A MESHLESS METHOD FOR NUMERICAL SOLUTION OF THE GENERALIZED ROSENAU EQUATION

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In the last decade, meshless method has gained quite importance to get the numerical solution of the various types of partial differential equations. In the current work, we investigate a different approach to approximate the solution of the generalized Rosenau equation. We present a numerical scheme to solve the generalized Rosenau equation using Lagrangian form of RBF and approximating the solution directly using multiquadric radial basis functions. In addition to present RBF collocation method, we study error estimates for this scheme. RMS error and L_∞ error norm are used as a performance measure. Moreover the results of numerical experiments are presented, and are compared with analytical solution to confirm the accuracy of the presented scheme.