CHAPTER-6

CONCLUSION

The evaluations performed and results obtained suggests the following

• The suppositories of atenolol and aceclofenac can be prepared by using different bases such as gelatin, gelatin-PEG, and hydrogenated vegetable oil.

• Gelatin-PEG 400 can be used to prepare melting type of suppositories.

• The melting point/ melting range of all the prepared suppositories were within acceptable range.

• The variation in weight and drug present were found to be within the acceptable range with minimal standard deviation value showing equal dispersion of drug in the prepared suppositories.

• *In vitro* release of atenolol was rapid from gelatin-PEG 400 and hydrogenated vegetable suppositories.

• *In vitro* release of aceclofenac was slow from hydrogenated vegetable oil suppositories when compared to that of the gelatin-PEG 400 suppositories.

• The *in vitro* dissolution data of all the prepared suppository of hydrogenated vegetable oil and gelatin-PEG400 were found to show the drug release between 2 to 4 hours.

• All the formulations of atenolol have shown zero order drug release kinetics except ATPGS0 and ATVS3.

• All the formulations of aceclofenac have shown zero order drug release kinetics except APGS4 and APGS3.
• Among the various formulations of atenolol ATPGS3 containing 30% PEG-400 have displayed zero order release rate \( r=0.9936 \) can be considered as promising formulation and it has release 99.10% of atenolol within 150 minutes

• Among the various formulations of aceclofenac AVS3 containing 7.5% beeswax in hydrogenated vegetable oil has displayed zero order drug release rate \( r=0.9927 \), hence this formulation can be regarded as promising formulation and has released 99.18% acelofenac within 240 mins

• IR spectroscopic study reveals that the drug is compatible with adjuvants.

• DSC thermogram suggested that there was no or possible mild interaction between the drug and the polymer without affecting the integrity of the drug.

• Stability study all the formulation indicated that there are no considerable changes in the drug content during a period of 6 months

• SEM studies suggested the uniform dispersion of the drug within the base.