

पेटेंट कार्यालय  
शासकीय जर्नल

**OFFICIAL JOURNAL  
OF  
THE PATENT OFFICE**

---

---

निर्गमन सं. 03/2023  
ISSUE NO. 03/2023

शुक्रवार  
FRIDAY

दिनांक: 20/01/2023  
DATE: 20/01/2023

---

---

पेटेंट कार्यालय का एक प्रकाशन  
PUBLICATION OF THE PATENT OFFICE

(54) Title of the invention : First order differential equation solution using numerical networks interpolation and LaGrange

(51) International classification :G06F0017130000, H01L0023310000, G16Z0099000000, G01V0099000000, G05B0019410300

(86) International Application No :PCT//  
Filing Date :01/01/1900

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA  
Filing Date :NA

(62) Divisional to Application Number :NA  
Filing Date :NA

(71)Name of Applicant :  
**1)Dr. S Kiran**  
 Address of Applicant :Assistant Professor, Department of Mathematics, Nitte Meenakshi Institute of Technology, P.B.No.6429, Yelahanka, Bangalore 560064, India -----  
**2)Dr. Ismail Azad Sayed**  
**3)Dr. Machhindranath M Dhane**  
**4)Mr.Aggay Vats**  
**5)Narender Chinthamu**  
**6)Dr.Brijesh Kumar**  
**7)Dr. Manjula M. Hanchinal**  
**8)P. Anuradha**  
**9)Ms.Rita Pal**  
**10)Dr. Shyam Sunder Prasad Singh**  
 Name of Applicant : NA  
 Address of Applicant : NA  
 (72)Name of Inventor :  
**1)Dr. S Kiran**  
 Address of Applicant :Assistant Professor, Department of Mathematics, Nitte Meenakshi Institute of Technology, P.B.No.6429, Yelahanka, Bangalore 560064, India -----  
**2)Dr. Ismail Azad Sayed**  
 Address of Applicant :Assistant Professor of Mathematics, Department of General Studies, RCYCI, Yanbu Industrial College, Yanbu, KSA -----  
**3)Dr. Machhindranath M Dhane**  
 Address of Applicant :Associate Professor of Mathematics, Government First Grade College, Yelahanka, Bengaluru-560064, India -----  
**4)Mr.Aggay Vats**  
 Address of Applicant :Assistant Professor, Department of Information Technology, Integrated Academy of Management and Technology, Ghaziabad, Uttar Pradesh, India -----  
**5)Narender Chinthamu**  
 Address of Applicant :MIT (Massachusetts Institute of Technology) CTO Candidate, Enterprise Architect for All Back Office Software, Technologies and Tools for Wesco, Boston MA USA -----  
**6)Dr.Brijesh Kumar**  
 Address of Applicant :Associate Professor, Department of Applied Science and Humanities, Dr.K.N.Modi Institute of Engg. & Technology, Modinagar -----  
**7)Dr. Manjula M. Hanchinal**  
 Address of Applicant :Associate Professor, Department of Mathematics, Shri. Siddeshwar Govt. First Grade College and PG Studies Centre, Nargund-582207, Dist:Gadag, Karnataka, India -----  
**8)P. Anuradha**  
 Address of Applicant :Assistant Professor, Department of Mathematics, SR & BGNR Government Arts and Science College Autonomous, Khammam, Telangana, India -----  
**9)Ms.Rita Pal**  
 Address of Applicant :Research Scholar, Department of Mathematics, Bhilai Institute of Technology, Bhilal House, Durg 491001, Chhattisgarh, India -----  
**10)Dr. Shyam Sunder Prasad Singh**  
 Address of Applicant :Assistant Professor, Department of Mathematics, S. N. Sinha College, Warisaliganj, Nawada, Bihar, India -----

(57) Abstract :  
 One of the most important fields of study in mathematics, differential equations may be solved in a number of different ways. There is the analytic method and the numerical method; the analytic technique can only be used to a certain class of equations; hence the numerical method is utilized the majority of the time. The majority of studies on numerical approaches to the solution of first order ordinary differential equations have a tendency to adopt methods such as the Runge-Kutta method, the Taylor series method, and Euler's method. However, not a single study has actually combined Newton's interpolation and the Lagrange method to solve first order differential equations. In order to find solutions to the issues posed by first-order differential equations, this investigation will make use of both Newton's interpolation and the Lagrange technique.

No. of Pages : 12 No. of Claims : 4



Office of the Controller General of Patents, Designs & Trade Marks  
 Department of Industrial Policy & Promotion,  
 Ministry of Commerce & Industry,  
 Government of India

(<http://ipindia.nic.in/index.htm>)



(<http://ipindia.nic.in/index.htm>)

### Application Details

APPLICATION NUMBER	202341002968
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	14/01/2023
APPLICANT NAME	1 . Dr. S Kiran 2 . Dr. Ismail Azad Sayed 3 . Dr. Machhindranath M Dhane 4 . Mr. Aggay Vats 5 . Narender Chinthamu 6 . Dr. Brijesh Kumar 7 . Dr. Manjula M. Hanchinal 8 . P. Anuradha 9 . Ms. Rita Pal 10 . Dr. Shyam Sunder Prasad Singh
TITLE OF INVENTION	First order differential equation solution using numerical networks interpolation and LaGrange
FIELD OF INVENTION	COMPUTER SCIENCE
E-MAIL (As Per Record)	kiran.s@nmit.ac.in
ADDITIONAL-EMAIL (As Per Record)	
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	20/01/2023