



## **KARPAGAM ACADEMY OF HIGHER EDUCATION**

(Deemed to be University)  
(Established Under Section 3 of UGC Act 1956)  
Coimbatore - 641021.

(For the candidates admitted from 2016 onwards)

**SUBJECT : Elements of Modern Physics Practicals – I**

**SEMESTER : V**

**SUBJECT CODE: 16PHU512A**

**CLASS : I B.Sc. PHYSICS**

### **SEMESTER – V**

<b>16PHU512A</b>	<b>Elements of Modern Physics (PRACTICAL)</b>	<b>L T P C</b>
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#### **Any 8 Experiments**

1. Measurement of Planck's constant using black body radiation and photo-detector
2. Photo-electric effect: photo current versus intensity and wavelength of light; maximum energy of photo-electrons versus frequency of light
3. To determine work function of material of filament of directly heated vacuum diode.
4. To determine the Planck's constant using LEDs of at least 4 different colours.
5. To determine the wavelength of H-alpha emission line of Hydrogen atom.
6. To determine the ionization potential of mercury.
7. To determine the absorption lines in the rotational spectrum of Iodine vapour.
8. To determine the value of  $e/m$  by (a) Magnetic focusing or (b) Bar magnet.

9. To setup the Millikan oil drop apparatus and determine the charge of an electron.
10. To show the tunneling effect in tunnel diode using I-V characteristics.
11. To determine the wavelength of laser source using diffraction of single slit.
12. To determine the wavelength of laser source using diffraction of double slits.
13. To determine (1) wavelength and (2) angular spread of He-Ne laser using plane diffraction grating

**Reference Books:**

1. Advanced Practical Physics for students, B.L. Flint and H.T. Worsnop, 1971, Asia

Publishing House

2. Advanced level Physics Practicals, Michael Nelson and Jon M. Ogborn, 4th Edition,

reprinted 1985, Heinemann Educational Publishers

3. A Text Book of Practical Physics, I.Prakash & Ramakrishna, 11th Edn, 2011, Kitab

Mahal.