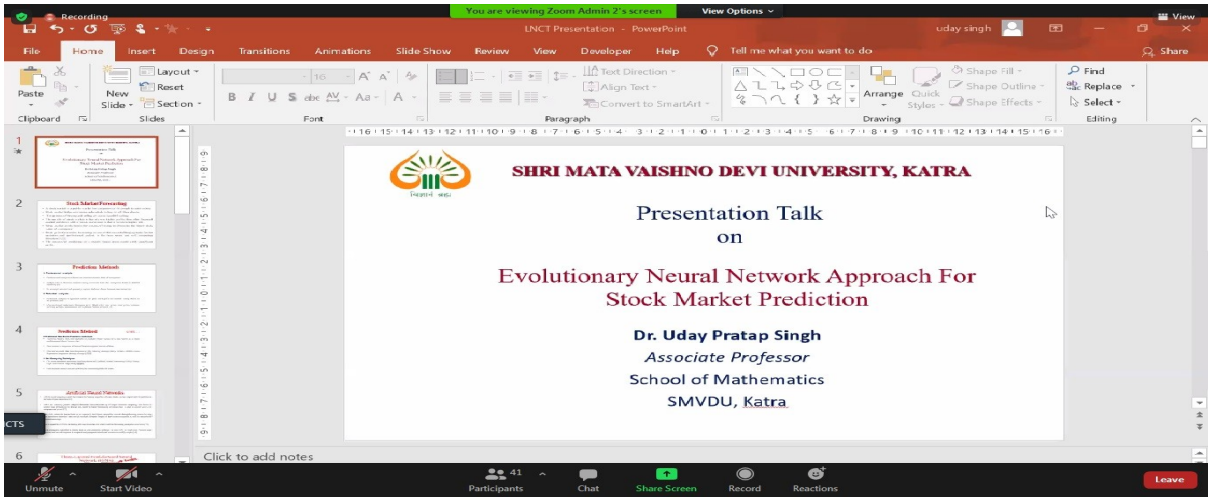
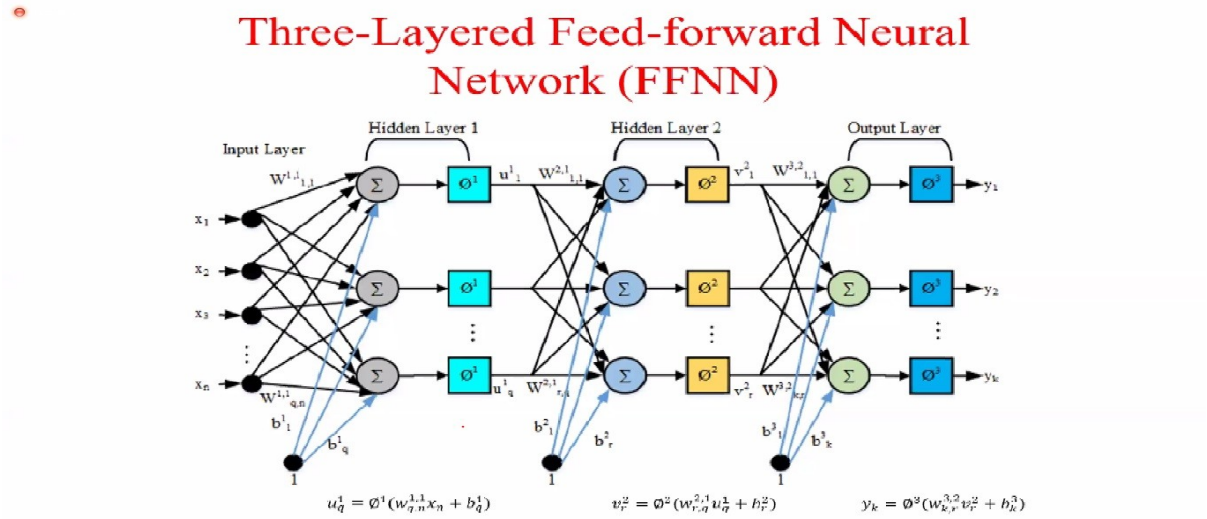
LAKSHMI NARAIN COLLEGE OF TECHNOLOGY EXCELLENCE, BHOPAL

