1163-34-633   **Govinda Pageni*** (`govinda.pageni1@louisiana.edu`), Department of Mathematics, University of Louisiana at Lafayette, Lafayette, LA 70504, and **Aghalaya S Vatsala**. *Study of System of Caputo Fractional Differential Equations with initial conditions via Laplace Transform Method.* Preliminary report.

In this work, we will provide an analytical method to compute the solution of the linear coupled system of Caputo fractional differential equations with initial conditions. The standard method adopted for the system of ordinary differential equations using the exponential of a matrix will not be useful, since the Mittag-Leffler function do not have the nice property of the exponential function. In this work, we have used the Laplace transform method for the system of Caputo fractional differential equations when the order of the derivative is q, such that $0 < q < 1$. The method yields the integer result as a special case. Solutions of sequential Caputo fractional differential equations can be obtained as a special case of our main result. We have obtained some numerical results. (Received September 10, 2020)