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

III SEMESTER **PHYSICS** TIME: 2 HRS./WEEK

PH 3452 (2) **PRACTICAL COURSE-III: HEAT AND THERMODYNAMIC** MAX. MARKS: 50

w.e.f. 2020 – 2021 (“20AH”)  **PRACTICAL SYLLABUS**

**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.

**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.

**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).

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