



# FIRST COURSE ON PARTIAL DIFFERENTIAL EQUATIONS - I

**A. K. NANDA KUMARAN**  
Department of Mathematics  
IISc

**TYPE OF COURSE** : New | Core | PG

**COURSE DURATION** : 8 weeks (18 Jan' 21 - 12 Mar' 21)

**EXAM DATE** : 21 Mar 2021

**PROF. P. S. DATTI**  
Department of Mathematics  
IISc

**PRE-REQUISITES** : Multi variable Calculus, Linear Algebra, ordinary Differential Equations

**INTENDED AUDIENCE** : Mathematics, Science and Engineering

**COURSE OUTLINE** :

**ABOUT INSTRUCTOR** :

A.K. Nandakumaran is a Professor at the Department of Mathematics, Indian Institute of Science, Bangalore.

P.S.Datti is a former faculty at TIFR-CAM, Bangalore.

**COURSE PLAN** :

**Week 1:** Introduction, Preliminaries

**Week 2:** First Order Equations Method of Characteristics

**Week 3:** First Order Equations Method of Characteristics

**Week 4:** Classification

**Week 5:** Laplace and Poisson Equations

**Week 6:** Laplace and Poisson Equations (Cont'd)

**Week 7:** 1D Heat equation

**Week 8:** 1 D wave equation