

PHYSICS HSSC

(National Curriculum 2006)



PRACTICAL EXAMINATION

| S # | List of Practicals |
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| 1 | Measure length and diameter of a solid cylinder and hence estimate its volume quoting proper number of significant figures using Vernier caliper. |
| 2 | Measure the diameters of a few ball bearings of different sizes using Screw Gauge and estimate their volumes. Mention the uncertainty in each result. |
| 3 | Determine the radius of curvature of convex lens and a concave lens using a spherometer. |
| 4 | Determine the weight of a body by vector addition of forces. |
| 5 | Verify the two conditions of equilibrium using a suspended metre rod. |
| 6 | Investigate the value of 'g' by free fall method using electronic timer. |
| 7 | Investigate the downward force, along an inclined plane, acting on a roller due to gravity and study its relationship with the angle of inclination by plotting graph between force and $\sin\theta$. |
| 8 | Determine the moment of inertia of a fly wheel. |
| 9 | Investigate the fall of spherical steel balls through a viscous medium and determine. (i) terminal velocity (ii) coefficient of viscosity of the fluid |
| 10 | Verify that the time period of the simple pendulum is directly proportional to the square root of its length and hence find the value of 'g' from the graph. |
| 11 | Determine the acceleration due to gravity by oscillating mass-spring system. |
| 12 | Determination of frequency of A.C by Melde's apparatus / electric sonometer. |
| 13 | Investigation of the laws of vibration of stretched strings by sonometer or electromagnetic method. |
| 14 | Determine the wavelength of sound in air using stationary waves and to calculate the speed of sound using resonance tube. |
| 15 | Measure the mechanical equivalent of heat by electric method. |
| 16 | Determine the specific heat of a solid by electrical method. |
| 17 | Determine time constant by charging and discharging a capacitor through a resistor. |
| 18 | Determine resistance of wire by slide Wire Bridge. |
| 19 | Determine resistance of voltmeter by drawing graph between R and I/V. |
| 20 | Determine resistance of voltmeter by discharging a capacitor through it. |
| 21 | Analyse the variation of resistance of thermistor with temperature. |
| 22 | Determine internal resistance of a cell using potentiometer. |
| 23 | Determine emf of a cell using potentiometer. |
| 24 | Determine the emf and internal resistance of a cell by plotting V against I graph. |
| 25 | Investigate the relationship between current passing through a tungsten filament lamp and Page 2 of 2 the potential applied across it. |
| 26 | Convert a galvanometer into voltmeter of range 0 – 3 V. |
| 27 | Determine the relation between current and capacitance when different capacitors are used in AC circuit using different series and parallel combinations of capacitors. |
| 28 | Determine the impedance of a RL circuit at 50Hz and hence find inductance. |
| 29 | Determine the impedance of a RC circuit at 50Hz and hence find capacitance. |
| 30 | Draw characteristics of semiconductor diode and calculate forward and reverse current resistances. |
| 31 | Study of the variation of electric current with intensity of light using a photocell. |

Practical exam of subject of physics will be conducted from the above mention list at the end of second year exam.