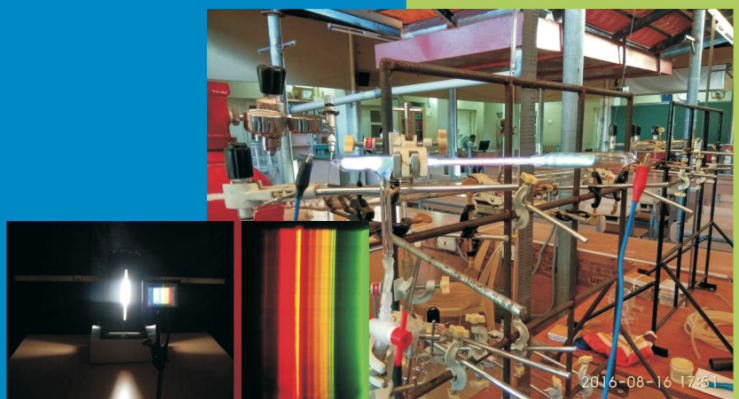


XI-XII

Experiments in Physics



PU College Teachers Training Program

PHYSICS EXPERIMENTS



TALENT DEVELOPMENT CENTRE
INDIAN INSTITUTE OF SCIENCE, KUDAPURA
Challakere, Chitradurga District,
Karnataka-577536

Contents

1. Measurement of linear dimensions and density of materials
2. Acceleration due to gravity - Simple Pendulum
3. Compound pendulum
4. Projectile motion
5. Determination of Spring Constant
6. Determination of Young's Modulus – Searle's method
7. Determination of Moment of Inertia and Rigidity modulus
8. Equilibrium of concurrent coplanar forces
9. Moment bar: Equilibrium of parallel forces
10. Determination of Solar Constant
11. Verification of Conservation of Energy
12. Coefficient of viscosity – Stoke's method
13. Determination of surface tension of water – capillary rise
14. Determination of velocity of sound - Resonance Column
15. Sonometer - Verification of Laws of Transverse Vibrations of Stretched String
16. Resistivity of metals - Metre Bridge
17. Determination of Absolute Zero – Ideal gas law
18. Temperature coefficient of resistance α of metal
19. Temperature Dependence of Resistance of semiconductor – Energy Bandgap E_g
20. Heat Transfer
21. Thermal expansion
22. Specific heat capacity of metals
23. Newton's law of cooling
24. Hydrogen spectra and determination of Rydberg constant
25. Focal Length of lenses and mirrors
26. Refractive index of glass - Lateral Shift
27. Refractive index of glass Prism - Pin Method

28. Refractive index of liquid - Travelling microscope
 29. Refractive index of glass Prism - Spectrometer
 30. Refractive index of liquid - Spectrometer
 31. Determination of Specific rotation - Polarization
 32. Determination of wavelength of laser using Transmission Grating
 33. Determination of wavelength of laser using Reflection Grating
 34. Determination of grating constant - spectrometer - Sodium lamp
 35. Newton's rings
 36. Comparison of Magnetic Moment of two bar magnets - Deflection Magnetometer
 37. Determination of B_H - Tangent Galvanometer
 38. Determination of M of bar magnet by Mapping of Magnetic lines of force
 39. Strength of Magnetic field due to a Solenoid and Cylindrical Magnet
 40. Verification of Ohm's Law
 41. Diode Characteristics
 42. Zener diode characteristics
 43. Half wave and Full wave Rectifier Circuits
 44. Transistor Characteristics
 45. Transistor (Common Emitter) Amplifier Circuit
 46. Measurement of self inductance of inductor
 47. Series resonance of LCR circuit
 48. Parallel resonance of LCR circuit
 49. Charging and discharging of capacitor
 50. Verification of truth table of logic gates
 51. Amplitude Modulation - Demonstration
 52. Determination of e/m of an electron
 53. Determination of Planck's constant - Photoelectric Effect
- Physical constant, standard values and units