

JAWAHARLAL NEHRUTECHNOLOGICALUNIVERSITY: KAKINADA

KAKINADA-533003, Andhra Pradesh, India

R-13 Syllabus for ME JNTUK

I Year-II Semester	L	T	P	С
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ENGINEERING PHYSICS LAB (R13214)

Prerequisite Course: practical knowledge of basic physics experiments.

Course Description and Objectives: Apply the concepts of physics in operating the modern devices.

Course Outcomes:

Upon completion of the course, the student will be able to achieve the following outcomes.

Cos	Course Outcomes	POs
1	Fundamental understanding of design of an instrument with targeted accuracy for	2
	physical measurements.	
2	Investigate the properties of Thin Films and Light sources.	2
3	Analyse the Elastic nature of materials.	2
4	Understand the phenomenon of Resonance and its effects in Electronic Circuits.	2
5	Gain the Knowledge of electrical properties of Semiconductors	2
6	Identify the magnetic field behaviour.	2

Syllabus:

List of Experiments

- 1. Determination of wavelength of a source-Diffraction Grating- Normal incidence
- 2. Newton's rings –Radius of Curvature of Plano-Convex Lens.
- 3. Determination of thickness of a thin object using parallel interference fringes.
- 4. Determination of Rigidity modulus of a material-Torsional Pendulum.
- 5. Determination of Acceleration due to Gravity and Radius of Gyration- Compound Pendulum.
- 6. Melde's experiment Transverse and Longitudinal modes.
- 7. Verification of laws of stretched string Sonometer.
- 8. Determination of velocity of sound Volume resonator.
- 9. L C R Series Resonance Circuit
- 10. Study of I/V Characteristics of Semiconductor diode
- 11. I/V characteristics of Zener diode
- 12. Thermistor characteristics Temperature Coefficient
- 13. Magnetic field along the axis of a current carrying coil Stewart and Gee's apparatus.
- 14. Energy Band gap of a Semiconductor p-n junction.
- 15. Hall Effect for semiconductor.

REFERENCE:

- 1. Engineering Physics Lab Manual by Dr. Y. Aparna & Dr. K. Venkateswarao V.G.S. Booklinks .
- 2. Physics practical manual, Lorven Publications.