

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM-590014



A Project Report on

*Comparative Performance of Polymeric and Ceramic Membranes for some
Biomolecular Separation Applications*

Submitted in partial fulfillment of the requirements for the degree of

**BACHELOR OF ENGINEERING
IN**

BIOTECHNOLOGY

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ABSTRACT

This product was carried with the aim of comparing the performance of commercially available polymeric membranes and manufactured ceramic membranes of a specific pore size with regard to their applicability in certain biomolecular separation applications.

Samples of sugarcane juice, pineapple juice, bacterial broth and BSA were used for filtration and passed through the equipment fitted with polymeric and ceramic membranes one by one. These samples were then analysed further.

It was seen that both the membranes effectively retained colouring agents present in the samples. Ceramic membrane performance was specifically observed using samples of BSA and E. Coli broth. Thus, it was seen that membrane separation techniques can be effectively used in fruit juice clarification and sample concentration as well. The efficiency of the process can be improved by changing parameters like operating temperature, pressure and also pore size of membranes.