Department of Electronics and Communication Engineering LNCTE Bhopal

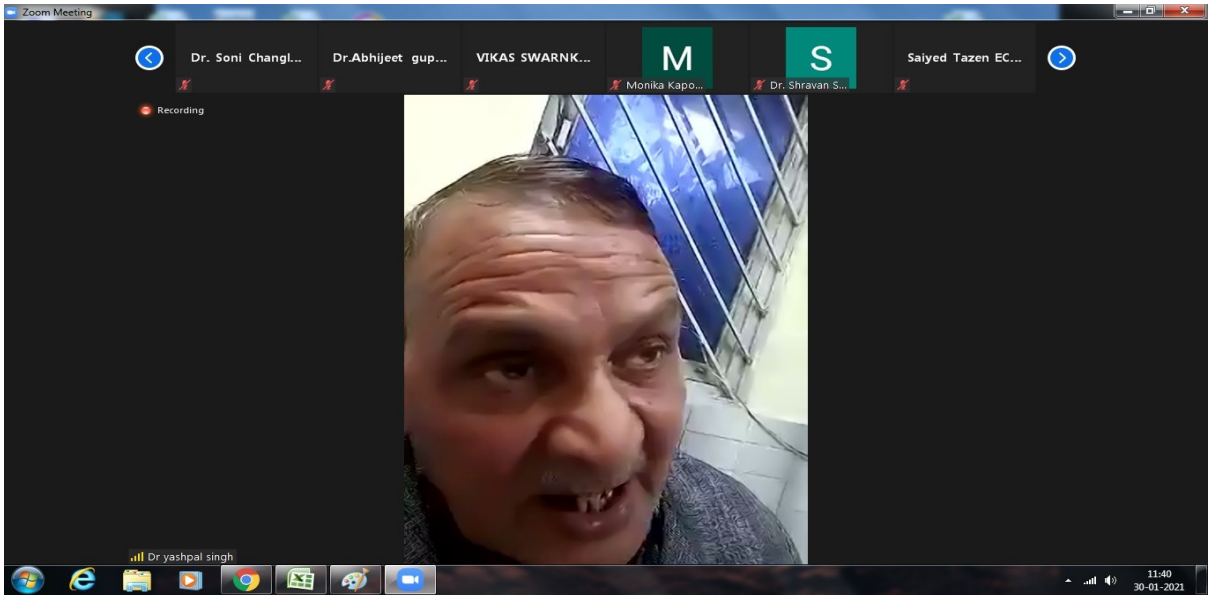
Publicity Report of February 2021

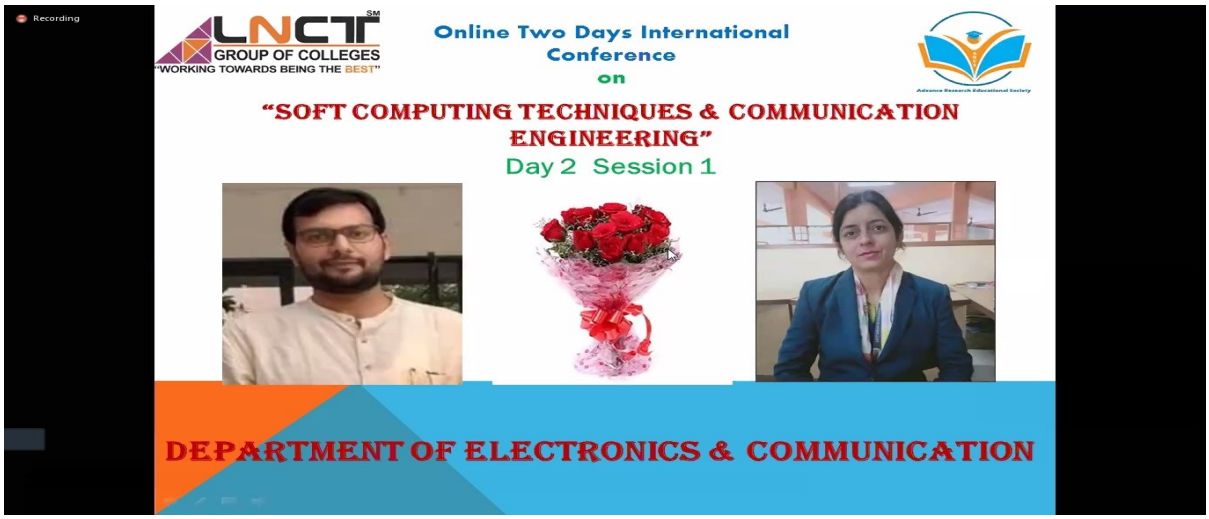
- **International Conference** on "**Soft computing techniques & Communication Engineering**" is organised by Department of **EC** of **LNCT Group of Colleges** on **30-01-2021.**Participants from **LNCT group**(Faculties, Students) & outside has participated and presented their research paper. Conference had been successfully completed under the guidance of **Dr. Abhinav Bhargava (HOD,EC-LNCTE)** coordinated by **Dr. Rohit Kumar Rathor (Assistant Professor).**




Three-Layered Feed-forward Neural Network (FFNN)
Input Layer
Hidden Layer 1
Hidden Layer 2
Output Layer
$u_q^1 = \emptyset^1(w_{q,n}^{1,1}x_n + b_q^1)$
$v_r^2 = \emptyset^2(w_{r,q}^{2,1}u_q^1 + b_r^2)$
$y_k = \emptyset^3(w_{k,r}^{3,2}v_r^2 + b_k^3)$

Recording
LNCT GROUP OF COLLEGES
"WORKING TOWARDS BEING THE BEST"
Online Two Days International Conference on
"SOFT COMPUTING TECHNIQUES & COMMUNICATION ENGINEERING"
Day 2 Session 1
DEPARTMENT OF ELECTRONICS & COMMUNICATION


Zoom Meeting
Dr. Soni Changl...
Dr.Abhijeet gup...
VIKAS SWARNK...
Monika Kapo...
Dr. Shravan S...
Saiyed Tazen EC...
Recording
Dr yashpal singh
11:40
30-01-2021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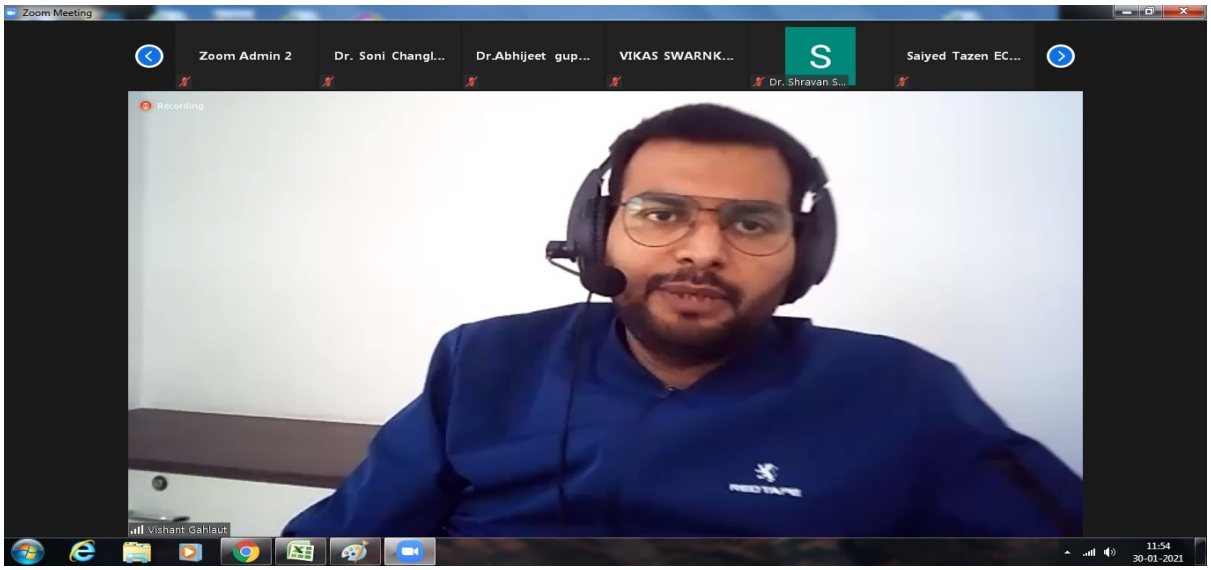
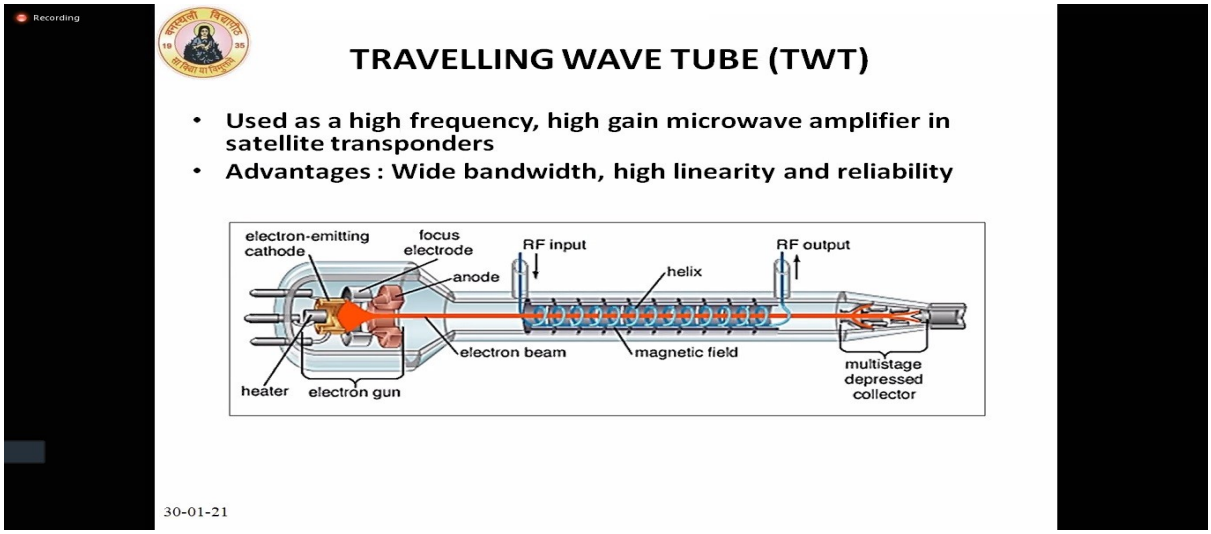

