

1125-93-837

Dimplekumar N Chalishajar* (dipu17370@gmail.com), 435 Mallory Hall, Department of Applied Mathematics, Letcher Avenue, Lexington, VA 24450, and **C Ravichandran** and **S Dhanalakshmi**. *Controllability of fractional neutral impulsive integro-differential equations in Banach spaces.*

In this paper, we prove the controllability for impulsive neutral fractional integrodifferential equations in Banach spaces using Banach fixed point theorem, semigroup theory and fractional calculus. We present the controllability result by introducing a class of distributed controls which are highly useful for the computational purpose also. The controversy on the solution operator is discussed here and we emphasize that we use the generalized Caputo derivative with the lower bound at zero for the system considered. An example is given to illustrate the abstract results.

(Received September 12, 2016)