

Total page: 01

PG CBCS
M.Sc. Semester-III Examination, 2023
PHYSICS
PAPER: PHS 395
(Advance Practical-II)

Full Marks: 50

Time: 3 Hours

Students should perform anyone of the listed experiments (the choice will be given by lottery system):

Marks Distribution

Time: 3 hours	Max Marks: 50
1.Theorem and working Formula	8 Marks
2.Tabulation and graph plotting	(10 + 5) = 15 Marks
3. Calculations – Result and Error analysis	(5 + 3) = 8 Marks
4. Discussions, Precautions and applications	(2 + 2) = 4 Marks
5. Viva - Voce	10 Marks
6. Record	5 Marks

1. Study experimentally the variation of resistivity of a given semiconductor with temperature (room temperature to 150 °C) and hence find out band gap energy.
2. Find the ferroelectric Curie temperature (T_C) of the given unknown polycrystalline ferroelectric sample, using dielectric measurement.
Given: Area (A): 8 x 6 mm, Thickness (t): 1.42 mm, Permittivity of Space (ϵ_0): 8.85×10^{-12} F/m or 8.85×10^{-3} pf/ mm.
3. Study the variation of photocurrent of a photo diode with intensity and then find out the reverse biased characteristic for at least three different intensities.
4. Determine the gamma and beta ray absorption coefficients by using a G.M. counter
5. Study of the characteristics of a GM tube and determine the related parameters.
6. Verify the inverse square law using G-M counter.
