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

IV SEMESTER **PHYSICS**  TIME: 4 HRS./WEEK

PH 4452 (4) **PRACTICAL** MAX.MARKS: 100

w.e.f. 20AH

**COURSE OBJECTIVES**:

* Develop the skills of connecting different types of electrical circuits
* Measure the values of resistance, potential difference and currents in various types of circuits.
* Understandthe basic principles and working of electronic devices.

**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 estimate the magnetic field strength due to an electric current.
* They will know how to use diode as a rectifier and can also find its bandgap.
* They will study the characteristics of thermistor, transistor, FET and Zener diode.

**EXPERIMENTS:**

Minimum of twelve experiments to be done and recorded.

1. Field along the axis of a circular coil carrying current-Stewart & Gee’s apparatus.
2. Zener Diode –V/I Characteristics
3. Transistor CE Characteristics- Determination of hybrid parameters
4. Half wave rectifier
5. Full wave rectifier
6. Bridge rectifier
7. Choke input filter
8. Potentiometer-Calibration of Voltmeter
9. e/m of an electron by Thomson method.
10. Determination of Planck’s Constant (photocell).
11. Determination of M & H. Energy gap of a semiconductor using junction diode.
12. Energy gap of a semiconductor using junction diode.

**Demonstrative Experiments :**

1. Determination of the Planck’s constant using LEDs of at least 4 different colours.
2. CRO

**REFERENCE BOOKS:**

1. B.Sc. Practical Physics – K. Hanumantha Rao, D.P. Sivaramiah & D.V. Krishnamurthy. Maruthi Book Depot, Guntur.(2000)
2. B.Sc. Practical Physics – N.N. Ghosh, Bharathi Bhavan, Thakur Bai Road, Kadamkaun, Patna (1996).

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