



55764 Experimental Set Up has been designed specifically for the study of Absorption Spectrum of Iodine Vapour and to determine (a) Energy level diagram of iodine molecule. (b) The values of electronic excited energies and energy gap. (c) The force constant for the excited state. The set-up consists of Spectrometer, Diffraction grating and a Glass tube closed on both ends with stopper and an optical bench complete with uprights.

The set up is complete in all respect and requires no other apparatus. Practical experience on this set up carries great educative value for Science and Engineering Students.

#### OBJECT

The study of absorption spectrum of Iodine Vapour and to determine :

- 01 Energy level diagram of Iodine molecule.
- 02 The values of electronic excited energies and energy gap.
- 03 The force constant for the excited state.

#### FEATURES

The complete Experimental Set-up consists of the following :

- 01 Spectrometer  
Standard : 6" dia circle reading 30 seconds. The objectives used in telescope and collimator are achromatic and provided with rack and pinion focussing arrangement. Telescope arm and prism table are provided with fine and coarse adjustment. The prism table is provided with three leveling screws and is engraved with concentric rings & lines. The scales and verniers are of stainless steel and are machine divided. Clamping devices are also provided to lock telescope and collimator after adjustment with prism clamping device and diffraction grating stand.
- 02 Diffraction Grating : Hilger & Watts Type, 15000 line per inch/6000 lines per cm.
- 03 Optical Bench : One meter long with five metallic sliders with holders Three of them are provided with lateral motion.
- 04 Incandescent bulb 100W with house.
- 05 Glass tube of bore 3cm and length 50cm with an inlet for Iodine grains with stopper. The tube is closed at both ends.
- 06 Double convex lens of 75mm dia with F.L. 10cm.
- 07 Double convex lens of 50mm dia with F.L. 10cm.
- 08 Iodine.
- 09 Spirit lamp.
- 10 Spirit level
- 11 10" x 10" thick Card board with hole of 3cm dia.
- 12 Reading lens 40mm diameter.
- 13 One wooden box size 11 x 11 x 3.25" to raise spectrometer height.
- 14 Weight : 13.6 Kg. (Approx.)
- 15 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References.

Note: Specifications are subject to change.

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