By using the above expressions in Eqn.(6), we get

$$cv(1-Y^2)\frac{dU(Y)}{dY}+c^2(1-Y^2)\left\{-2Y\frac{dU(Y)}{dY}+(1-Y^2)\frac{d^2U(Y)}{dY^2}\right\}$$

$$-K+\alpha K\left[U(Y)\right]^2=0 \quad \text{---(8)}$$

Balancing the order of the non-linear term $[U(Y)]^2$ with the order of the Y^2(or Y^4) component of the second term gives:

$2M-3+M-1$ such that $M=2$. ----------(9)

Hence

$U(Y)=a_0+a_1Y+a_2Y^2$ ----------(10)

Participants

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Dr. Prema Sumathi

AJOTHIMANI (Unverified)

Abirami Selva (Unverified)

AJITHA D (Unverified)

Anandha Selvam (Unverified)

Anitha SRM (Unverified)

Anitha. G (Unverified)

asha (Unverified)

Dr.R.Senthamarai (Unverified)

By using the above expressions in Eqn.(6), we get

$$cv(1-Y^2)\frac{dU(Y)}{dY}+c^2(1-Y^2)\left(-2Y\frac{dU(Y)}{dY}+(1-Y^2)\frac{d^2U(Y)}{dY^2}\right)$$

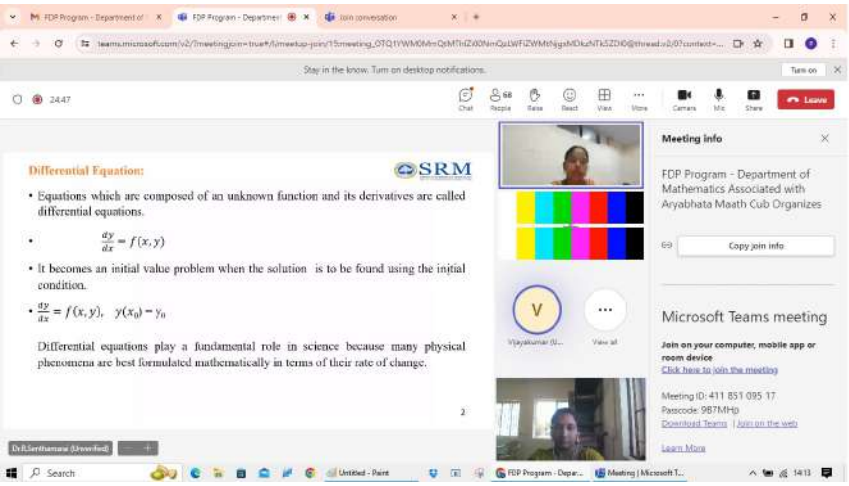
$$-K+\alpha K[U(Y)]^2=0 \quad \text{---(8)}$$

Balancing the order of the non-linear term $[U(Y)]^2$ with the order of the Y^2(or Y^4) component of the second term gives:

$2M-3+M-1$ such that $M=2$. ----------(9)

Hence

$U(Y)=a_0+a_1Y+a_2Y^2$ ----------(10)


Differential Equation:
SRM
• Equations which are composed of an unknown function and its derivatives are called differential equations.
• $\frac{dy}{dx} = f(x, y)$
• It becomes an initial value problem when the solution is to be found using the initial condition.
• $\frac{dy}{dx} = f(x, y), \quad y(x_0) = y_0$
Differential equations play a fundamental role in science because many physical phenomena are best formulated mathematically in terms of their rate of change.
2
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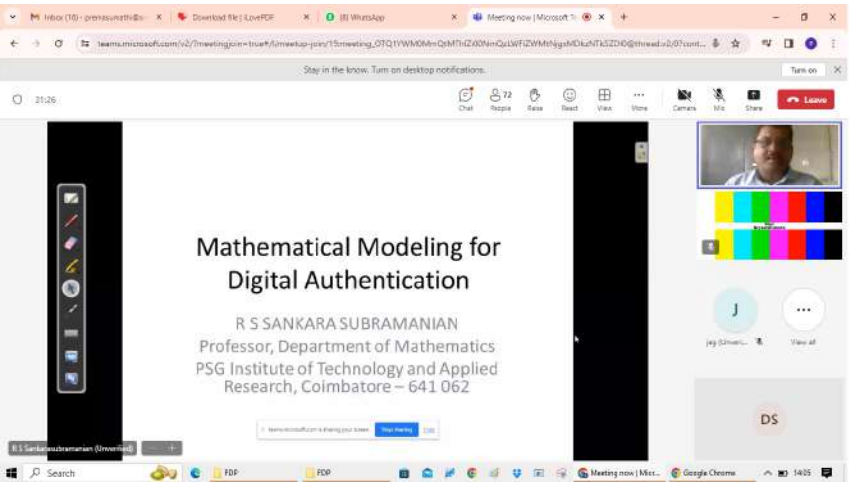
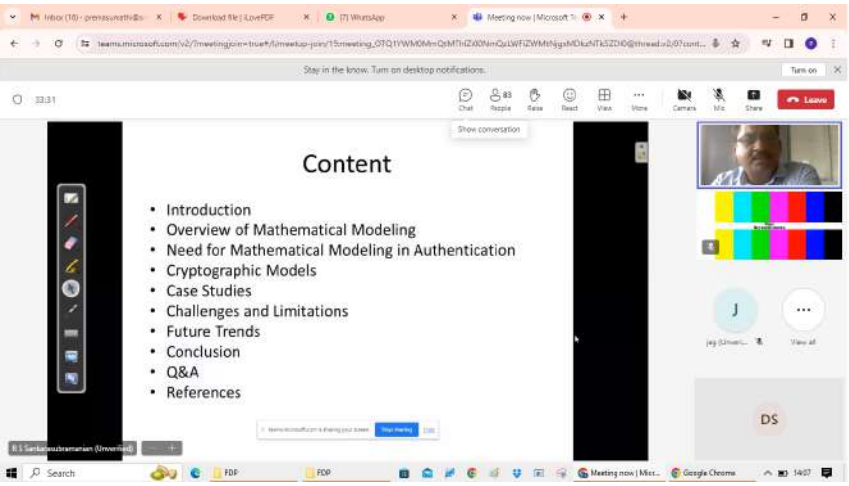

