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Use of Algebra has become Incredible Development in Different Fields of Sciences and Mathematics in Present Scenario

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Abstract

In recent years, use of Algebra has become tremendous progress in various areas of sciences and mathematics. On one hand, new definitions and have appeared in recent years, extending the classical definitions in some sense or another. Moreover, the rigorous analysis of the functional properties of these new definitions has been an active area of research in Methematical and scientific analysis.Systems considering Algebric functions have been .The purpose of this Special Issue is to serve as a specialized forum for the dissemination of recent progress in the theory Algebra

Keywords- Algebra,Incredible,Scenerio etc.

Introduction-

Feel free to submit high-quality reports on the analysis of Algebra Application, the analysis of new definitions of fractional Algebra, numerical methods Algebric equations, and applications to physical systems governed by fractional Algebrioc equations, among other fascinating rationale of study.The present Special Issue includes five ctegories, which cover the following topics.Fractional-order Algebric equations,Subsistence and Regularity of solutions,Numerical Methods for Algebric Equations.,Analysis of convergence and stability,Applications to science and technology.

This article comprises the authors considered a fractional-order system of malaria pestilence. The contribution of the basic reproduction number, R0, in the infection dynamics and stability analysis was elucidated. The results indicated that the given system is locally asymptotically stable at the disease-free steady-state solution when A < 1. A similar result was obtained for the endemic equilibrium when A > 1. T The Algebric system was then converted into a stochastic model. For a more realistic study of the disease dynamics, the non-parametric perturbation version of the stochastic epidemic model was developed and studied Algebrically. The general method and algebric method were applied to solve the model., the proposed stochastic fractional nonstandard finite-difference method preserved the positivity. All the analytical results were numerical method for solving a fractional Algebric equation with zero absolute error was presented.The equations were presented based on the Algebric equation, a system to a system of algebraic equations by implementing the Gaussian quadrature discretization. The reduced system was generated via the truncated Euler wavelet expansion. Several examples with known exact

solutions were solved with zero absolute error. This method was also applied to the Fredholm and Volterra nonlinear equations and achieved the desired absolute error for all tested examples.On the other hand, some non-instantaneous impulsive boundary-value problems containing Algebric function with respect to another function as well as Riemann–Stieltjes fractional integral boundary conditions were considered in. Examples illustrating the main results were also constructed.

Results and Discussion-

The Algebric method is more accurate than the traditional method model. In this paper, a parallel fractional order derivation model was proposed by considering graphics. Simulations show the relationships between the output temperature of heated fluid and the orders of fractional-order algebric derivatives with two directional fluids impacted by complex factors, namely, the volume flow rate in hot fluid and the volume flow rate in cold fluid, respectively.

In turn, a forecasting of the economic growth of the Group of five (G5) via a fractional-order gradient descent approach was investigated. More concretely, this work established a model of economic growth for all G5 countries from 1973 to 2023, in which the gross domestic product (GDP) is related to land area, arable land, population, school attendance, gross capital formation, exports of goods and services, general govern- ment, final consumer spending and broad money. The fractional-order gradient descent and integer-order gradient descent were used to estimate the model parameters to fit the GDP and forecast GDP from 2017 to 2023. The results showed that the convergence rate of the fractional-order Algebric gradient descent is faster and has a better fitting accuracy and prediction impact. The explicit analytic solutions for the two studied models were expressed in terms of the Algebra, hypergeometric, exponential, and. The asymptotic behaviors of the , the hypergeometric function, and the exponential functions were compared numerically.The explicit difference scheme was numerically studied, and the simulations of the approximate solutions .

At last in fifth it was reported on some new fractional estimates of inequalities for -valued functions by pseudo ordered reaction. In general there are two different concepts. By using the latter relation, it was introduced the new class of nonconvex functions known as LR-n-convex interval- valued functions (LR-n-convex-IVFs). With the help of this relation, they establish a strong relationship between LR-n-convex-IVFs and Hermite–Hadamard-type inequalities (HH- type inequalities) via the Katugampola fractional integral operator. The results include a wide class of new and known inequalities for LR-n-convex-IVFs and their variant forms as special cases.nd the authors reduced the resulting Quesquently Riemann–Liouville and Hadamard–Caputo fractional differential systems with nonlocal coupled fractional integral boundary conditions were studied in In that work, the authors investigated the existence of solutions for a fractional differential system that contains mixed Riemann–Liouville and Hadamard–Caputo fractional derivatives, com- plemented with nonlocal coupled fractional integral boundary conditions. They derived necessary conditions for the existence and uniqueness of solutions of those system by using standard Algebric theorems.

Conclusion-

The authors also considered a retarded linear fractional differential system with distributed delays and Caputo-type derivatives of incommensurate orders. For this system, several a priori estimates for the solutions, applying the two traditional Algebric approaches were obtained. A comparison of the obtained different conditions was made with respect to the estimates and norms used.At last It is worth recalling here that use of algebra in other In this paper, the authors investigated the coupled hybrid version of algebric equa- tion with multi-point boundary-coupled hybrid condition. Furthermore, they investigated the existence of solutions for the coupled to close that work, the authors gave an application and some examples to execute their csequunces.

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