SCHOOL OF ENGINEERING & TECHNOLOGY
Sri Padmavati Mahila Visvavidyalayam
Women's University-Tirupati
ENGINEERING PHYSICS

B.Tech. (I year) (II semester) (Common to ECE & EEE)

Course Outcomes

Upon successful completion of this course, the student will be able to:

CO-1 : Students would be able to explain the basic concepts of Quantum Mechanics and the band theory of solids.

CO-2 : To enable students to learn and to apply the basic concepts of properties of matter in day to day life.

CO-3 : To learn the types of Semiconductors and the role of carrier concentrations in conductivity. Understand the behaviour of materials at low temperatures and the applications of Super conductivity.

CO-4 : Understand the use of lasers in Engineering Science, Medicines & apply the concepts of optical fibre in communication systems.

CO-5 : The student will get a basic understanding of Nanotechnology. The course will give idea of synthesis, characterisation of Nano materials and electrical & optical properties, applications of Nano systems.

Text Books:

1. Gaur R K, Gupta S L, "Engineering Physics", Dhanpat Rai Publications, 2013.
2. Avadhanulu M. N., "Engineering Physics", S. Chand & Co., 2007
3. K.Thiyagarajan, "Engineering Physics" McGraw Hill Education (India) Private Limited.
4. Engineering Physics, V. Rajendran, Tata Mc Graw Hill Book Publishers.

. Reference Books:

1. R.Murugesan, Kiruthiga Sivaprasath,"Modern Physics"S.Chand&Company Pvt.Ltd, 2014.
2. Halliday D., Resnick R. and Walker J., "Fundamentals of Physics", Wiley Publications, 2008
3. Purcell E. M., "Electricity and Magnetism – Berkeley Physics Course", Vol. 2, Tata McGraw-Hill, 2008
4. Paul A. Tipler and Geene Mosca, "Physics for Scientists and Engineers", W.H. Freeman and Company, New York, 2004.
5. Pillai, S.O., "Solid State Physics", New Age International Publication, New Delhi, Seventh Edition, 2015.
6. Palanisamy, P.K., "Physics for Engineers", Scitech Publication (India) Pvt. Ltd., Chennai, Second Edition, 2005.
7. Richard Wolfson, "Essential University Physics", Vols. 1 and 2. Pearson Education, Singapore, 2011.

SCHOOL OF ENGINEERING & TECHNOLOGY
SRI PADMAVATI MAHILA VISVA VIDYALAYAM
(WOMEN'S UNIVERSITY)-TIRUPATHI-(517502)
B.Tech. (I year) (I semester)

ENGINEERING PHYSICS LAB

Credits – 1 **Sessional Mark: 40**

(L: T: P :: 0:0:1) **University Practical Exam Marks: 60**

Course Objective:

This course is designed (i) To impart practical knowledge about some practical phenomena they have studied in the engineering physics course and (ii) To develop the experimental skills of the students.

LIST OF EXPERIMENTS
(Minimum Six are mandatory)

1. Determination of Numerical aperture and bending losses of fibers of an optical fiber.
2. Young's modulus - non uniform bending – Pin and microscope
3. Calibration of voltmeter / ammeter using potentiometer
4. Spectrometer-Dispersive power of prism /grating.
5. Spectrometer- Determination of refractive index of given liquid using Hollow Prism.
6. Laser-Determination of wavelength.
7. Air Wedge- Determination of thickness of given thin wire.
8. V-I Characteristics of PN Junction diode.
9. Energy Gap Determination of a PN Junction Diode
10. Determination of surface tension of the given liquid-drop weight method.