Mathematical Modeling for Digital Authentication
R S SANKARA SUBRAMANIAN
Professor, Department of Mathematics
PSG Institute of Technology and Applied Research, Coimbatore – 641 062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Overview of Mathematical Modeling
Need for Mathematical Modeling in Authentication
Cryptographic Models
Case Studies
Challenges and Limitations
Future Trends
Conclusion
Q&A
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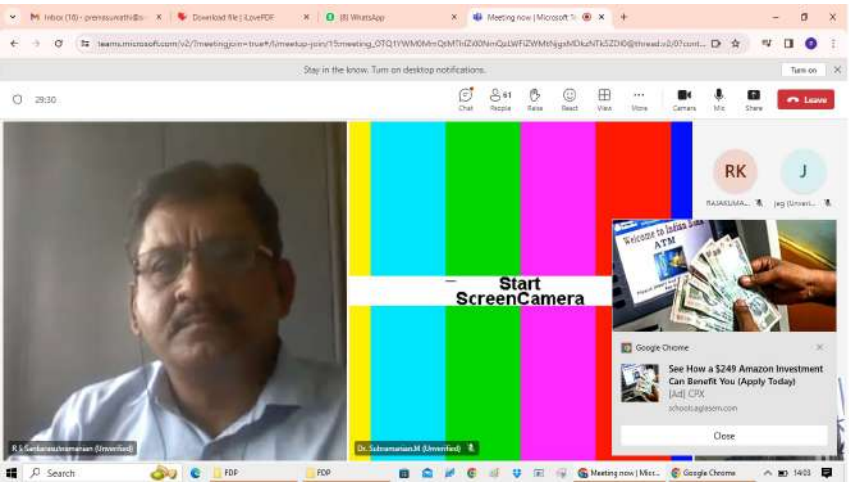
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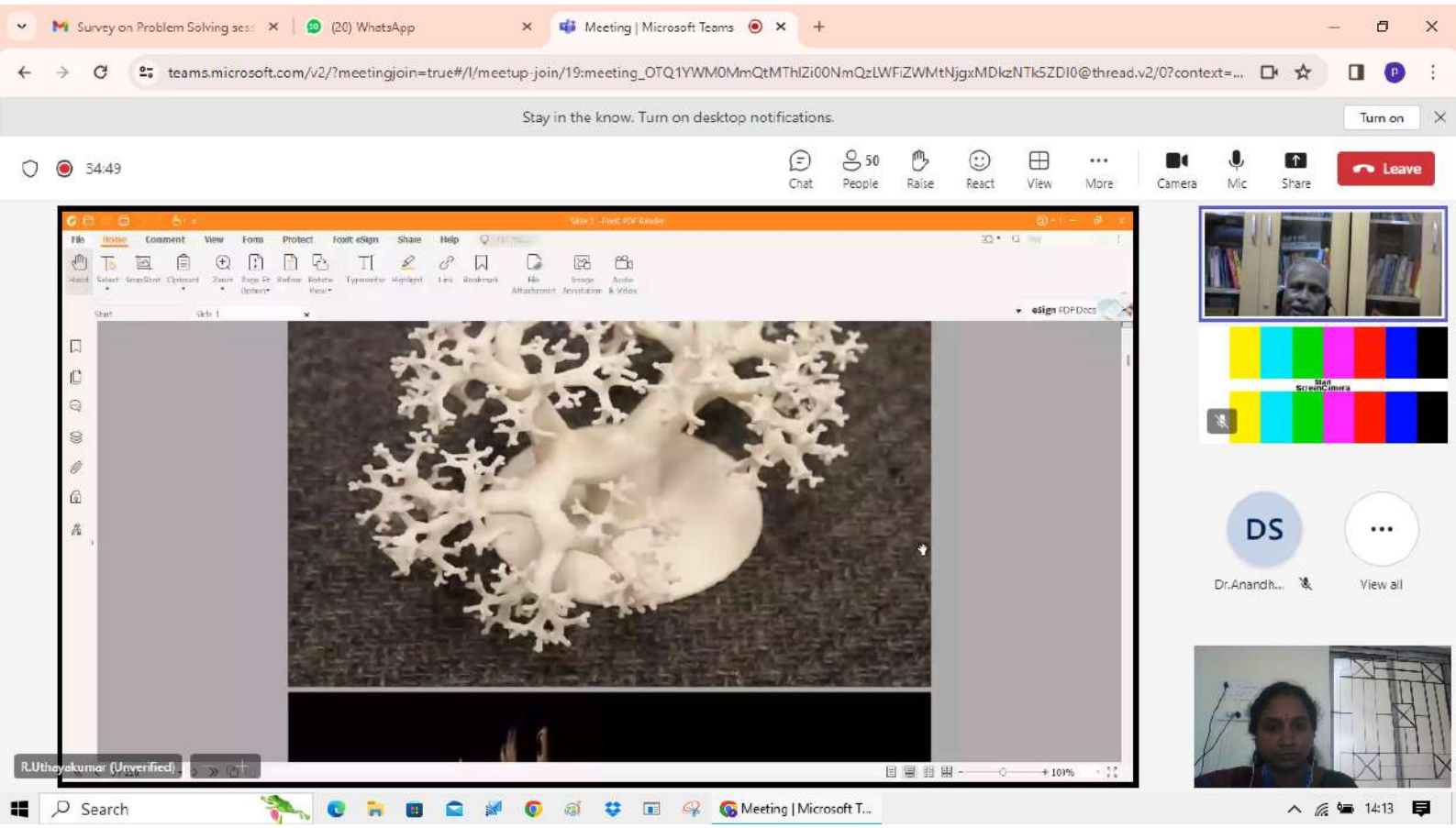
SUFFICIENT CONDITIONS FOR OPTIMALITY