Zoom Meeting
Zoom Admin 2
Dr. Soni Changl...
Dr.Abhijeet gup...
VIKAS SWARNK...
Dr. Shravan S...
Saiyed Tazen EC...
Recording
Vishant Gahlaut
11:54
30-01-2021


Recording
TRAVELLING WAVE TUBE (TWT)
• Used as a high frequency, high gain microwave amplifier in satellite transponders
• Advantages : Wide bandwidth, high linearity and reliability
electron-emitting cathode
focus electrode
anode
RF input
helix
RF output
electron beam
magnetic field
multistage depressed collector
heater
electron gun
30-01-21

Recording

"Design and Synthesis of Carbon Nanotube Field Effect Transistor based Ternary Logic Circuits"

PRESENTED BY
Vikas Swarnkar
Prof. Santosh Kumar Jha
Enrollment No: 0103EC18MT16

Department of Electronics and Communication Engineering
Lakshmi Narain College of Technology, Bhopal

1

Recording

Presentation Area
"5G: Impact on Pharmaceutical Industry in Indian"

Presented By:
Ms Manju
Ph.D. Research Scholar
Department of Economics
Panjab University Chandigarh

Recording

What is 5G TECHNOLOGY ?

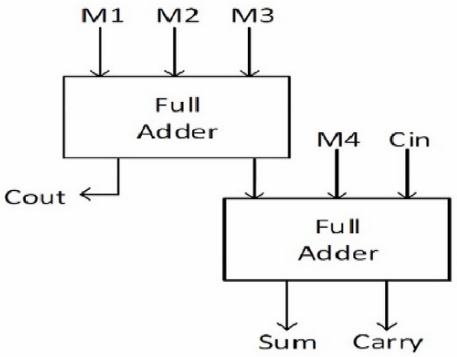
5G technology represents the "Fifth-generation" in a field of wireless communication network. It is promises decreased latency, high speeds, and a more associated environment friendly. It is a new global wireless standard after 1G, 2G, 3G, and 4G networks. 5G enables a new kind of network that is designed to connect virtually everyone and everything together including machines, objects, and devices.

5G wireless technology is meant to deliver higher multi-Gbps peak data speeds, ultra-low latency, more reliability, massive network capacity, increased availability, and a more uniform user experience to more users. Higher performance and improved efficiency empower new user experiences and connects new industries like pharmaceutical industry. The 5G technology is a paradigm shift because it is not only about a network. Instead, it is about an ecosystem of devices and sensors which can be intelligently connected in order to overhaul business and economic policy.

Recording

Design of a Compressor

Output	Number of stages[1]
Cout	3
Sum	4
Carry	5



Recording

INVENTORY MANAGEMENT SYSTEM

Dr. A. K. Malik
Associate Professor,
Department of ASH (Mathematics)
B K Birla Institute of Engineering & Technology,
Pilani (Rajasthan)
Email: ajendermalik@gmail.com

Sanket Choudhary
PRASHANT PUROHIT -E...
Dr A K Malik
Dr. Bharti Gupta

MANIPAL UNIVERSITY JAIPUR
A+ NAAC

FlexMEMS Research Centre
Manipal University Jaipur

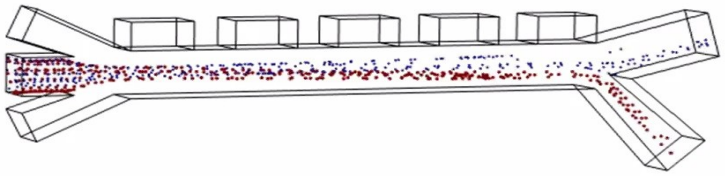
MEMS Impedance Flow Cytometry: A computation analysis for biological cell separation

Dr. Kulwant Singh (Deputy Director, E-Cell-MUJ)
Associate Professor, Department of ECE,
FlexMEMS Research Centre (FMRC)
Manipal University Jaipur

Content

FlexMEMS Research Centre
Manipal University Jaipur

- Role: Need of Microfluidics in Society
- Background: Point of Care Diagnostic Devices
- Overview: Flow Cytometry
- Flow Cytometry Potential
- Functioning:
  - Impedance Flow Cytometry for Cell Detection
  - Impedance Flow Cytometry for Cell Separation
- Bio-cell Levitation
- Flow Cytometry Structure Optimization
- Current Stage of Flow Cytometry
- Future Advancement
- What we are doing at MUJ?



