CHAPTER IX

9.0. CONCLUSION

The developed cefixime nanoparticles have been prepared using *Azadirachta indica* fruit mucilage and chitosan as matrix formers exhibited high entrapment efficiency with sustained drug release up to 28 h. The prepared formulation showed better *in-vitro* antimicrobial efficiency compared to pure drug. From the *in-vivo* acute oral toxicity study, it was clearly demonstrated that the prepared formulation was found to be safe for biomedical applications. The positive results gained in the present investigation have supported the prepared formulation as an ideal carrier for enhancing oral bioavailability of cefixime with better therapeutic efficacy compared to pure drug there by achieving better patient compliance followed by declining limitations associated with conventional dosage form.

Thus, the present research work has been carried out adopting standard procedures to meet the set of objectives. The research findings obtained from the studies were found to be satisfactory. In conclusion, all the objectives designed before the start of the study have been achieved and the nanoparticles prepared using natural polymers was proved effective to be used as drug delivery vehicles in pharmaceutical applications as drug release retardant.