While the first derivative test identifies points that might be extrema, this test does not distinguish a point that is a minimum from one that is a maximum or one that is neither. When the objective function is twice differentiable, these cases can be distinguished by checking the second derivative or the matrix of second derivatives. In unconstrained problems, or the matrix of second derivatives of the objective function and the constraints called the bordered Hessian in constrained problems. The conditions that distinguish maxima, or minima, from other stationary points are called 'second-order conditions' 'Second derivative test'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R.Uthayakumar (Unverified)
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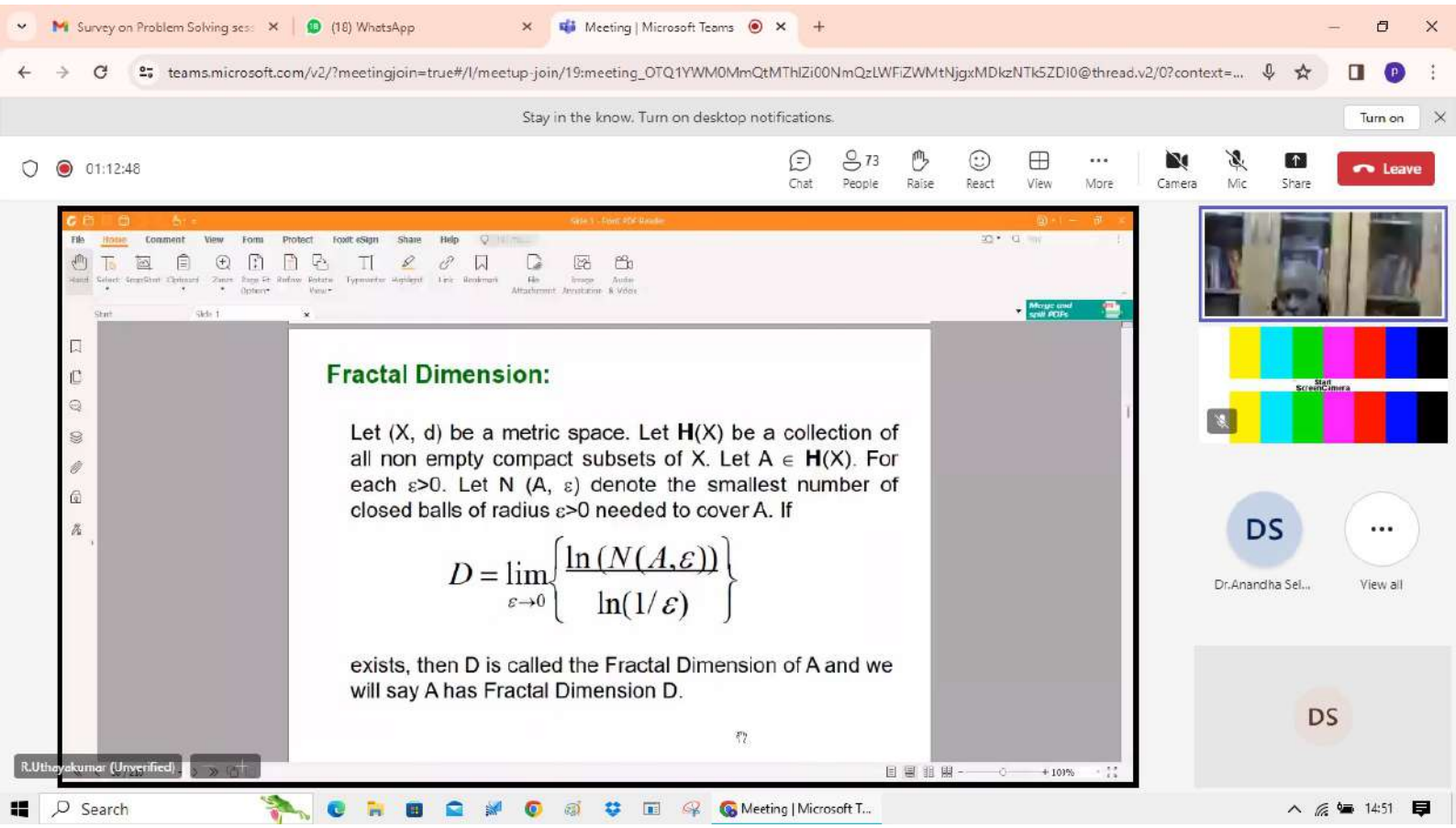
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Fractal Dimension:
Let (X, d) be a metric space. Let H(X) be a collection of all non empty compact subsets of X. Let A ∈ H(X). For each ε>0. Let N (A, ε) denote the smallest number of closed balls of radius ε>0 needed to cover A. If
