5.0 CONCLUSION

Phase transition systems are those which upon instillation into eye, shift from liquid to solid phase. In case of pluronic F127, the viscosity of the solution increases gradually in contact with eye temperature. Carbopol 940 forms gel when is native pH changes to pH of tear fluid. Eye drop of Timolol Maleate used for curing glaucoma was formulated by use of polymers like pH-temperature-ion-light responsive [138,139]. The developed formulation body was free flowing liquid having pH 5.2 - 6.4 and undergoes gelation upon rise in pH, at body temperature and in presence of Ca^{++} ions. The gel persistent consistency and its release action were studied for 9hrs. Thus in situ gelling system will show good patient acceptance due to its ease in instillation into eye and decreases of application intervals.

The rapid corneal elimination of drugs given in eye drops is mainly due tear fluid or conjunctional absorption. Topically applied drugs are immediately diluted in tear fluid secreted from eyes and thus spill or drained through nasolachrymal duct. Thus a right quantity of drug is not available for therapeutic action. This problem has overcome by using insitu gel forming systems. The formulations fabricated using such polymers that exhibits reversible phase transitions and pseudo plastic behavior which are suitable for administration which upon exposure to physiological conditions will shift to gel phase thus enhance bioavailability.

Thus formulation containing poloxamer, chitosan, sodium alginate and DMAA showed effective results and use as delivery system with better ocular bioavailability.