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.*
- *Understand the 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 :

13. Determination of the Planck's constant using LEDs of at least 4 different colours.
14. 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).

** ** **