

# PHYSICS LABORATORY

## LIST OF REQUIREMENTS - FOR A CLASS OF 30 STUDENTS

### CLASSES XI - XII

#### GENERAL APPARATUS

| <u>APPARATUS</u>                               |   | <u>QUANTITY</u> |
|------------------------------------------------|---|-----------------|
| 1. Physical Balance with weight box            | - | 3               |
| 2. Spring balance up to 250 gf                 | - | 15              |
| 3. Spiral spring with hook                     | - | 10              |
| 4. Gravesands's apparatus for law of triangles | - | 5               |
| 5. Horizontal friction table                   | - | 15              |
| 6. Inclined friction table (movable)           | - | 10              |
| 7. Loose weight 100g                           | - | 30              |
| 8. Loose weight 50 g                           | - | 15              |
| 9. Loose weight 20 g                           | - | 15              |
| 10. Loose weight 10 g                          | - | 15              |
| 11. Loose weight 5 g                           | - | 15              |
| 12. Loose weight 2 g                           | - | 15              |
| 13. Glass capillary of different diameters     | - | 10              |
| 14. Travelling microscope                      | - | 2               |
| 15. Half Meter Ruler (50 cm)                   | - | 30              |
| 16. Meter Ruler (100 cm)                       | - | 30              |
| 17. Measuring cylinder 200 ml                  | - | 10              |
| 18. Measuring cylinder 500 ml                  | - | 10              |

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| <b><u>APPARATUS</u></b> |                                                                      |   | <b><u>QUANTITY</u></b> |
|-------------------------|----------------------------------------------------------------------|---|------------------------|
| 19.                     | Beaker 200 ml                                                        | - | 15                     |
| 20.                     | Test tube (big)                                                      | - | 15                     |
| 21.                     | Long glass jar                                                       | - | 15                     |
| 22.                     | Spherometer                                                          | - | 10                     |
| 23.                     | Vernier Calliper                                                     | - | 15                     |
| 24.                     | Screw Gauge                                                          | - | 15                     |
| 25.                     | Brass bob (for pendulum)                                             | - | 15                     |
| 26.                     | Split Corks                                                          |   | 15 pairs               |
| 27.                     | Retort stand                                                         | - | 15                     |
| 28.                     | Plane glass plate 10 cm x 10 cm                                      | - | 15                     |
| 29.                     | Searle's apparatus to determine<br>Young Modulus (for demonstration) | - | 1                      |
| 30.                     | Petri dish                                                           | - | 15                     |
| 31.                     | Mercury                                                              | - | 1 kg                   |
| 32.                     | (a) Drawing board                                                    | - | 15                     |
|                         | (b) Drawing pins                                                     | - | 60                     |
| 33.                     | (a) Apparatus to verify parallelogram<br>law of vector addition      | - | 2                      |
|                         | (b) Viscometer ( <i>for demonstration</i> )                          | - | 1                      |
| <b>HEAT</b>             |                                                                      |   |                        |
| 34.                     | Calorimeter with stirrer                                             | - | 10                     |
| 35.                     | Newton's cooling apparatus                                           | - | 1                      |
| 36.                     | Boyle's Law apparatus                                                | - | 3                      |

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**APPARATUS****QUANTITY****SOUND**

|     |                                                                                   |   |    |
|-----|-----------------------------------------------------------------------------------|---|----|
| 37. | Resonance tube complete                                                           | - | 5  |
| 38. | Sonometer                                                                         | - | 5  |
| 39. | Complete set of tuning forks with hard rubber bungs for striking the tuning forks | - | 10 |

**LIGHT**

|     |                                                        |   |    |
|-----|--------------------------------------------------------|---|----|
| 40. | Plane mirror square 5cm x 5cm                          | - | 15 |
| 41. | Plane mirror strip 10cm x 3cm                          | - | 15 |
| 42. | Plane mirror holder<br>(a pair of wood or hard rubber) | - | 15 |
| 43. | Lens holder                                            | - | 30 |
| 44. | Object pin with holder                                 | - | 30 |
| 45. | Concave Mirror (focal length 15 cm)                    | - | 15 |
| 46. | Concave lens (focal length 30 cm)                      | - | 15 |
| 47. | Convex lens (focal length 10 cm)                       | - | 15 |
| 48. | Convex lens (focal length 15 cm)                       | - | 15 |
| 49. | Convex lens (focal length 20 cm)                       | - | 15 |
| 50. | Equilateral glass prism (big)                          | - | 15 |
| 51. | Right angled glass prism                               | - | 3  |
| 52. | (a) Spectrometer (for demo)                            | - | 1  |
|     | (b) Mercury bulb for spectrometer                      | - | 1  |
|     | (c) Spectroscopic prism                                | - | 1  |
| 53. | Optical bench with accessories                         | - | 3  |
| 54. | Bi-prism (for demo)                                    | - | 1  |

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**APPARATUS****QUANTITY****ELECTRICITY**

|     |                                                                             |   |      |
|-----|-----------------------------------------------------------------------------|---|------|
| 55. | Dry cell 1.5V                                                               | - | 15   |
| 56. | Electronic battery 2V (or 2-4V dc supply)                                   | - | 15   |
| 57. | Leclanche cell                                                              | - | 3    |
| 58. | Tapping key                                                                 | - | 10   |
| 59. | (a) Plug key                                                                | - | 15   |
|     | (b) Two way key                                                             | - | 3    |
| 60. | Jockey                                                                      | - | 15   |
| 61. | Resistance wire (Nichrome) 4 ohm m <sup>-1</sup>                            | - | 20 m |
| 62. | Rheostat (30 Ohm)                                                           | - | 15   |
| 63. | Resistance box 1 – 10 Ohm                                                   | - | 15   |
| 64. | One meter long resistance wire mounted on a meter scale (with terminals)    | - | 15   |
| 65. | ½ meter long resistance wire mounted on a half meter scale (with terminals) | - | 15   |
| 66. | 50 cm long wire wound on a wooden cylinder (Resistance R~ 2Ω)               | - | 15   |
| 67. | Galvanometer (Zero centred)                                                 | - | 15   |
| 68. | Ammeter (0-2A)                                                              | - | 15   |
| 69. | Voltmeter (0-3V)                                                            | - | 15   |
| 70. | Connecting wire (40 cm length)                                              | - | 80   |
| 71. | Milli Ammeter                                                               | - | 5    |
| 72. | Crocodile clip                                                              | - | 15   |
| 73. | (a) Meter Bridge (for demo)                                                 | - | 3    |
|     | (b) Post Office Box                                                         | - | 3    |

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**APPARATUS****QUANTITY**

|     |                                     |   |   |
|-----|-------------------------------------|---|---|
| 74. | 10 Wire Potentiometer (for demo)    | - | 3 |
| 75. | Kelvin's bridge (optional for demo) | - | 1 |
| 76. | (a) Diode characteristic demo set   | - | 1 |
|     | (b) Zener diode                     | - | 1 |
| 77. | Transistor Characteristic demo set  | - | 1 |

**MAGNETISM**

|     |                          |   |       |
|-----|--------------------------|---|-------|
| 78. | Bar magnet (small)       | - | 30 pc |
| 79. | Bar magnet (big)         | - | 30 pc |
| 80. | Magnetic compass         | - | 15    |
| 81. | Dip circle               | - | 2     |
| 82. | Electromagnet (for demo) | - | 1     |

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