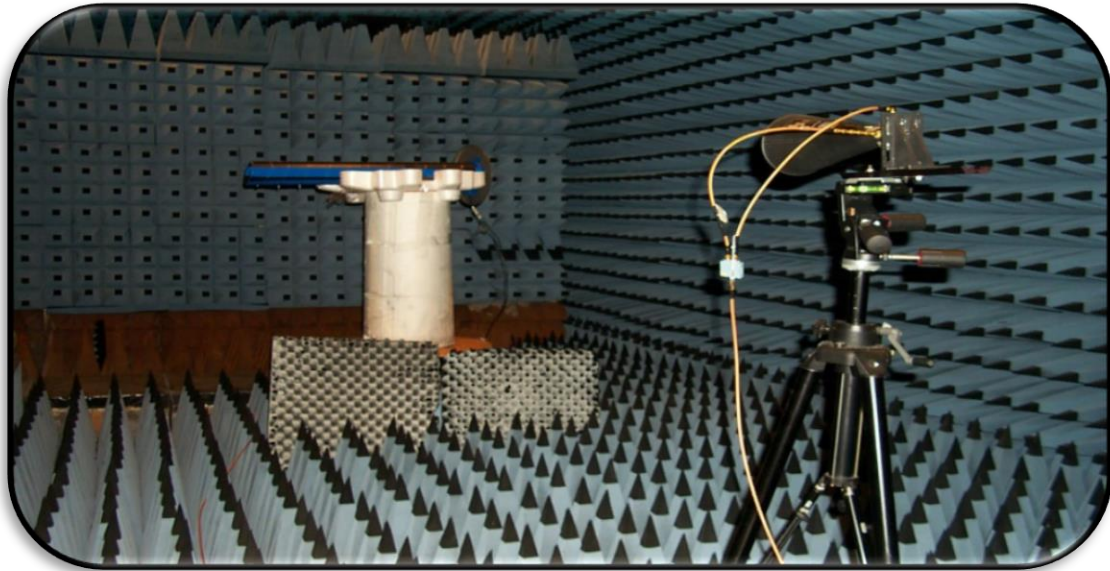


Fig.5.5.12 Radiation Pattern of Horn Antenna

5.Experiments of Transmission Line :-<http://eem-iitd.vlabs.ac.in/exp1.pdf>



Fig.5.5.13 Result experiments of Transmission Line

Quiz

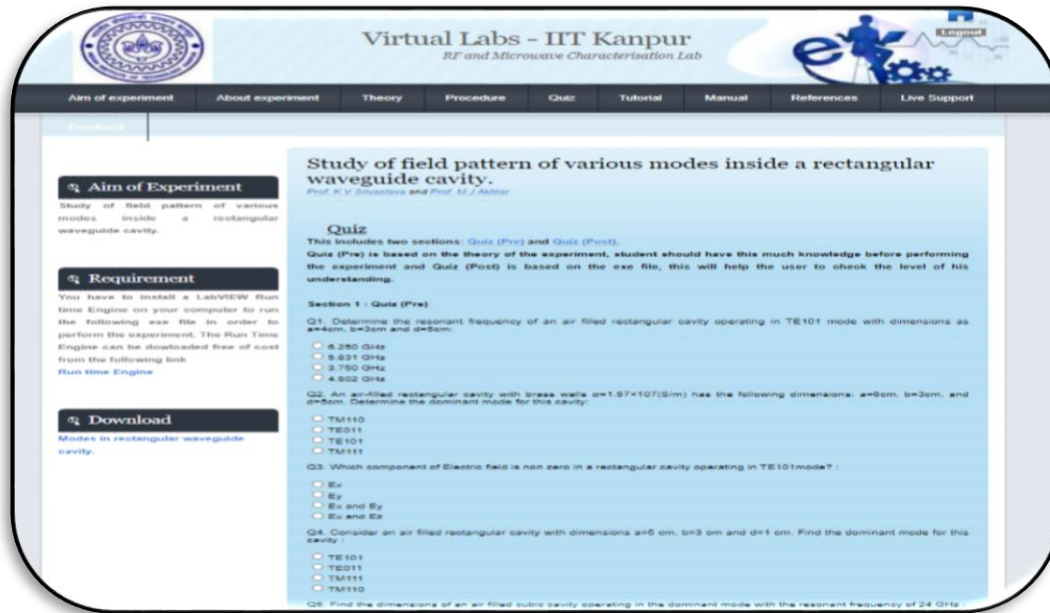



Fig.5.5.14 MCQ quiz question on experiments

For Educators:

