OBJECTIVES OF THE STUDY:-

Present study deals with formulation of transdermal drug delivery system bypass the hepatic first pass metabolism and avoid drug degradation due to gastrointestinal pH, enzyme. Preparation of medicated patches with time release dose of medication systematically for treating illness, uniform plasma level, improved bioavailability, reduce side effects, painless and simple application.

Today, Carvedilol use in treatment of hypertension. The reduction in blood pressure produce by carvedilol results primarily from beta adrenoreceptor blockade and vasodilation, resulting from alpha-1 adrenoreceptor blockade. These actions as well as several other activities of carvedilol are associated with cardioprotection in animal model that occurs to a degree that is greater than that observed with other drugs.39

Carvedilol well absorbed from gastrointestinal tract but subjected to significant first pass metabolism in liver. Oral bioavailability of drug has been about 25%. It has a short biological half life 2.2h, longer half life is about 6h have been measured at low concentration.

Carvedilol choosen as model candidate for this study since it posseses near ideal characteristics that a drug must have in formulating transdermal drug delivery system. Low molecular mass, high lipid solubility, effective in low plasma concentration as well as high degree of first pass metabolism. It also means multiple daily administrations with subsequent lack of patient compliance. Hence in present study, selection of carvedilol for transdermal drug delivery.