2

Functioning: Impedance Flow Cytometry for Cell Separation

FlexMEMS Research Centre
Manipal University Jaipur

Movement of Cell in Fluid with Influence of Electric Field Dielectrophoresis

CASE-I: $\varepsilon_{cell} < \varepsilon_{medium}$

Cell moves away from electrodes (Weaker Electric Field)

CASE-II $\varepsilon_{cell} > \varepsilon_{medium}$

Cell moves towards electrodes (Stronger Electric Field)

DEP force was first explored by researcher H.A. Pohl in 1958 (Pohl, 1958) and can mathematically expressed by equation below

$$\langle F_{DEP} \rangle = 2\pi\varepsilon_m R^3 \mathrm{Re}[CM^*]\nabla|E_{rms}|^2 \quad (1)$$

Here:

R= Radius of the cell/particle
ε_m= Medium permittivity
$[CM^*]$ = Clausius Mossotti factor
$|E_{rms}|^2$ = RMS value of electric field

ε^*_p= Complex permittivity of particle
ε^*_m= Medium permittivity of medium

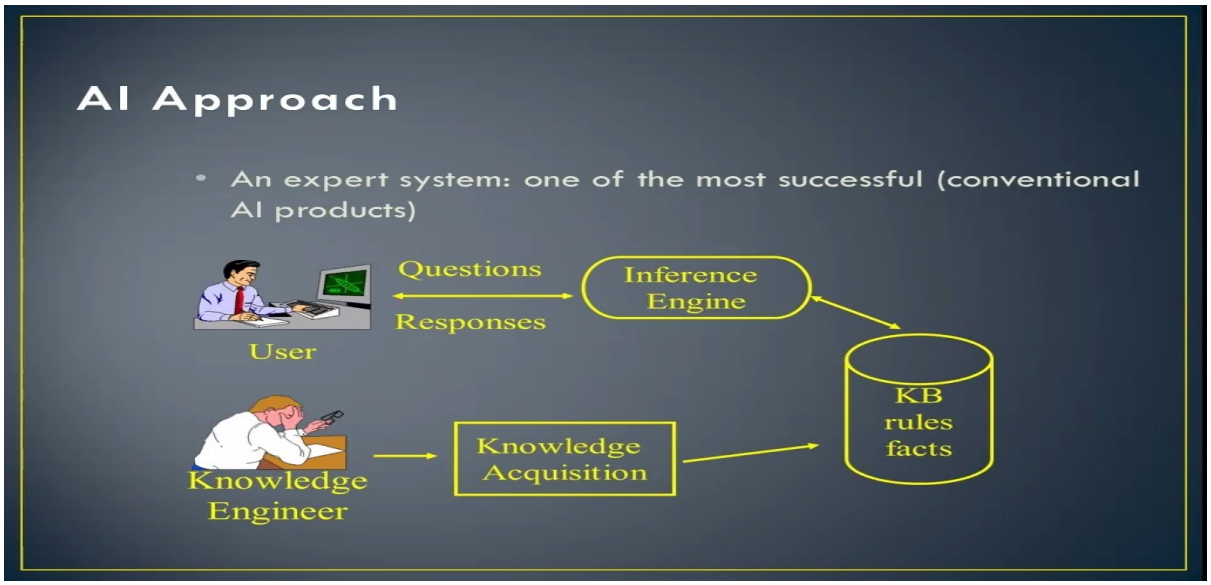
$$CM^* = \left(\frac{\varepsilon_p^* - \varepsilon_m^*}{\varepsilon_p^* + 2\varepsilon_m^*}\right)$$

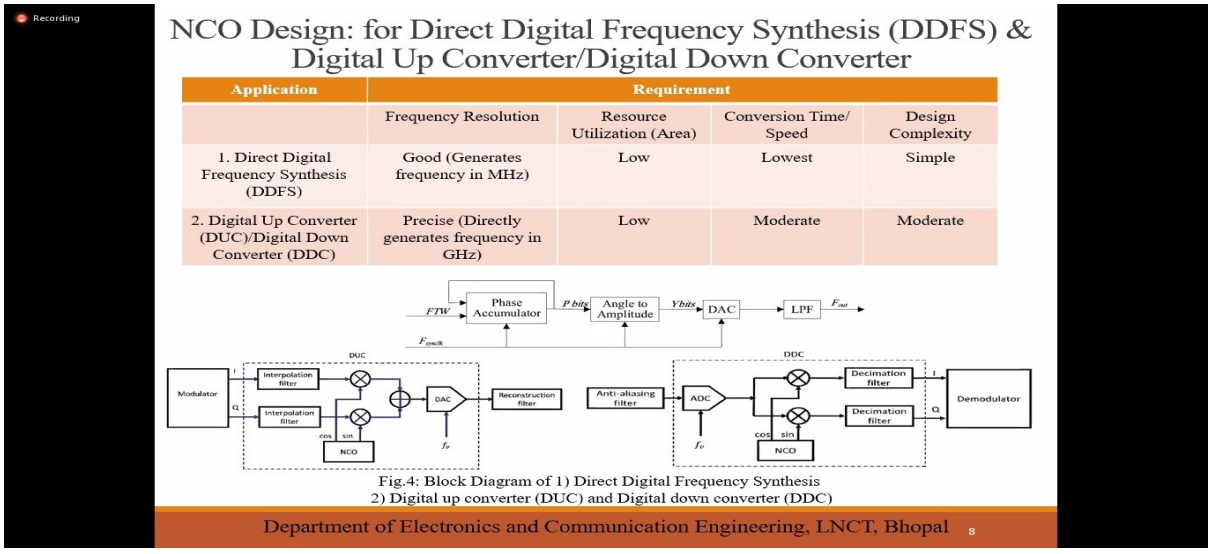
$$\varepsilon_p^* = \varepsilon_p - i\frac{\sigma_p}{\omega}$$

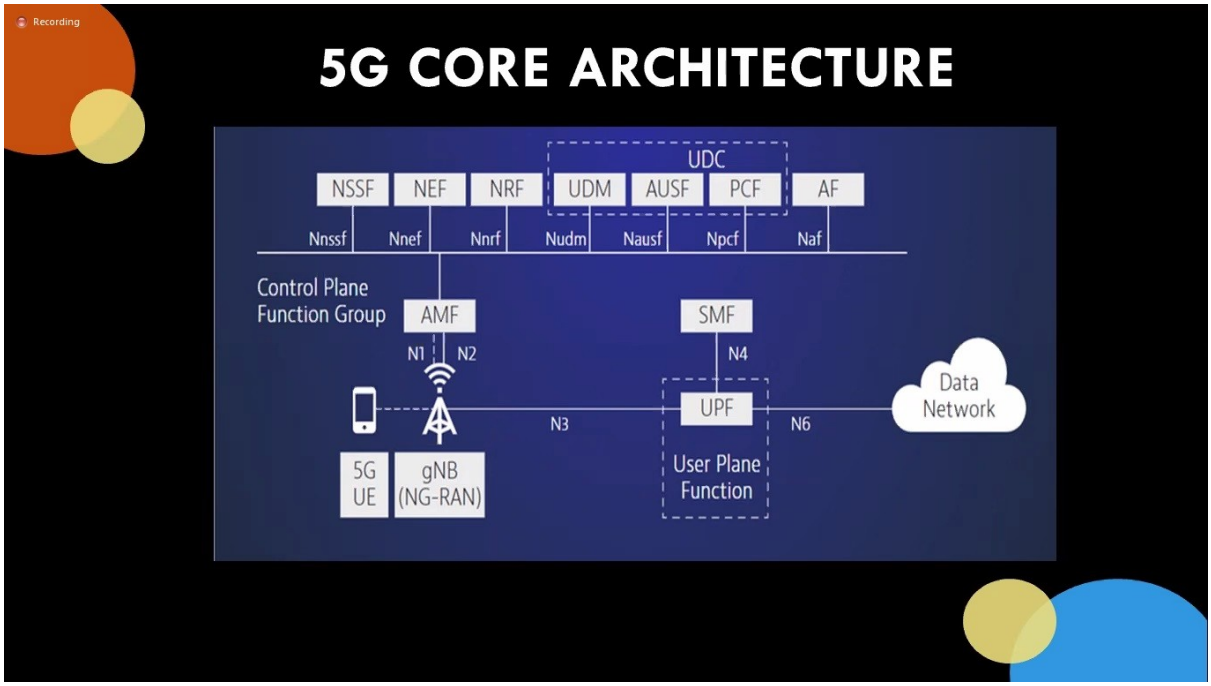
$$\varepsilon_m^* = \varepsilon_m - i\frac{\sigma_m}{\omega}$$

