Introduction
Alcohol consumption plays a significant role in different societies and constitutes a normal course of meal in many regions of the world. It accounts for 4 to 6 per cent of total energy intake in most of the countries (Block et al. 1985; Thomson et al. 1988; Christiansen et al. 1994). It is generally asserted that it makes life in our tensioned world more tolerable and it dulls painful feelings and promotes pleasurable ones (Madan 1987). Although alcohol consumption is generally considered as an abuse (Hoek and Taraschi 1988), its moderate use has many beneficiary effects too. However, excessive drinking affects healthy life organisation. Whatever may be the reason, alcohol consumption by people is increasing day by day with an increased number of alcohol consumers including teenaged boys and girls (Madan 1987). Alcohol intoxication causes a variety of disorders affecting many organs and metabolism in humans and experimental animals (Khanna and Madan 1975; Topping et al. 1979; Nirmala and Jeyanthi 1987; Preedy and Peters 1989; Suresh et al. 1997; Bellen 1998). Unlike general anaesthetics and drugs, alcohol is often consumed in relatively large quantities and for prolonged periods, and circulatory alcohol level may increase to 20 mM which is considered to be indicative of intoxication (Hoek and Taraschi 1988). Hence, blood, red blood cells in particular, and other tissues are exposed to continued presence of ethanol for a long time (Nirmala and Jeyanthi 1987). As a consequence, erythrocyte membrane and its metabolism are affected in alcoholics (Jain et al. 1988; Johnson and Crider 1989).
Diabetes, a complicated metabolic disorder, is characterised by marked hyperglycemia, and has been associated with many such complications as coronary heart disease, cardiovascular disease, peripheral vascular disease, microangiopathy, diabetic nephropathy, retinopathy, neuropathy, polyneuropathy etc., (Elkeles 1983). These problems are further complicated in chronic alcoholism. The incidence of diabetes is on the increase in developed and developing countries like India. Keeping these aspects in view, many global health organisations and Institution of Diabetic Centre, Minneapolis have made suggestions and issued guidelines for diabetics who consume alcohol (Franz 1983).

The physiological status and biochemistry are altered significantly in diabetic subjects. Especially, the changes in erythrocytes (Gandhi and Chowdhury 1979; Selvam and Anuradha 1988; Freyburger et al. 1989; Urana et al. 1991) and blood constituents (Bhise and Magar 1969; Datta et al. 1969; Ram and Ahuja 1970; Felig et al. 1970; Frimpong and Lapp 1989) act as markers which facilitate in assessing the condition and progress of the disease. Since a long time erythrocyte has been serving as a valuable model to study the biochemical effects in higher species due to its characteristic properties like fixed life span, easy sampling, its composition and biochemistry (Fornaini 1967; Glass and Gershon 1984).

The erythrocyte membrane (ghost) is proved to be a convenient tool for testing new concepts, methodology and also to study various aspects in membrane biochemistry by which one can generate information regarding membrane integrity and functioning (Fairbanks et
In diabetes and other pathological manifestations, significant changes in chemical composition, properties and functions of erythrocyte membrane are seen. These changes are prominent in erythrocytes of diabetics (Gandhi and Chowdhury 1980; Selvam and Anuradha 1988; Christiansen et al. 1994). Though some work was done earlier in diabetics and alcoholics separately, no data is available on biochemical changes in human diabetic erythrocyte associated with alcoholism. Even available information related to other animals on diabetes with alcoholism was an outcome of complicated experiments done at scientists’ discretion that resulted in reporting varied results and findings. Also studies on diabetics associated with alcoholism were confined to liver and other tissues (Kreisberg 1967; Kalkhoff and Kim 1973; Nikkila and Taskinen 1975; Winston and Reitz 1980) in experimental animals. A perusal of literature clearly indicated that no systematic effort has been made to understand the influence of alcoholism on diabetic erythrocyte. The present study has been designed as a beginning to understand the alcohol induced biochemical changes in erythrocyte membrane, erythrocyte metabolism and blood constituents in diabetics. The present study was therefore aimed at understanding the alcohol induced biochemical changes in diabetes associated with alcoholism, in particular, by assessing

- the lipid peroxidation which could be used as an index in both alcoholic diabetics and diabetics
the membrane lipid profile and blood constituents in the alcoholic diabetics in order to identify the changes responsible for the abnormality, if any, and
certain enzymes in plasma in order to determine the severity of alcoholism.