I. INTRODUCTION

Utilization of enzymes have gradually expanded into various fields, such as brewing, food production, textiles, tanning, and medicine. On the other hand, enzymes are generally expensive, have limited stability, and cannot be used in organic solvents or at elevated temperatures. Consequently, chemists have developed various techniques for decreasing enzyme expense, reusability, and increasing enzyme stability. The beast technique is a process known as immobilization of enzymes. Enzyme immobilization can be defined as the attachment of an enzyme to an insoluble polymeric matrix or support, inert or reactive to form support-enzyme complex, **Mosbach (1988) and Weetall (1993)**.

Enzymes immobilization on insoluble supports has been extensively developed in the industrial applications of enzymes. Advantages are the possibility of using continuous processes with insoluble enzymes, facilitation of enzyme recovery, and in some cases immobilization of an enzyme will result in an enhanced stability against the denaturing effect of heat and pH changes and organic solvents. This enhanced resistance to generally unfavourable conditions is of particular importance for immobilized catalysts used in continuous processes, which must be adapted for long-term operation with the minimum need for renewal of the catalyst, **Roig *et al.* (1995) and Lamb and Stuekey (1999)**.

A number of techniques have been developed for enzyme immobilization including covalent binding, adsorption, matrix entrapment, **Monshipouri and Nevfeld (1992)**.

The aim of the present work is to study the immobilization of the produced β-galactosidase (lactase) enzyme by using different supports i.e. Sand, Ca-alginate gel beads, concanavalin A-sepharose (Con As) and chitin. Also, kinetic parameters for soluble and immobilized forms of lactase enzyme were determined. Besides that, application of immobilized lactase enzyme for contionus conversion of lactose, this point is very important in an industrial applications.