$$D = \lim_{\varepsilon \to 0} \left\{ \frac{\ln(N(A,\varepsilon))}{\ln(1/\varepsilon)} \right\}$$
exists, then D is called the Fractal Dimension of A and we will say A has Fractal Dimension D.
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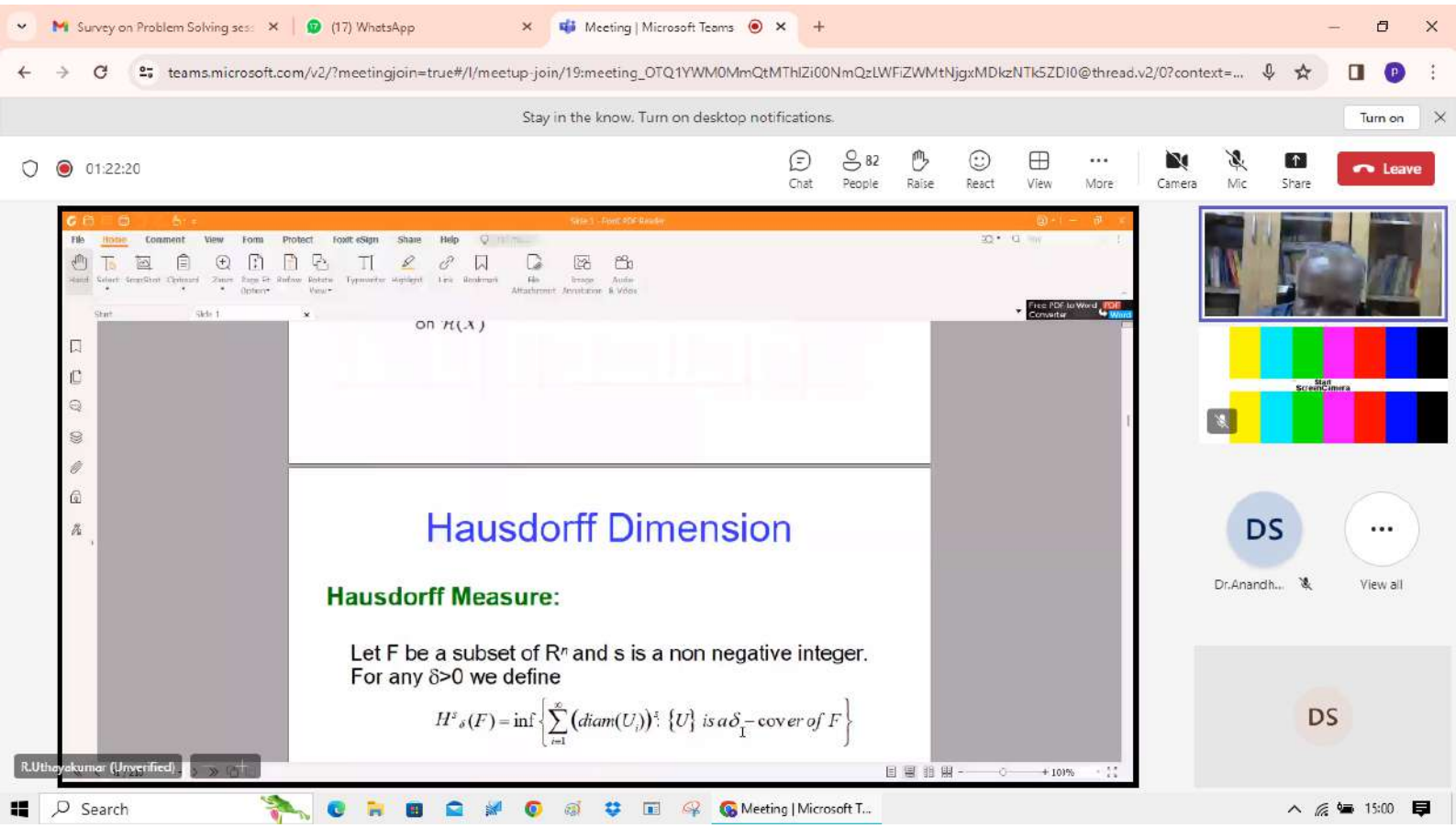
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Hausdorff Dimension
Hausdorff Measure:
Let F be a subset of Rⁿ and s is a non negative integer.
For any δ>0 we define
$H^s_\delta(F) = \inf\left\{\sum_{i=1}^{\infty}(diam(U_i))^s : \{U\} \text{ is a } \delta\text{-cover of } F\right\}$
