MSP 406: MATERIALS SCIENCE LAB- II (3 Credits)

1. Thermal Conductivity of a Metal Bar
2. Thermal Conductivity of Insulators
3. Phase Diagram of Two Component System
4. Estimation of Ni in stainless steel by spectrophotometry
5. Phase diagram of Pb-Sn system
6. Analysis of Brass
7. Crystal Structure Analysis using X-Ray Diffraction
   a) Simple Cubic structure b) Face Centered Cubic structure
8. Crystal Structure Analysis using X-Ray Diffraction
   a) Hexagonal structure b) Tetragonal Structure
7. Determination of Heat of Solution
8. Estimation of Cr in stainless steel by spectrophotometry
9. Analysis of Bronze
9. Thermal Conductivity of Amorphous Solids
10. Glass transition temperature
11. Birefringence of Mica
12. Phase diagram of Three component system
13. Determination of molar absorption coefficient

MSP 458: MATERIALS SCIENCE LAB– III (3 Credits)

1. Activation energy of point defects
2. Youngs modulus of materials by Cornu's method
3. Adsorption studies
4. Creep in materials
5. Measurement of Young's modulus by strain gauge.
6. Conductivity of ionic salts
7. Corrosion studies
8. Conductometric titration
9. pH measurement
10. Potentiometric titration
11. Determination of molecular weight by viscosity measurement
12. Functional group analysis of polymer
13. Dimension of polymer coil
14. Viscosity of polymer blends
15. Preparation and processing of polymers (i) bulk and solution polymerisation (ii) compression moulding.
16. Hardness testing of materials
17. Metallurgical Microscope – Grain Size Measurements
    a) Ferrous alloys b) Non-ferrous Alloys

MSP 508: MATERIALS SCIENCE LAB.– IV (3 Credits)

1. Energy gap of CdS thin films
2. Dielectric constant of ferroelectric materials
3. Thickness of thin films
4. Ferromagnetic transition temperature