

1135-65-1654 **Md Shafiqul Islam*** (mdshafiqul@du.ac.bd), Department of Applied Mathematics, Dhaka University, Dhaka, 1000, Bangladesh. *Bezier Polynomials With Applications.*

In this paper, we develop a matrix formulation to solve higher order linear and nonlinear BVPs, arising in various fields, by the well known Galerkin method. Bezier polynomials are exploited as basis functions in the technique. To use the Bezier polynomials we need to satisfy the corresponding homogeneous form of the boundary conditions and modification is thus needed. We verify the proposed formulation by solving a numerous examples. The approximate solutions are found with great accuracy, and are compared to the exact solutions as well as approximate solutions available in the literature. All computations are performed using the software MATHEMATICA. (Received September 24, 2017)