ST. JOSEPH’S COLLEGE FOR WOMEN (AUTONOMOUS) VISAKHAPATNAM

III SEMESTER **PHYSICS** Time: 3 hrs./week

PH 3451 **Practical Course-III: Heat and Thermodynamic** Max. Marks: 50

**COURSE OBJECTIVES**:

* *To enable the students to understand the important concepts of Heat & Optics*
* *To measure experimentally the physical constants like k, s and verify with standard value.*

**EXPERIMENTS:**

1. Specific heat of a liquid –Joule’s calorimeter –Barton’s radiation correction
2. Thermal conductivity of bad conductor-Lee’s method
3. Thermal conductivity of rubber. Dispersive power of grating.
4. Specific heat of a liquid by applying Newton’s law of cooling correction.
5. Determination of specific heat of solid applying Barton’s radiation correction.
6. Thermal behavior of an electric bulb (filament/torch light bulb).
7. Study of variation of resistance with temperature – Thermistor.
8. Latent heat of steam.

Demonstration experiments

1. Forbes Method
2. Thermo emf – thermo couple - Potentiometer

**REFERENCE BOOKS:**

1. B.Sc. Practical Physics – K. Hanumantha Rao, D.P. Sivaramiah & D.V. Krishnamurthy, Maruthi book Depot, Guntur (2009)
2. B.Sc. Practical Physics N.N. Ghosh, Bharathi Bhavan, Thakur Bai Road, Kadamkaun, Patna (1996).

**COURSE OUTCOMES**:

* *As the experiments are related to the theory and syllabi of respective semester, students will have a much better understanding of the content.*
* *Students can have an exposure to use polarimeter, spectrometer etc.*
* *They will know to apply radiation correction methods.*

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