



## CHAPTER V

### CONCLUSIONS

The chemical stability of ranitidine HCl was investigated and can be summarized as follows:

1. The reaction kinetics of ranitidine HCl degradation were assumed to be pseudo second-order.
2. No specific acid-base catalysis was observed.
3. A general acid catalysis by dihydrogen phosphate ion was postulated.
4. A general base catalysis by phosphate ion was possible.
5. In pH 5 phosphate buffer, a possible reaction was between two molecules of like charges.
6. In pH 12 phosphate buffer, at least one of the reactant was a neutral molecule.
7. A possible reaction between a neutral ranitidine HCl and methanol was assumed.

#### Significance of this Study.

This research can be applied for developing ranitidine HCl solution

as follows:

1. A suitable pH of ranitidine HCl solution in phosphate buffer solution is in weak basic region..
2. A decrease in ionic strength of ranitidine HCl solution decreases the degradation rate of the drug.
3. An increase in dielectric constant decreases ranitidine HCl degradation.