Abstract - Now a days one of the major problems in construction industries is insufficient and unavailability of construction materials, on the other side the main environmental problem is the disposal of the waste plastics. In this experimental study, an attempt has been made to use the plastics in concrete and studies have been conducted to focus on the behaviour of flexural and compression members under various proportions of plastics. The major contribution of present work is to conduct experimental studies on strength properties of plastic mixed concrete and compare the properties with conventional properties of conventional concrete to investigate, whether the plastic concrete can be effectively used as a substitute for conventional concrete. This work paves way for optimizing the percent plastic to be used in mix for sound mechanical properties comparable with conventional concrete.