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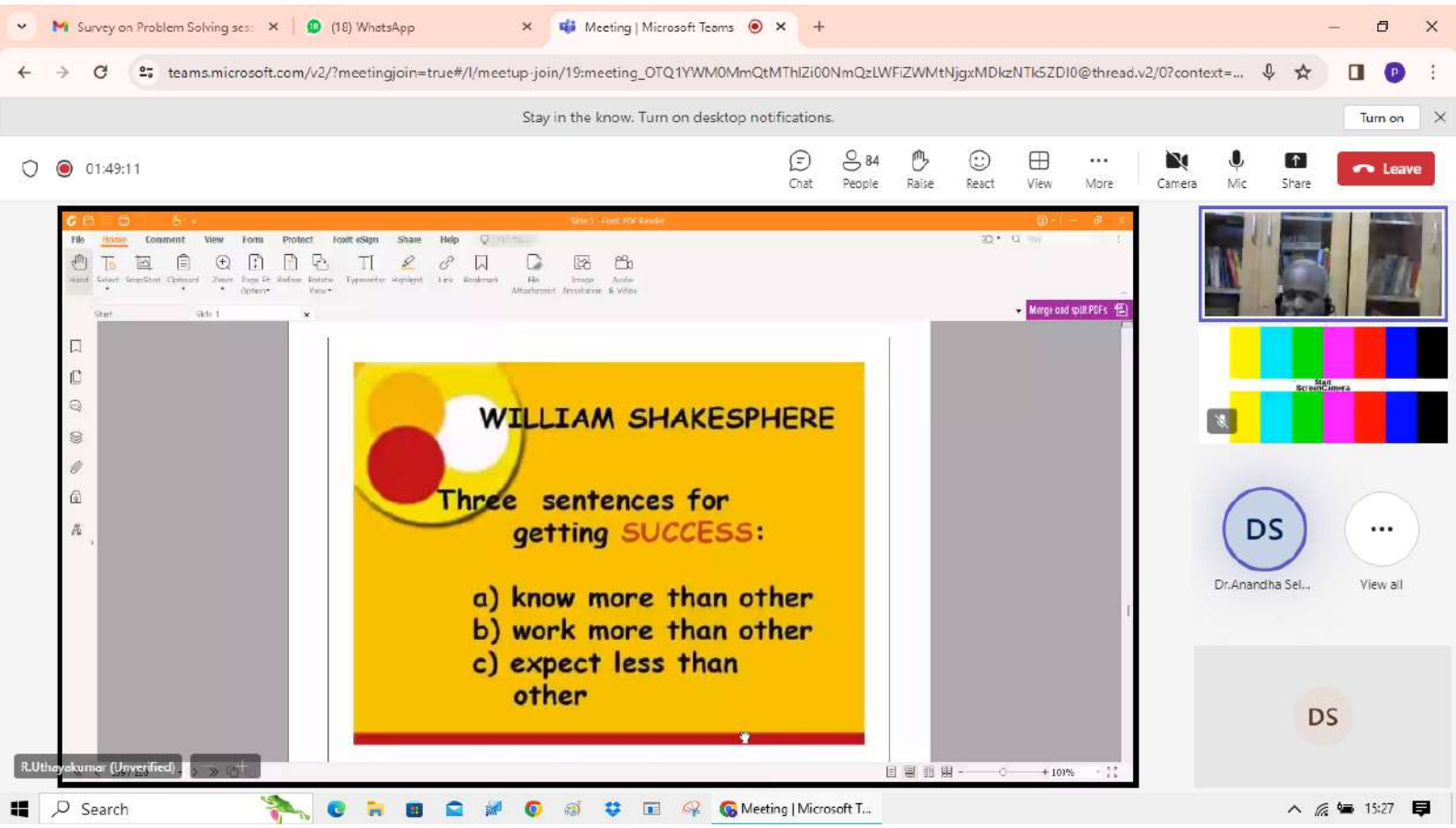
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WILLIAM SHAKESPHERE
Three sentences for getting SUCCESS:
a) know more than other
b) work more than other
c) expect less than other
Merge and split PDFs
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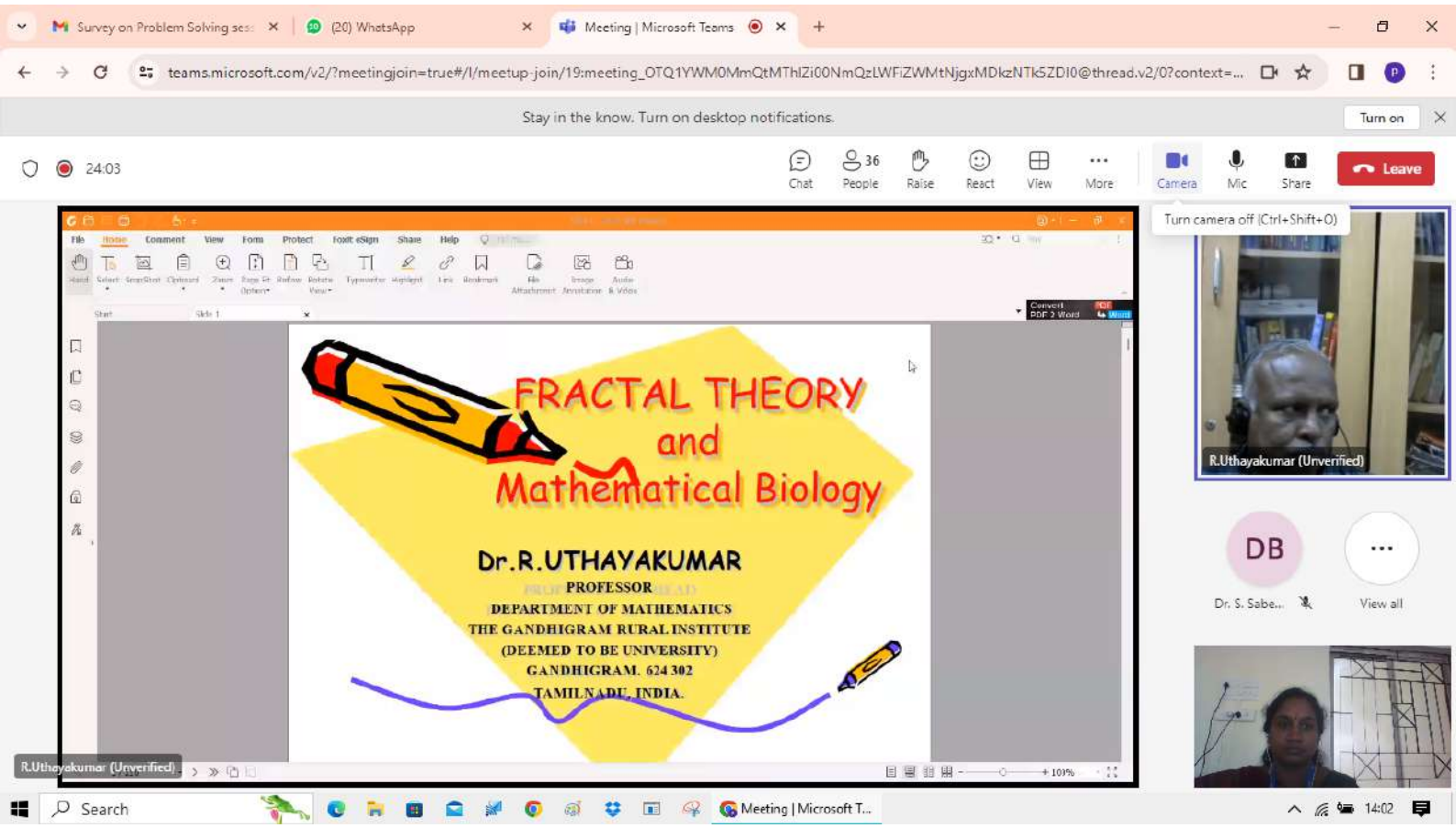
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Mathematical Biology
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PROFESSOR
