6. CONCLUSION

Formulation CPDRS1, CPDRS2, CPDRS3, CPDRS4 released 69%, 88%, 92%, 96% of Insulin and 76%, 99%, 98%, 99% of Insulin, respectively at the end of 12-14 h. Formulation CPDS1, CPDS2, CPDS3, CPDS4 released 76%, 97%, 99%, 99% of Insulin and 72%, 99%, 97%, 93% of Insulin, respectively at the end of 12-14 h. The results of the In-vitro drug release and stability studies indicated that developed formulations CPDRS1 and CPDS1 are potential formulation for targeting the Insulin to the colon.

Among all the formulations, CPDRS1 shows good drug release. From in-vitro drug release profile of all the formulations could be better expressed by model as they showed good linearity. The optimized CPDRS1 formulation was subjected to analysis and accelerated stability studies by storing at various ICH storage conditions for several days. stability study indicated product was stable as per protocol.
**Outcome of the research:**

Thus, it can be concluded that CPDRS1 formulation is shows better results and hence, Insulin as anti Diabeticis can be successfully delivered as microspheres. Thus, major Advantages of the oral insulin system include: Ease of preparation, Good and easily available of material, High encapsulation efficiency, Sustained drug release over several hours. Improved half-life, lower immunogenicity as compared to insulin, in the digestive tract and improved absorption, lower mitogenicity as compared to insulin, retains a similar pharmacological activity as insulin, and conserves safety profile and good clearance profile as compared to insulin.

**Limitations of work done:**

Insulin is sensitive to the higher temperature, so limitations of the work done are that storage of insulin, through out the practical work.

**Industrial application and future done:**

Noninvasive insulin deliveries are now in development. A subsequent increase of residence time that may be postulated for Microspheres as compared to existing drug delivery systems may allow dose reduction and enhance therapeutic effect. The hardness was found to between 5.8 kg/cm2 - 6.8 kg/cm2 indicating satisfactory mechanical strength. The friability of the core tablet formulations were found to be between 0.41 % - 0.79 %. The friability was below 1% which indicated good mechanical resistance. The thickness was found to between 3.40 - 3.67 mm. Formulation CPDRS1, CPDRS2, CPDRS3, CPDRS4 released 76%, 99%, 98%, 99% of Insulin, respectively at the end of 12-14 h. Formulation CPDS1, CPDS2, CPDS3, CPDS4 released 72%, 99%, 97%, 93% of Insulin, respectively at the end of 12-14 h. Stability study was carried out at 40 0C ± 2 0C and 75 % ± 5% RH for 3 months. No significant difference in relation to drug content was observed amongst various formulations. The results of the in-vitro drug release and stability studies indicated that the formulations CPDRS1 could be the potential formulation for targeting the Insulin to the colon. As far overall we are manufacturing the insulin tablets in to industry as commercial base by given formulation.