## ABSTRACT

Permeability of asphalt mix is an important consideration in asphalt pavements. In the present thesis an attempt has been made to numerically estimate the permeability of porous asphalt mix taking into account the inter-connectivity between the voids present within. It is observed that preservation of void structure of a asphalt mix is difficult due to heat produced during cutting of sample and viscous flow of bitumen. Study has therefore been conducted on equivalent resin-aggregate samples. This equivalency is established from void ratio and permeability considerations. It is also possible to cut thinner samples of resin-aggregate mix which is otherwise difficult to obtain for asphalt mix. Numerical analysis is performed on resin-aggregate samples for estimation of permeability. Image processing is used as a tool in this process. Later the estimated permeability values are compared with those obtained through permeability testing in the laboratory.

Keywords: Permeability, Image Processing, Resin, Asphalt mix