

D.K.M. COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1

DEPARTMENT OF MATHEMATICS

2023-2024

Report

INTERNATIONAL WEBINAR

on

“APPLICATIONS OF NUMERICAL METHODS IN REAL TIME”

Invitation



**D.K.M. COLLEGE FOR WOMEN
(AUTONOMOUS), VELLORE.**
(Accredited by NAAC with 'A' Grade)

**PG AND RESEARCH DEPARTMENT OF
MATHEMATICS**

**INTERNATIONAL WEBINAR
ON**

**“APPLICATIONS OF NUMERICAL METHODS
IN REAL TIME”**

Resource Person :
Dr. K. K. Viswanathan,
Professor,
Department of Mathematical Modelling,
Samarkand State University,
Samarkand, Uzbekistan.



Date and time: 05.03.2024 & 11.00 AM
Venue: D-Block Conference Hall
Google meet link : <https://meet.google.com/vvh-uohs-zra>

Chief Patron	Patron
Er. D. Maninathan	Dr. R. Banumathy
Secretary	Principal
Dr. T. Sivakumar	
President	
Convenor	Organising Committee
Mrs. G. Vinu Priya	Dr. M. Devi
Mrs. R. Ramya	Dr. B. Vijayalakshmi

All are Cordially Invited!
**Management, Principal, Staff and
Students, DKMC**



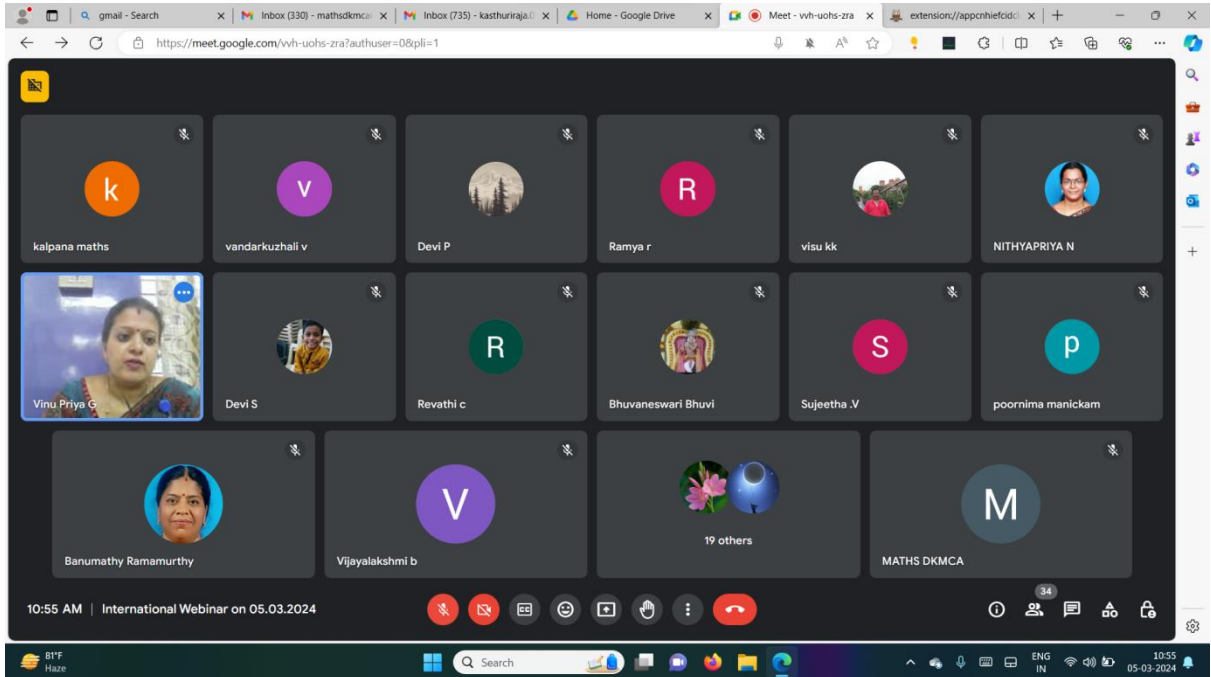
Report

The Department of Mathematics organized one day International Webinar on the topic “APPLICATIONS OF NUMERICAL METHODS IN REAL TIME” on 05.03.2024. The meeting started with Thamizhthai vazhthu at 11.00 a.m. in D Block Brahmaputra Hall. Mrs. G. Vinu Priya, Head and Assistant Professor of Mathematics welcomed the gathering. Dr. R. Banumathy, Principal, D.K.M. College for Women presided over the function and gave the presidential address. Dr.N. Nithya Priya, Assistant Professor introduced the Resource person.