What is Soft Computing?

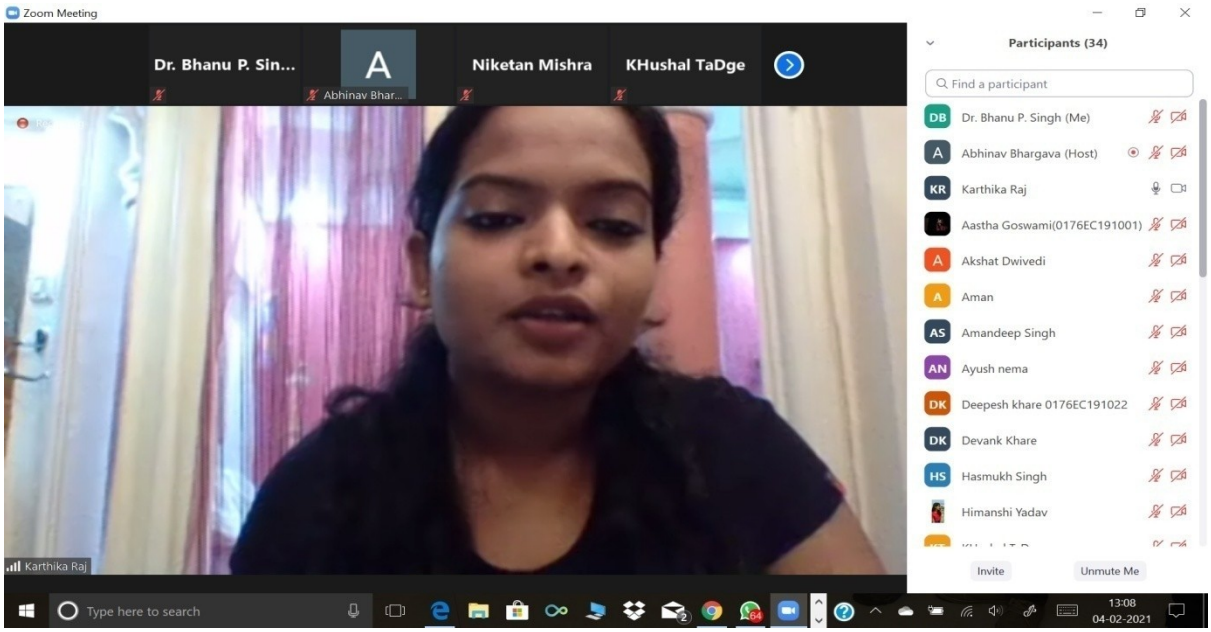
- Soft Computing is a field that currently includes
- Fuzzy Logic
- Neural Networks
- Probabilistic Reasoning(Genetic Algorithms and Evolutionary computing etc.)
- Other related methodologies
- Soft Computing combines knowledge, techniques, and methodologies from the sources above to create intelligent systems.


AI Approach
An expert system: one of the most successful (conventional AI products)
User
Questions
Responses
Inference Engine
KB
rules
facts
Knowledge Engineer
Knowledge Acquisition

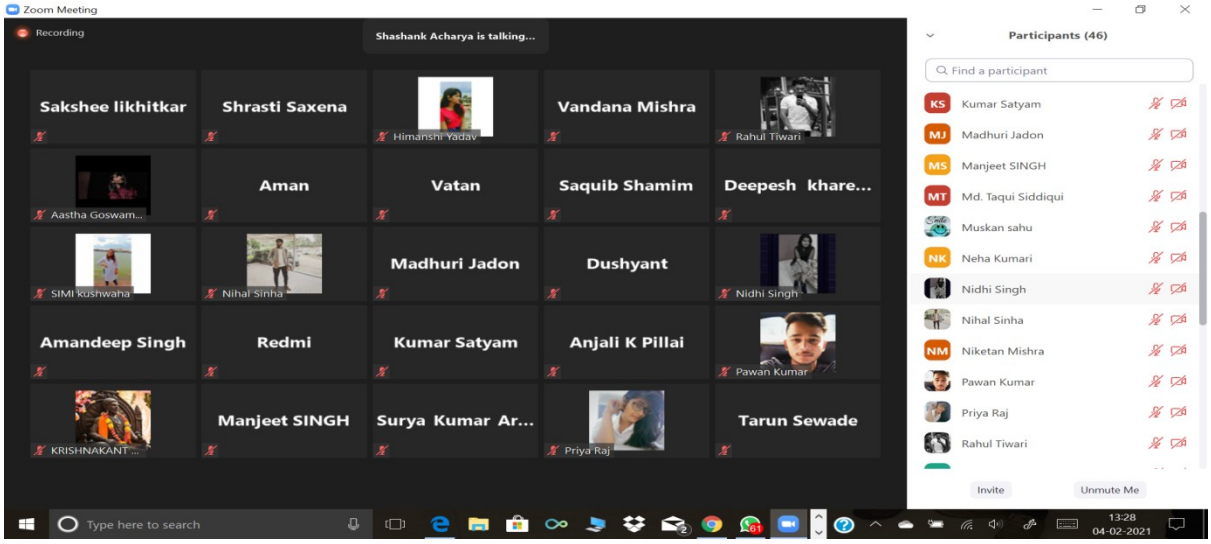

Recording
NCO Design: for Direct Digital Frequency Synthesis (DDFS) & Digital Up Converter/Digital Down Converter
Application
Requirement
Frequency Resolution
Resource Utilization (Area)
Conversion Time/ Speed
Design Complexity
1. Direct Digital Frequency Synthesis (DDFS)
Good (Generates frequency in MHz)
Low
Lowest
Simple
2. Digital Up Converter (DUC)/Digital Down Converter (DDC)
Precise (Directly generates frequency in GHz)
Low
Moderate
Moderate
Phase Accumulator
Angle to Amplitude
DAC
LPF
Modulator
Interpolation filter
Reconstruction filter
Anti-aliasing filter
ADC
Decimation filter
Demodulator
NCO
Fig.4: Block Diagram of 1) Direct Digital Frequency Synthesis
2) Digital up converter (DUC) and Digital down converter (DDC)
Department of Electronics and Communication Engineering, LNCT, Bhopal