DEPARTMENT OF MATHEMATICS
THE GANDHIGRAM RURAL INSTITUTE
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Mrs.C.YOGITHA
Assistant professor,
Department of Mathematics,
NPR college of Engineering & Technology, Natham,
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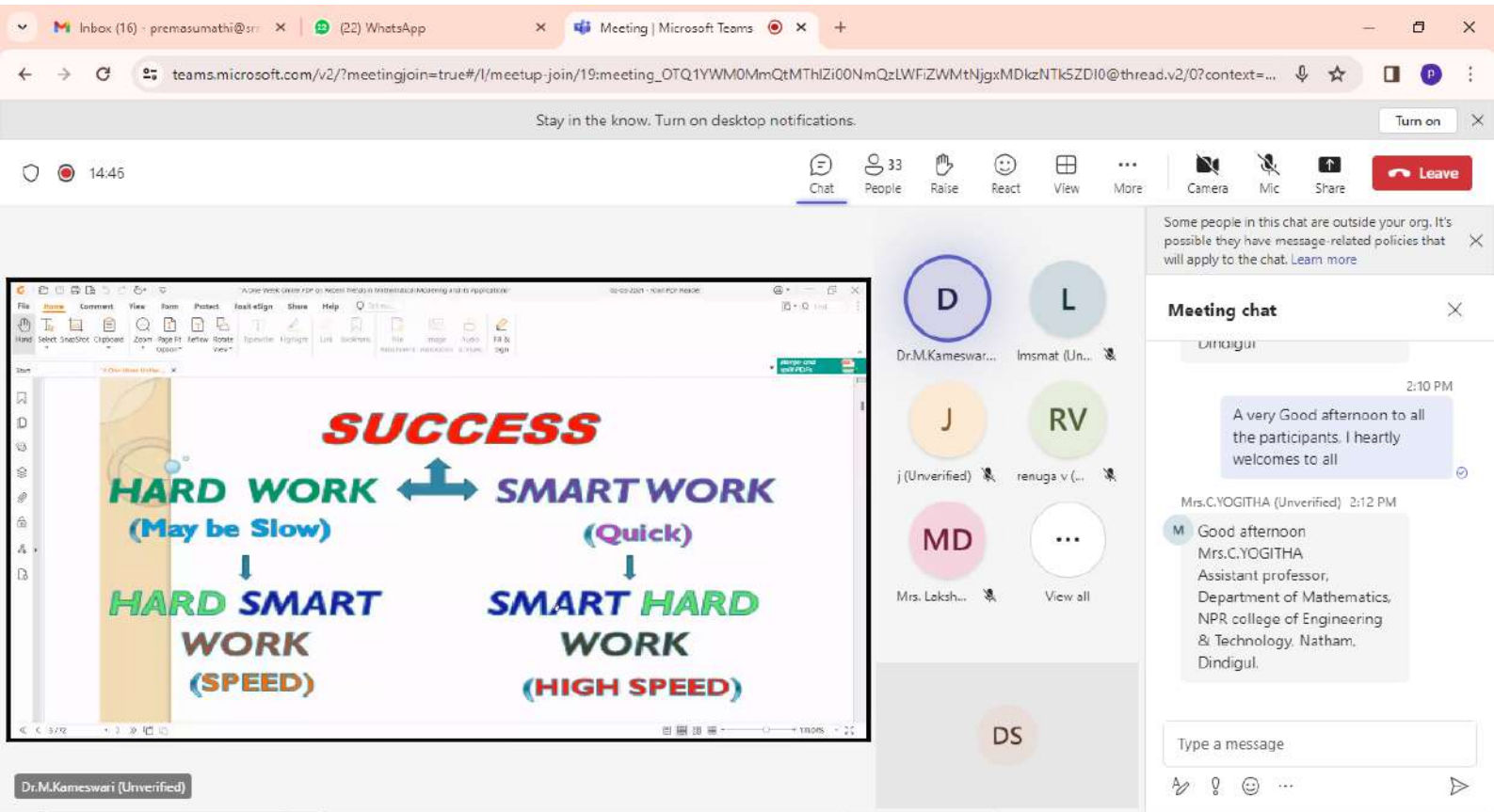
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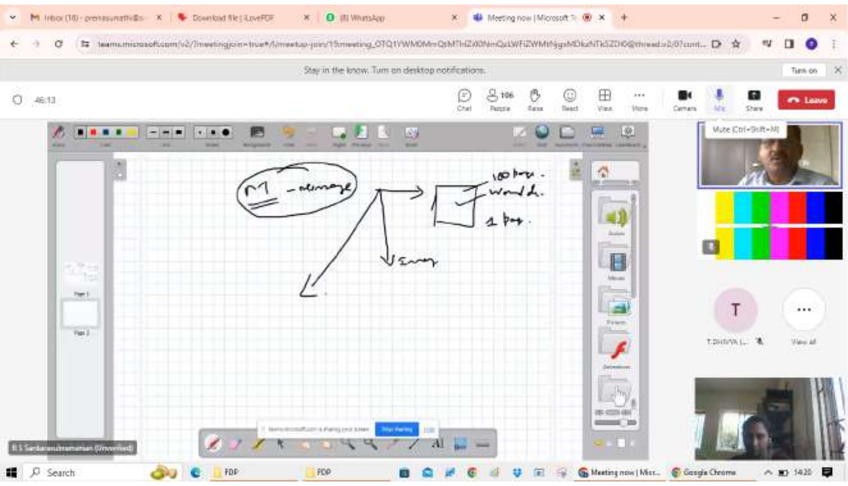
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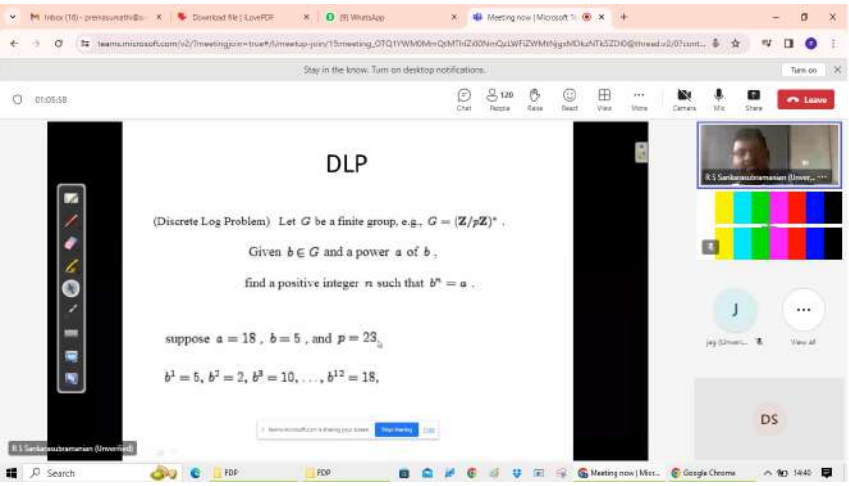
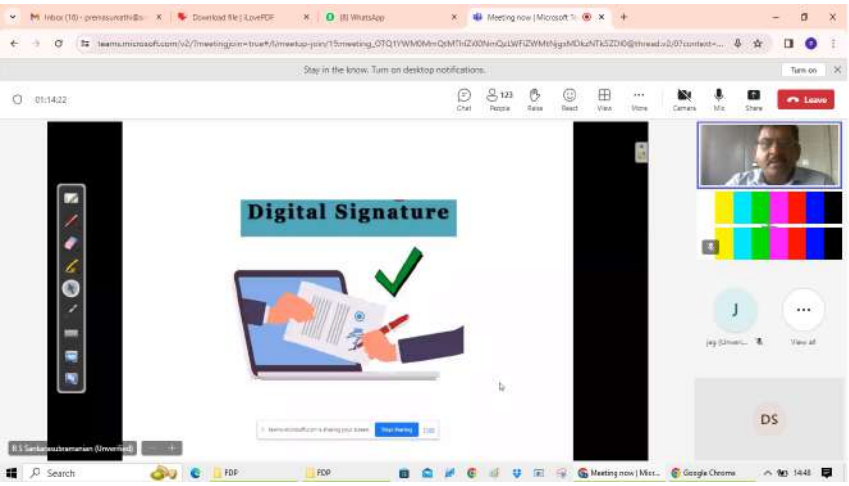

