Objectives of proposed work:

1. The present study covers the need based synthesis of binary-ternary borate glass containing alkali oxides like; Na₂O, K₂O, Li₂O etc. & various transition metal ions like; Cu, Co, Ni, etc.

2. The objective of the proposed research & development work include synthesizing glass that replaces imported glass in many applications involving high voltage, nuclear reactor, optical devices, chemical Industries telecommunication sector, & ultrahigh vacuum technology. They have superior electrical insulation, ultrahigh vacuumed compatibility, high thermal & chemical stability, low thermal conductivity and good mechanical strength.


4. Optimization of boron, mixed alkali effect, transition metal ion (TMI), concentration in the glass system.

5. To study the effect of doping (rare earth ion) on the optimized glass properties.

6. To study the effect to additives & alkaline earth ion optical on the glass properties.

7. To study the thermo physical, mechanical, structural and degradation properties of glasses.