

## ST.JOSEPH'S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM

VIII SEMESTER  
PH 8455(4)  
w.e.f. 20AH Batch

### PHYSICS Modern Optics - Practical SYLLABUS

TIME:3Hrs/week  
Max.Marks:100

#### Course Objectives

- ❖ *To equip, students with experimental skills, by applying the learnt concepts from Modern Optics.*

#### Course Outcomes

*Upon the successful completion of this practical course, students will be able to*

- ❖ *CO1: Determine the wavelengths of the given light source using Hartmann's Dispersion formula.*
- ❖ *CO2: Evaluate the refractive index of a transparent solid bar using Diode Laser.*
- ❖ *CO3: Study the bending Losses of light in Optical Fiber.*
- ❖ *CO4: Determine the Pitch of Wire Mesh.*
- ❖ *CO5: Study electro optic effect in the given crystal.*
- ❖ *CO6: Determine the Numerical Aperture of the given Optical Fiber.*
- ❖ *CO7: Determine (a) slit width & (b) diameter of wire using Laser.*
- ❖ *CO8: Determine wavelength of the given He-Ne Laser by using diffraction grating.*
- ❖ *CO9: Determine the wavelength of the given Laser source using a grating and a metal scale.*

Any six of the following experiments:

#### List of Experiments:

1. Hartmann's Dispersion formula
2. Refractive Index of a Transparent Solid Bar using Diode Laser
3. Bending Losses in Optical Fiber
4. Determination of the Pitch of Wire Mesh

5. Electro Optic Effect
6. Numerical Aperture of the given Optical Fiber
7. Laser-Determination of (a) slit width & (b) diameter of wire
8. Determination of wavelength of He-Ne Laser by using diffraction grating
9. Lasers-determination of wavelength with grating and metal scale