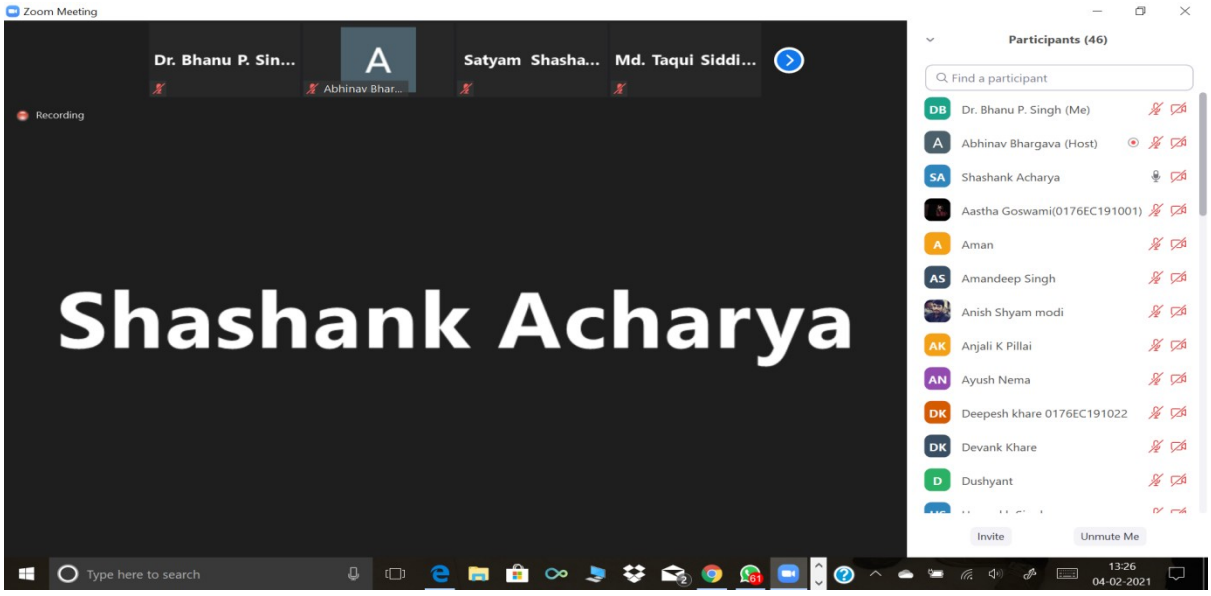

Recording
5G CORE ARCHITECTURE
UDC
NSSF
NEF
NRF
UDM
AUSF
PCF
AF
Nnssf
Nnef
Nnrf
Nudm
Nausf
Npcf
Naf
Control Plane Function Group
AMF
SMF
N1
N2
N4
N3
UPF
N6
Data Network
5G UE
gNB (NG-RAN)
User Plane Function

- **EC department LNCTE** has organized an Interaction program for **EC 3rd sem students** with **placed students (Ms. Karthika Raj, Mr. Md. Taqui Siddiqui, Mr. Shashank Acharya and Mr. Satyam Shashank**) on **04-02-2021** from **1:00** to **2: 00PM. These** placed students have shared their experiences during process of selection under various levels such as how to make resume, how to improve soft skills. Placed students also have satisfied all queries of upcoming aspirants to be placed for the campus placement. The session had been successfully completed under the guidance of **Dr. Abhinav Bhargava (HOD, EC-LNCTE)** coordinated by **Prof. Neeta Sharma** (**Assistant Professor**).