1. **Enhanced Teaching Effectiveness:** Virtual labs provide educators with a platform to demonstrate complex microwave and radar concepts more effectively, making it easier to explain abstract theories through interactive simulations.
2. **Scalability:** Virtual labs can accommodate a larger number of students compared to traditional physical labs, allowing educators to reach more learners without concerns about space or equipment limitations.
3. **Reduced Costs:** Setting up and maintaining physical labs with expensive microwave and radar equipment can be costly. Virtual labs eliminate the need for purchasing and maintaining physical equipment, thus reducing costs.
4. **Flexibility:** Educators can design and modify virtual lab experiments to suit different learning objectives and adapt to changing curriculum requirements.
5. **Data Collection and Analysis:** Virtual labs often provide tools for data collection and analysis, allowing educators to demonstrate data processing techniques that might be challenging to conduct in a physical lab.
6. **Remote Learning:** Virtual labs enable remote access, allowing students to perform experiments from anywhere with an internet connection, even outside traditional classroom hours.

Incorporating virtual labs into microwave and radar engineering education can significantly enrich the learning experience by bridging the gap between theoretical knowledge and practical application.

Brainstorming/Game Pedagogy of Snake Ladder Puzzle PPI 8255 & 8086



Department of Electronics & Communication Engineering
Session: 2023-24 (Even Semester)
Snake Ladder Puzzle on unit 1, unit 7 PPI 8255 & 8086
Course Coordinator: Prof. Suresh Mahajan

☐☐☐ New Thoughts & Curiosity to get New Things to Learn☐☐☐

👉 Everyday Funday
So let's play

Winning Position is 26

Snake - Ladder 🐍 🪜

Instructions

- Check the 6 questions are given below
- Try to find the correct Answer and play the game
- If your answer is correct
➤ You have to take moves as per Pawn Position mentioned in questions.
- If you found ladder, you can climb up and if you found snake you will fall down


Note: All students have to prepare their answers in following format
Initial Position 1
Question No. - Option- Pawn Position