DLP
(Discrete Log Problem) Let G be a finite group, e.g., $G = (\mathbf{Z}/p\mathbf{Z})^*$.
Given $b \in G$ and a power a of b,
find a positive integer n such that $b^n = a$.
suppose $a = 18$, $b = 5$, and $p = 23$.
$b^1 = 5, b^2 = 2, b^3 = 10, \ldots, b^{12} = 18,$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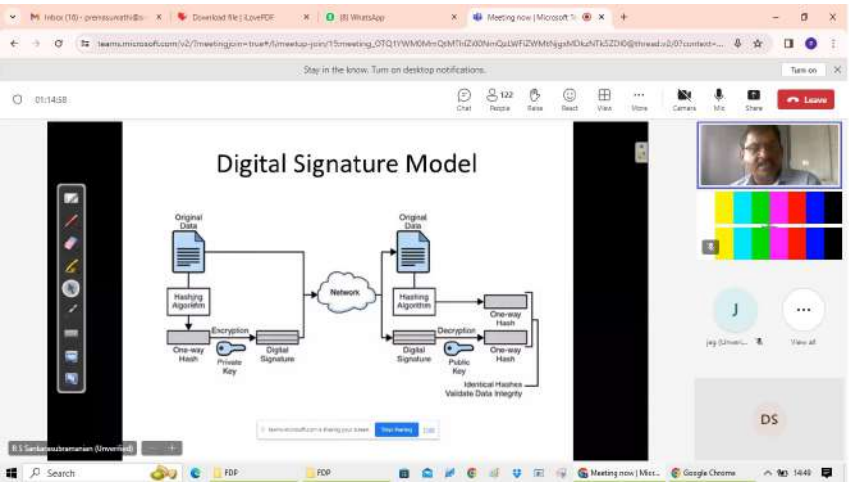
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One-way Hash
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Private Key
Digital Signature
Network
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Hashing Algorithm
Digital Signature
Decryption
Public Key
One-way Hash
One-way Hash
Identical Hashes Validate Data Integrity