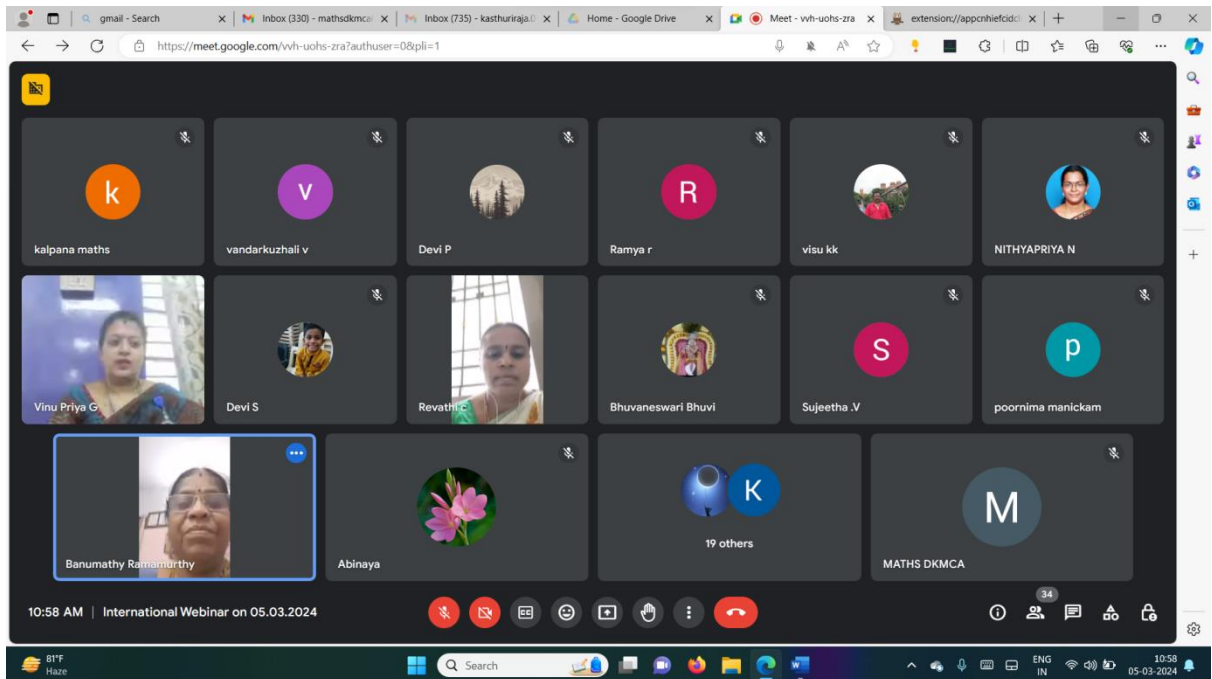
The resource person for the session was Dr. K. K. Viswanathan, Professor, Department of Mathematical Modelling, Samarkand State University, Samarkand, Uzbekistan. He addressed the students on “APPLICATIONS OF NUMERICAL METHODS IN REAL TIME”. He provided the explanation on some methods which includes Elimination Method, Decomposition Method, Iterative Method and Matrix Inversion. He further explained Numerical Differentiation and Integration. He elaborated on Newton – Coles Integration formula, The Trapezoidal Rule, Simpson’s Rule, Romberg’s Integration, Splines and Bickley Spline.

He captivates the students' interest in the topics of engineering application like Structural Analysis, Hydrological Forecasting and Transportation Model. Attending the webinar greatly energized the students. The webinar gave the students a place to explore their interests in many branches of applied Mathematics. Mrs.C.Revathi. Assistant Professor of Mathematics acted as Master of Ceremony. Mrs.R.Ramya , Assistant Professor of Mathematics proposed the vote of thanks. Around 194 students of B.Sc. and M.Sc. Mathematics participated in this International Webinar. The Meeting came to an end with National Anthem.

PHOTOGRAPHIC EVIDENCE



Welcome Address given by Mrs. G. Vinu Priya, Head and Assistant Professor, Department of Mathematics



Dr. R. Banumathy, Principal gave the Presidential Address

Splines

A spline function is a composite curve consisting of a number of polynomial arcs of a given degree pieced together in such a way that at the junctions the curve is as smooth as could be made without itself going to a single polynomial over the entire range. To be more precise, given a strictly increasing sequence of real numbers,

x_0, x_1, \dots, x_N , a spline function of degree m (and order $(m+1)$), with these points for knots or junction points, is a function $S(x)$ satisfying the properties:

- In each sub-interval (x_i, x_{i+1}) , $i=0, 1, \dots, N-1$, $S(x)$ is given by some polynomial of degree m or less;
- When $m > 0$, and its derivatives of $S(x)$ all orders up to $(m-1)$ are continuous, i.e.,

$$S(x) \in C^{m-1}[x_0, x_N]$$

A spline function of degree 0 is a step function and a spline function of degree 1 is a polynomial.

11:37 AM | International Webinar on 05.03.2024

Special talk given by Dr.K.K.Viswanathan, Professor, Department of Mathematical Modelling, Samarkand State University, Samarkand.



Participants from Mathematics Department (Both Aided and Unaided)