

PROFORMA OF EVENTS

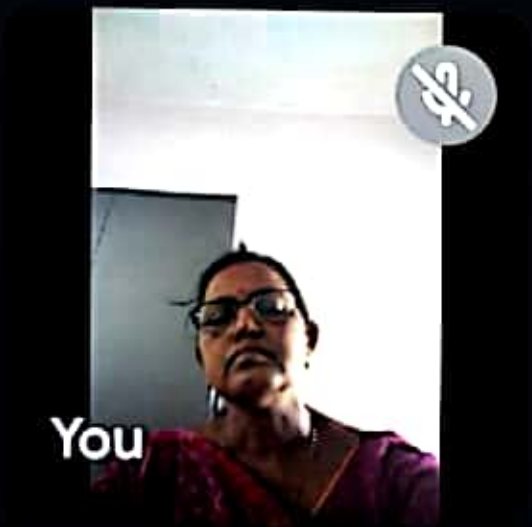
1. Name of department – Mathematics
2. Event – Webinar
3. Date – 17.09.2021
4. Title of the topic – NUMERICAL SOLUTIONS OF HYPERBOLIC PARTIAL DIFFERENTIAL EQUATION .
5. Name and designation of the resource person – Prof. (Dr) Pranab Kumar Mahapatra, Professor ,Indian Institute of Technology ,Gandhinagar, Ahemadabad.
6. Abstract of the topic – Attached herewith.
7. Any other remarks -- The Principal of our college Prof.Ranjit Ranjan Sahoo presided over the webinar. Prof. Jyotsnamayee Pati , Head of the department ,introduced resource person and Prof. Brahmananda Sethy ,Head of the department of Physics spoke about objective of the programme. 159 Number of students and faculties of the different colleges registered for the programme. Prof. Mahapatra delivered his talk and the talk was followed by an interaction session.Prof. Mahapatra clarified all the doubts and queries of the participants. Prof. Nibedita Nayak ,another faculty ,Mathematics ,proposed vote of thanks.
8. Photos of the events – Attached herewith.

DEPARTMENT OF MATHEMATICS

REPORT ON WEBINAR ON 17.09.2021

A National Webinar captioned "NUMERICAL SOLUTIONS OF HYPERBOLIC PARTIAL DIFFERENTIAL EQUATION" was organized under auspices of the department of Mathematics in collaboration with department of Physics at 11AM on 17.09.2021. The programme was graced by an eminent scholar Professor (Dr) Pranab Kumar Mahapatra, Professor civil engineering, Indian Institute Of Technology, Gandhinagar, Ahmedabad. About 150 number of teacher and student participants registered for the programme. The programme commenced with an inaugural address by Professor Ranjit Ranjan Sahoo, Principal, Tulasi Women's College. Prof. Jyotsnamayee Pati, Head of Department Of Mathematics, introduced the resource person. Prof Brahmananda Sethy, Head of the department Physics spoke few lines about objective of the webinar.

Prof. Mohapatra discussed the topic numerical solutions of hyperbolic partial differential equation for one hour. Soon after his presentation an interaction session followed in which participants engaged themselves in the question answer session which continued for half an hour. At the end of the programme Prof. Nibedita Nayak proposed vote of thanks.



Done MacCormack (2 of 61)

Hyperbolic PDE

$$\begin{cases} a\frac{\partial^2 \phi}{\partial x^2} + b\frac{\partial^2 \phi}{\partial x \partial y} + c\frac{\partial^2 \phi}{\partial y^2} \\ + d\frac{\partial \phi}{\partial x} + e\frac{\partial \phi}{\partial y} + f\phi = g \end{cases}$$

- Single PDE
- System of PDEs

Pranab is presenting



Done MacCormack (2 of 61)

ORGANIZATION

- Types of PDE
- Hyperbolic PDE
- Methods of solution
- Saint Venant equations
- MacCormack method
- Dam break flow
- Remarks

Pranab is presenting

