

Department of Physics

List of equipment for practicals of semesters II, IV and VI

Kit /complete apparatus for

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 laser source using diffraction of single slit.
6. To determine the wavelength of laser source using diffraction of double slits.
7. To determine (1) wavelength and (2) angular spread of He-Ne laser using plane diffraction grating
8. To study V-I characteristics of PN junction diode, and Light emitting diode.
9. To study the V-I characteristics of a Zener diode and its use as voltage regulator.
10. Study of V-I & power curves of solar cells, and find maximum power point & efficiency.
11. To study the characteristics of a Bipolar Junction Transistor in CE configuration.
12. To study the various biasing configurations of BJT for normal class A operation.
13. To design a CE transistor amplifier of a given gain (mid-gain) using voltage divider bias.
14. To study the frequency response of voltage gain of a RC-coupled transistor amplifier.
15. To design a digital to analog converter (DAC) of given specifications.
16. To study the analog to digital converter (ADC) IC.
17. To design inverting amplifier using Op-amp (741,351) and study its frequency response
18. To design non-inverting amplifier using Op-amp (741,351) & study its frequency response
19. To investigate the use of an op-amp as an Integrator.
20. To investigate the use of an op-amp as a Differentiator.
21. To find the polarization angle of laser light using polarizer and analyser
22. To determine the Thermal expansion of quartz using laser.

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