

APPLICATIVE APPROACH OF FIXED POINT THEOREMS TOWARDS VARIOUS ENGINEERING PROBLEMS

VISHAL JOSHI*, DEEPAK SINGH** AND ADITYA SINGH***

*Department of Mathematics, Jabalpur Engineering College, Jabalpur (M.P.), India
E-mail: joshinvishal76@gmail.com

**Department of Applied Sciences, NITTTR, Under Ministry of HRD,
Govt. of India, 462002 Bhopal (M.P.), India
E-mail: dk.singh1002@gmail.com

***Department of Civil Engineering, Indian Institute of Technology (IIT), Indore, India
E-mail: ce160004003@iiti.ac.in

Abstract. Utilization of fixed point theory, especially to Engineering problems, is of prime concern in recent times. In this article, we aim to firstly establish some original fixed point results in the metric like spaces and then utilize the same to solve those problems which emphasize primarily the applications for the existence of the solution of equations arising in Rocket science, Electrical engineering and, Mechanical engineering. In this article, offered contractive conditions are of general type, having index $l \in \mathbb{N}$ on underlying mapping which refine and expand various results in the existing theory and thereby giving a pathway to applications-based problems. Moreover, to address conceptual depth within this approach, we supply illustrative examples where necessary, which is, of course, of interest of Engineers and Mathematicians. Computer simulation is adopted to verify the contractive conditions giving more-in-depth insight. We suggest some open problems for future work on the application of fixed point theory.

Key Words and Phrases: Fixed point, metric-like spaces, F -contraction, $l - F$ type Suzuki contraction.

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