In this work, we study five non-linear boundary layer problems,namely, the two kinds of the Bla- sius equation, Falkner-Skan equation and Magnetohydrodynamic (MHD) flow over a shrinking sheet and MHD flow over a stretching sheet. The governing equations are first transformed into an ordinary differential equation by a similarity transformation. We use a coupling of Kamal In- tegral Transform and Adomian decomposition method to solve the derived third order non-linear problem involving semi-infinite domain. The Adomian decomposition method is introduced to decompose the non-linear terms present in the equation while the Pad`e’s approximation is em- ployed to handle the associated boundary condition at infinity. The result obtained is in excellent agreement with existing results reported in the literature. Graphical results are also presented and discussed for the pertinent parameters. The results obtained in this study show that Kamal transform is an efficient and reliable method that can be applied to both linear and non-linear problems.