The present investigation deals with the formulation and evaluation of Ion and pH activated smart gel of olopatadine hydrochloride to increase pre-corneal residence time so as to get sustained ocular drug delivery in the treatment of allergic conjunctivitis. In the present work, Carbopol 934P and gellan gum were used as gelling agent that produce immediate gelation in presence of environmental stimuli like pH and Ion. Different formulations were prepared with varying the concentration of Carbopol 934P and gellan gum. These formulations were evaluated for the parameter like appearance, pH, viscosity, in vitro gelation study, sterility test and stability studies. In this study, the in vitro release profile depends on the concentration of Carbopol 934P and gellan gum. A 3^2 Full factorial design was applied to check the effect of varying the concentration of Carbopol 934P(X_1) and gellan gum(X_2) on the dependent variable i.e Drug release after 1hr (%) Y_1, drug release after 6hr (%) Y_2, Viscosity (cps) Y_3. Regression analysis and analysis of variance were prepared for dependent variables. Formulation F4 was considered optimum which contain 0.25% Carbopol 934P and 0.4% gellan gum. In conclusion, the optimum concentration of polymers results in minimized drug loss and sustained drug release. On the basis of these findings, prepared smart gel may be considered as a viable alternative to conventional Olopatadine hydrochloride eye drops.