

## **ADVANCED LABORATORY (COMPULSORY)**

- Synthesis of polycrystalline  $\text{YBa}_2\text{Cu}_3\text{O}_y$  high temperature superconductor by the solid state reaction method
- Phase composition and crystal structure (X-ray diffraction/Rietveld analysis)
- Microstructural properties (scanning electron microscopy)
- Electrical properties (four probe method)
- Magnetic properties (ac magnetic susceptibility)