Attempt 2
Question No. - Option- Pawn Position

Ex. Question No.1 is correct - move 1- Pawn Position 2

🎯 Start

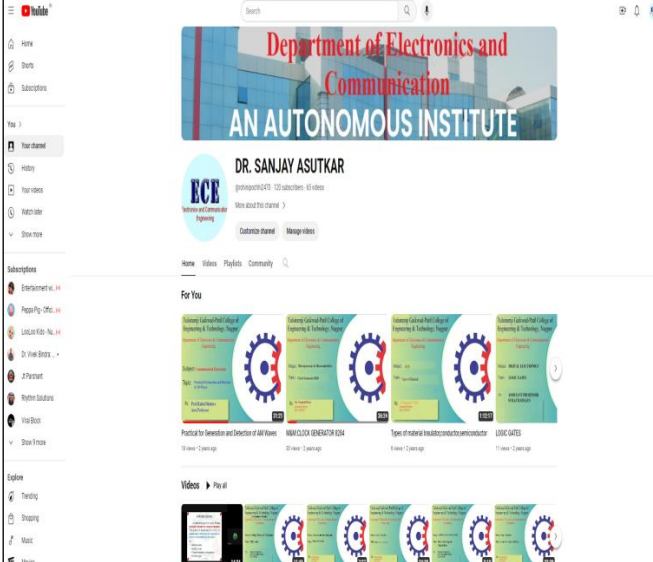
🌍 Keep learning 🌍

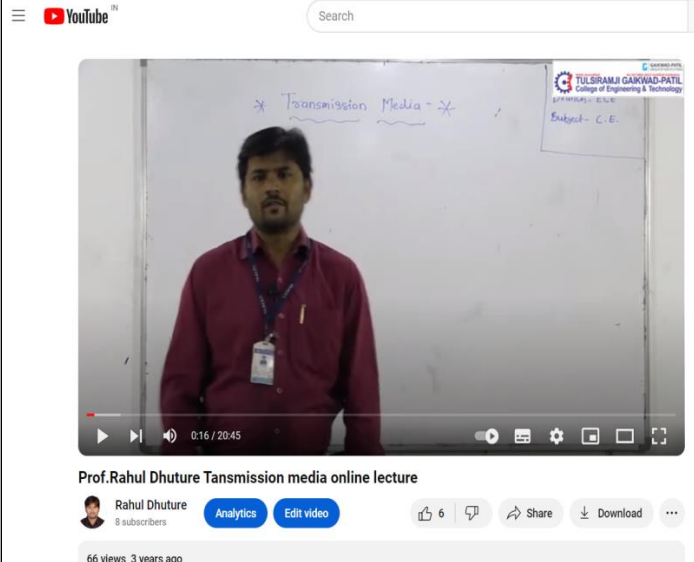


Department of Electronics & Communication Engineering

- The intel 8086 microprocessor is a _____ processor (Correct-1 Position)
 - 8 bit
 - 16 bit
 - 32 bit
 - 4 bit
- The 16-bit flag of 8086 microprocessors is responsible to indicate _____ (Correct-1 Positions)
 - the condition of result of ALU operation
 - the condition of memory
 - the result of addition
 - the result of subtraction
- The conditional branch instruction specifies _____ for branching (Correct-1 Positions)
 - conditions
 - instruction
 - address
 - memory
- In a minimum mode there is a _____ on the system bus
 - single
 - double
 - multiple
 - triple
- If $IAI=0, AO=1$ then the input read cycle is performed in 8255
 - port B to data bus
 - port A to data bus
 - port C to data bus
 - CWR to data bus
- In which mode do all the Ports of the 8255 PPI work as Input-Output units for data transfer?
 - BSR mode
 - Mode 2 of I/O mode
 - Mode 1 of I/O mode
 - Mode 0 of I/O mode

Fig.5.5.15 Brainstorming/Game Pedagogy Snake Ladder Puzzle on PPI 8255 & 8086





Prof. Rahul Dhature Tansmission media online lecture

Rahul Dhature 8 subscribers

66 views 3 years ago

Fig.5.5.16 YouTube online subject videos for students

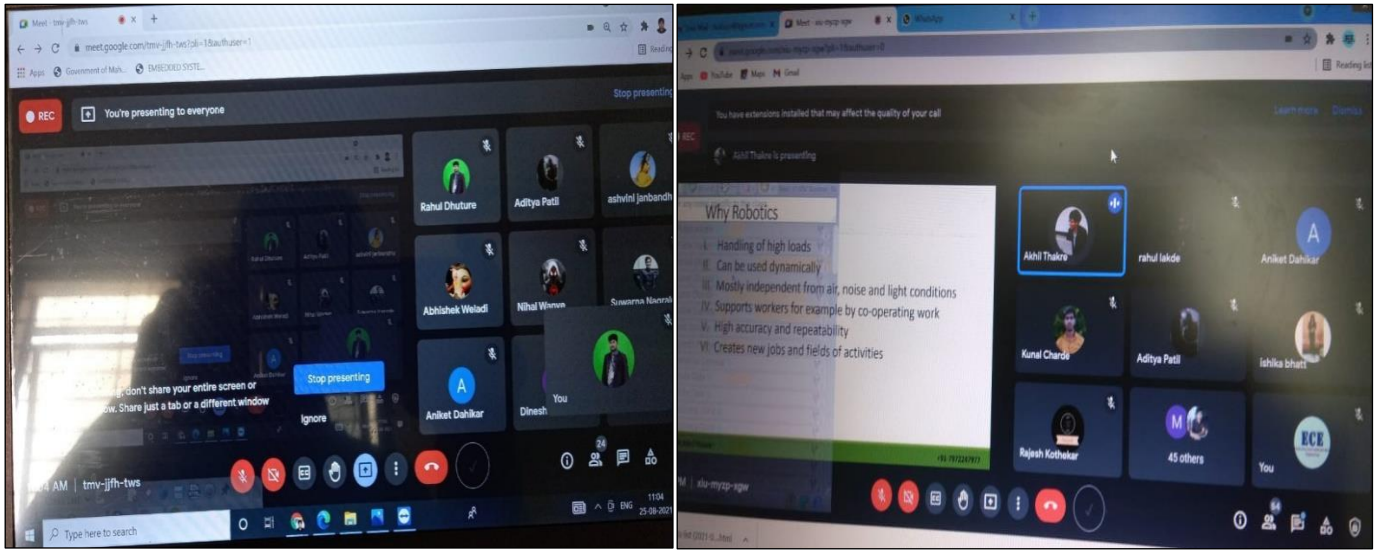
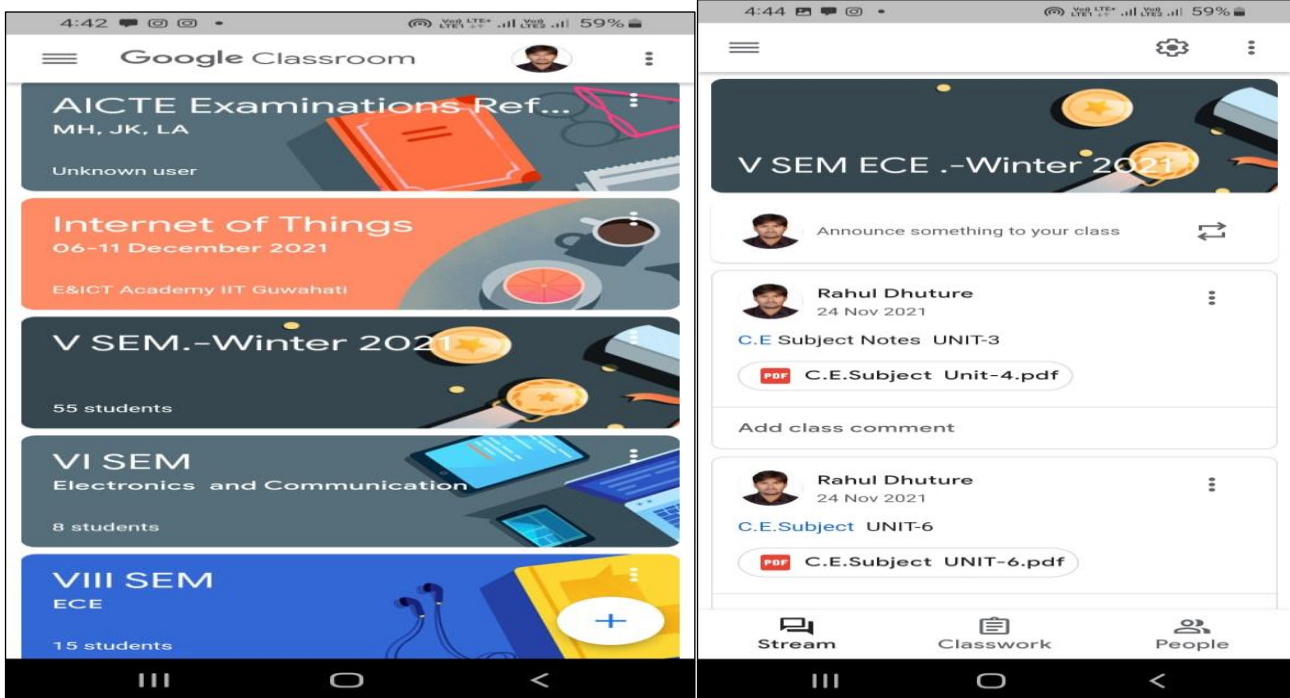