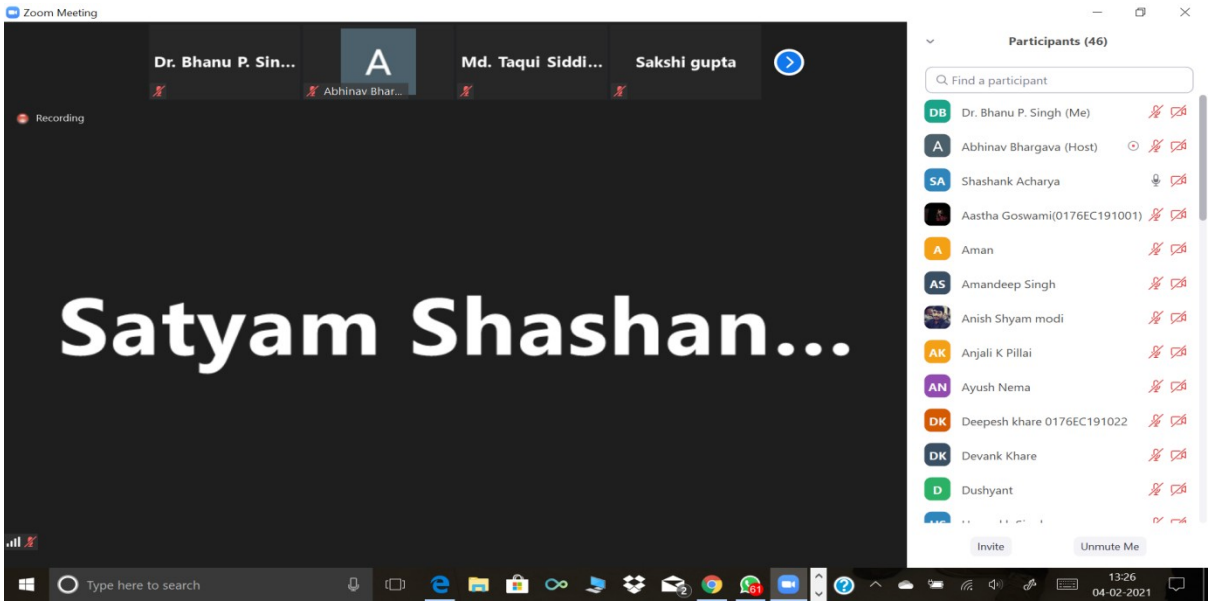


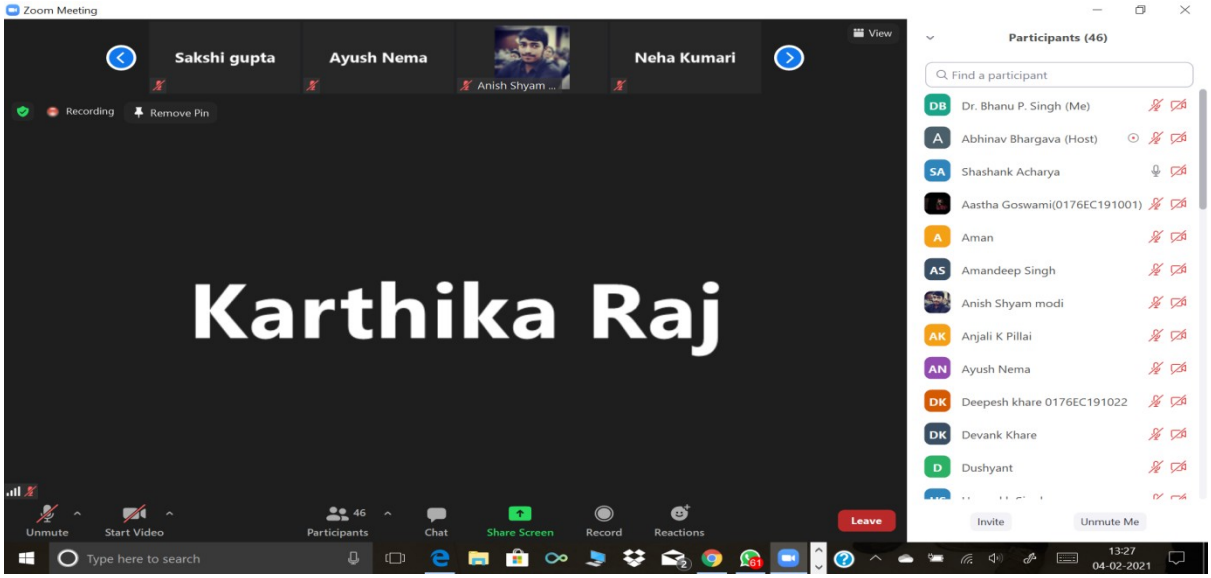
LAKSHMI NARAIN COLLEGE OF TECHNOLOGY EXCELLENCE, BHOPAL



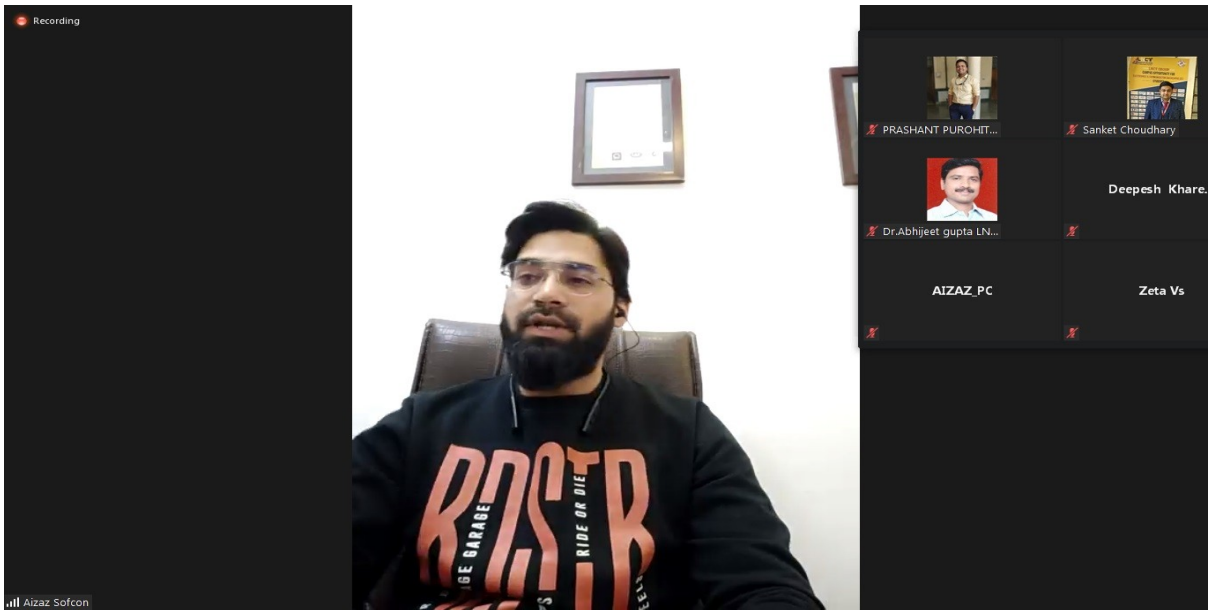


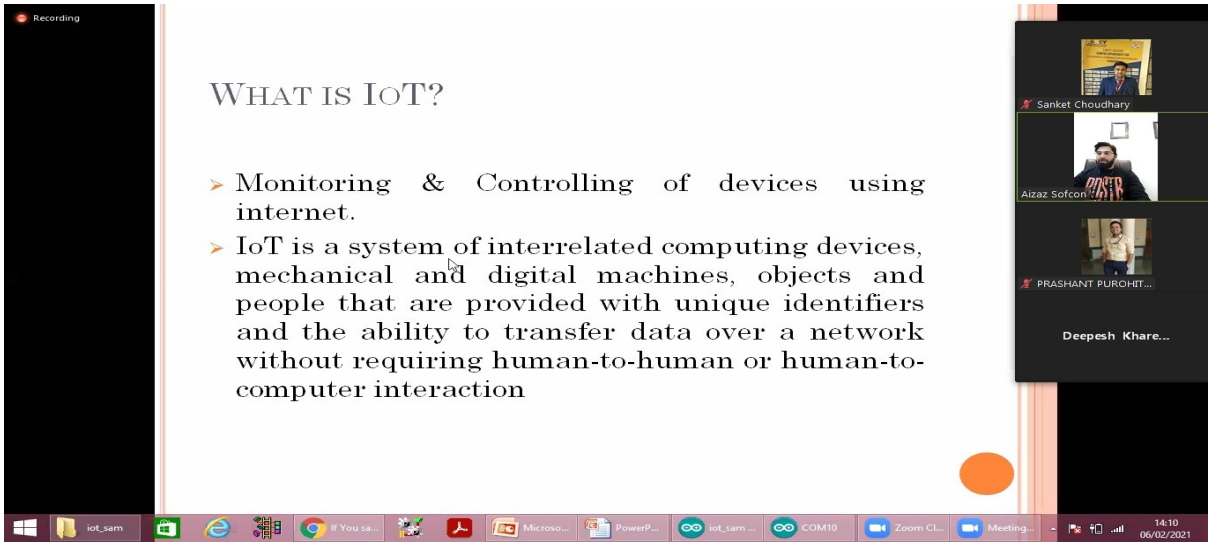
LAKSHMI NARAIN COLLEGE OF TECHNOLOGY EXCELLENCE, BHOPAL

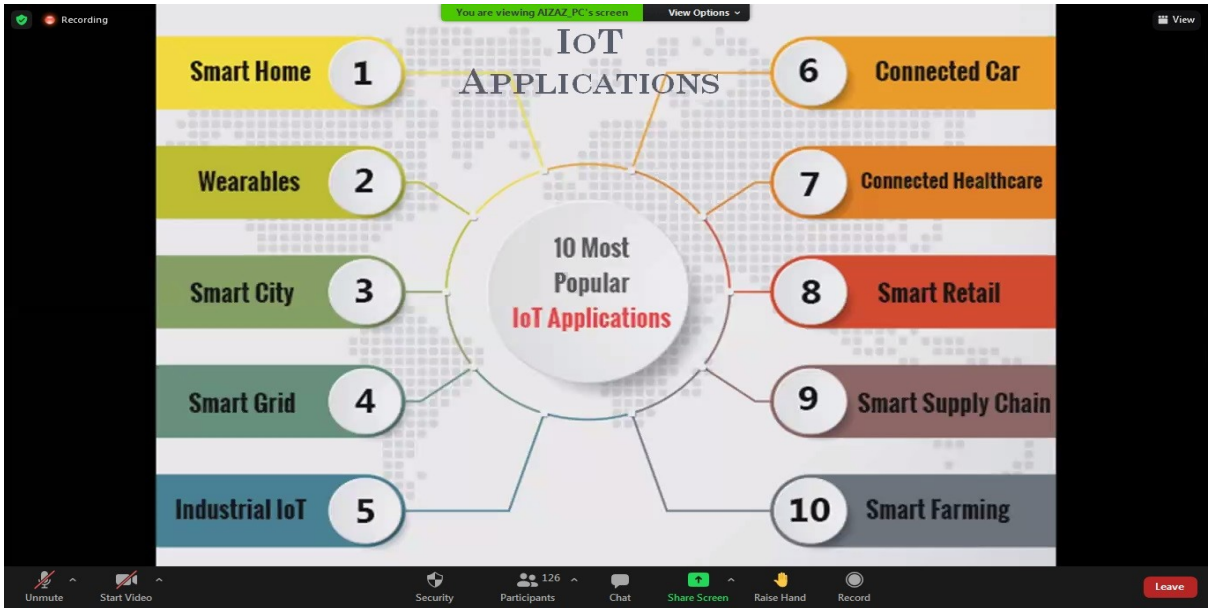




- **EC department LNCTE** has organized an online webinar on "**Carrier opportunities in Internet of Things** "for **EC 3rd sem LNCTS students** with **Speaker Mr. Aizaz Tirmizi**, **HR Manager SOFCON India Pvt. Ltd. Bhopal** on **06-02-2021** at **02:00 PM**. The session was too informative and Interactive. Students have learnt about IOT, Its Monitoring and Controlling using Internet, Its applications, A brief idea of Board of Arduino and Raspberry Pi, Its connectivity and Coding part. The session had been successfully completed under the guidance of **Dr. Abhinav Bhargava (HOD, EC-LNCTE).**

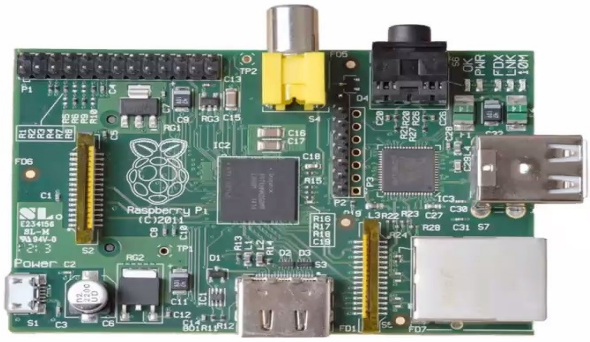

Recording
PRASHANT PUROHIT...
Sanket Choudhary
Dr.Abhijeet gupta LN...
Deepesh Khare...
AIZAZ_PC
Zeta Vs
Aizaz Sofcon


Recording
WHAT IS IOT?
Monitoring & Controlling of devices using internet.
IoT is a system of interrelated computing devices, mechanical and digital machines, objects and people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction
Sanket Choudhary
Aizaz Sofcon
PRASHANT PUROHIT...
