IMPACT: International Journal of Research in Applied, Natural and Social Sciences (IMPACT: IJRANSS)
ISSN(P): 2347-4580; ISSN(E): 2321-8851
Vol. 5, Issue 1, Jan 2017, 43-56

HOW TO FIND DETERMINANTS BY USING EXPONENTIAL GENERATING FUNCTIONS

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ABSTRACT

As we know, let alone to find the determinant of infinite matrix, it is difficult to find the determinant of some n x n matrixes by the usual methods like, the cofactor method and Crammer's rule. But now we will show how to find the determinant of some n x n matrices and how to find the determinant of some infinite matrix by using Exponential Generating Functions. In this paper we will consider matrices having 1, 2, 3, 4, 5…on the supper diagonal, 0's on the upper and identical entries on each diagonal below the supper diagonal. Here we will try how to obtain the determinant of n x n upper left corner sub matrix of a given **infinite matrix** by introducing Exponential Generating functions of some sequences and how to get a sequence by calculating the determinant of n x n upper left corner sub matrix of infinite matrix. we will also check the correctness of the determinant by using Numerical method.

KEYWORDS: Infinite Matrix; Determinant of Matrices; Exponential Generating Functions; Sequences; Sub Matrix