Fig.5.5.17 Online subject lecture by google meet platform for students



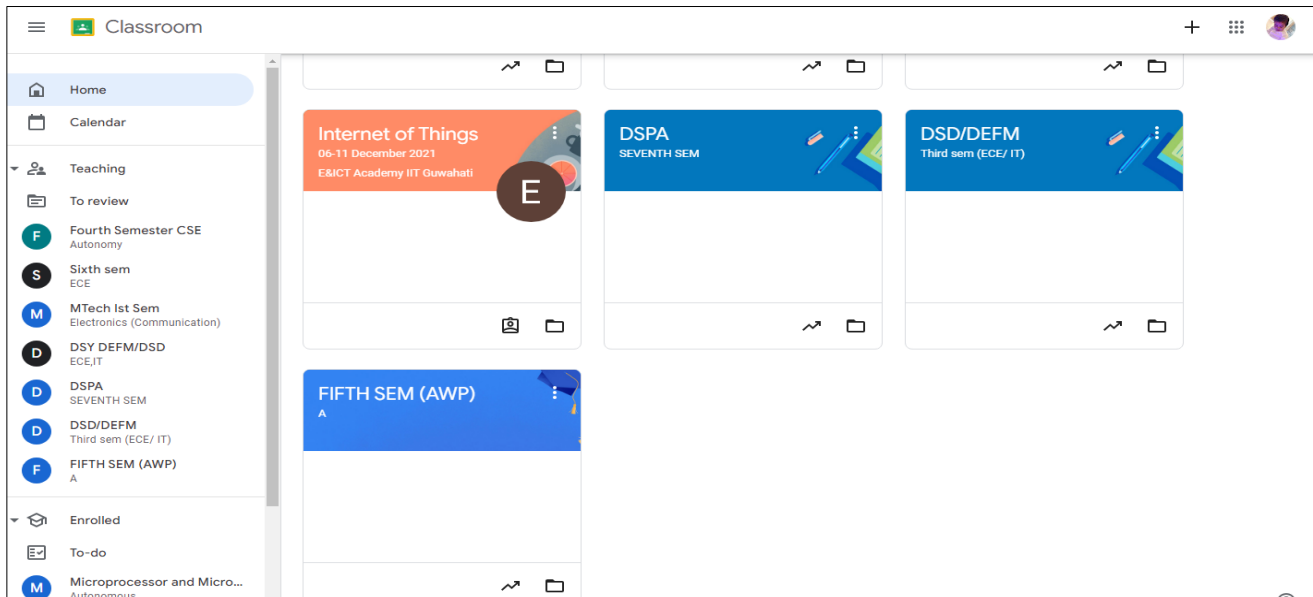


Fig.5.5.19 Enhancement of overall quality of teaching learning through google Classroom.