Deepesh Khare...
14:10
06/02/2021


Recording
You are viewing AIZAZ_PC's screen
View Options
View
IoT APPLICATIONS
Smart Home 1
Wearables 2
Smart City 3
Smart Grid 4
Industrial IoT 5
10 Most Popular IoT Applications
6 Connected Car
7 Connected Healthcare
8 Smart Retail
9 Smart Supply Chain
10 Smart Farming
Unmute
Start Video
Security
Participants
126
Chat
Share Screen
Raise Hand
Record
Leave

Recording

What is a Raspberry Pi?



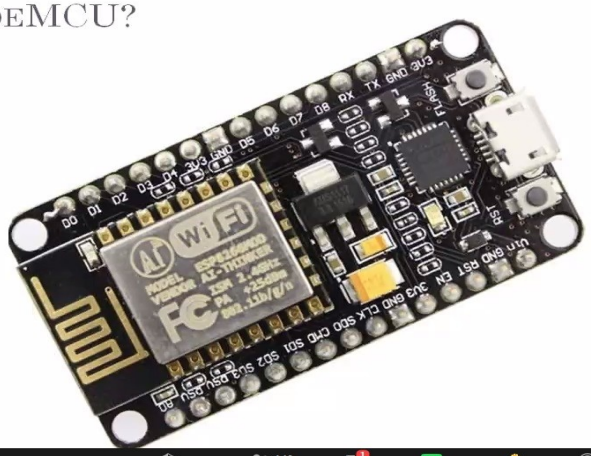
Recording

Recording

You are viewing AIZAZ_PC's screen View Options

View

What is NodeMCU?



Unmute Start Video Security Participants 140 Chat Share Screen Raise Hand Record Leave

- **Abhiroop Mukherjee**, student of 3rd year, **Lakshmi Narain College of Technology Excellence Bhopal**, participated in **SMART INDIA HACKATHON 2020** of hardware edition, and the team name "**BINARY BOMBER"** successfully won the contest on **24-02-2021**. They made a drone which was based on AI-ML. This drone can do its work on its best on various platforms like military and farming. It will be helpful for the armies monitoring the safer areas and farmers to monitor their farms.The management of LNCT Group has provided such platform in which the team played well. The team won the cash prize of 1 Lakh rupees. Out of the 90 total teams in final round the **"BINARY BOMBERS"** won.

Abhiroop Mukherjee (At the right most side)