

**PHYSICS SESSIONAL**  
Course No.: Phy 102  
Department of EEE (LEVEL-1, TERM-2)

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| <b>1-W<sub>1</sub></b>     | Determination of line frequency by Lissajous figures using an oscilloscope and a function generator and verification of the calibration of time/div knob at a particular position for different frequencies |
| <b>2-W<sub>3</sub></b>     | Determination of the spring constant and the effective mass of a loaded spring  |
| <b>3-H<sub>2</sub></b>     | Determination of the pressure coefficient of air by a constant volume air thermometer   |
| <b>4-H<sub>4</sub></b>     | Determination of the thermal conductivity of a bad conductor by Lee's method  |
| <b>5-O<sub>3</sub></b>     | Determination of the refractive index of the material of a prism with the help of a spectrometer  |
| <b>6-O<sub>4</sub></b>     | Determination of the radius of curvature of a Plano-convex lens by the Newton's ring method   |
| <b>7-M<sub>1</sub></b>     | Determination of the threshold frequency for the material of a photo-cathode and hence find the value of the Planck's constant  |
| <b>8-M<sub>2</sub></b>     | Determination of the linear absorption coefficient and mass absorption coefficient of Aluminum using a $^{137}\text{Cs}$ radioactive source   |
| <b>9-E<sub>3</sub></b>     | Verification of Biot-Savart law and Tangent law   |
| <b>10-E<sub>6</sub></b>    | Determination of dielectric constant of materials using a parallel plate capacitor  |
| <b>11-H<sub>5</sub></b>    | Calibration of a given thermocouple   |
| <b>12-H<sub>6</sub></b>    | Determination of the melting point of a solid using the calibration curve obtained in experiment H <sub>5</sub>   |
| <b>13-O<sub>5</sub></b>    | Determination of the specific rotation of sugar solution by a polarimeter   |
| <b>14-VL-M<sub>3</sub></b> | Determination of lattice constant of NaCl crystal using an X-ray diffraction simulator  |
| <b>15-H<sub>7</sub></b>    | Determination of the mechanical equivalent of heat by the electrical method   |