

### Preparatory Year Physics Lab

| First semester ( Physics A ) |   |   |
|------------------------------|---|---|
| Experiment                   | Aim   | Apparatus   |
| 1-Simple Pendulum            | Determination of acceleration of gravity by means of a simple pendulum.   | 1-simple pendulum<br>2- Meter scale<br>3-Stop watch   |
| 2- Compound pendulum         | Determination of acceleration of gravity by means of a compound pendulum. | 1-Compound pendulum<br>2- Meter scale<br>3-Stop watch   |
| 3- Hook's law                | Verification of Hook's law  | 1-Spiral spring with a pan weight<br>2-Meter scale<br>3- Masses   |
| 4- Surface tension           | Determination of surface tension co-efficient                             | 1-Set of capillary tubes<br>2-Beakers contain liquid<br>3-Meter scale   |
| 5-Viscosity                  | Determination of the co-efficient of viscosity by the falling spheres     | 1-Long tube filled with viscous oil<br>2-Meter Scale<br>3-Stop watch  |
| 6- Ohm's Law                 | 1-Verification of Ohm's law<br>2-Determination of unknown resistance      | 1-Power Supply from 0 to 6 volts d.c., 3A.<br>2-Connecting wires<br>3-Ameter<br>4-Voltmeter   |
| 7-Wheatstone Bridge          | Determination of unknown resistance using a Wheatstone Bridge             | 1-Wheatstone Bridge<br>2-Power supply<br>3-Set of standard resistances<br>4-Sensitive center- reading galvanometer<br>5- Connecting wires<br>6- Meter scale |

### Preparatory Year Physics Lab

| Second semester( Physics B )         |  |  |
|--------------------------------------|--|--|
| Experiment                           | Aim  | Apparatus  |
| 1-Specific heat                      | Determination of the specific Heat of a solid and liquid by method of mixture                                | 1-Calorimeter<br>2- Thermometer<br>3-Electric heater<br>4-Solid body in the form of small ball.  |
| 2-Thermal conductivity               | Determination of the co-efficient of thermal conductivity (K) of a bad conductor by using Lee's disc method. | 1-Two cylindrical brass rooms A and B<br>2- Two thermometers<br>3-Stop watch<br>4- Disc from bad conductor C<br>5-Heater<br>6- Beaker<br>7-Boiler<br>8-Stand |
| 3- Inverse square law                | Verification of Inverse square law using a magnetometer  | 1- Magnetometer<br>2-Meter scale<br>3- Magnetic bar  |
| 4- Lens                              | Determination of the focal length of convex and concave lenses   | 1-Convex & concave lens<br>2- Screen<br>3-Meter scale<br>4- Optical bench<br>5- Light source   |
| 5-Reflection and refraction of light | Determination of critical angle of glass prism   | 1-Glass prism<br>2- Optical bench<br>3- Light source<br>4- Angular translator placed to the rotating table   |

( First Year Elec. - Mech. – Survey – Civil) Physics Lab

| ( Physics 2)             |  |   |
|--------------------------|--|---|
| Experiment               | Aim  | Apparatus   |
| 1-Interference of light  | Determination of the wave length of a given monochromatic light source | 1-Laser light source<br>2- Optical bench<br>3-Meter scale<br>4- Double slit device                                      |
| 2-Polarization of light  | Determination of the wave length of a given monochromatic light source | 1-Laser light source<br>2- Optical bench<br>3-Meter scale<br>4- Diffraction grating                                     |
| 3- Stefan's law          | Verification of Stefan's law for radiation                             | 1-Power Supply from 0 to 6 volts d.c., 3A.<br>2-Connecting wires<br>3-Ameter<br>4-Voltmeter                             |
| 4- Photo electric effect | Drawing I-V characteristic curve                                       | 1-Power Supply 12volts d.c.<br>2-Connecting wires<br>3-Ameter<br>4-Voltmeter<br>5- Light lamb<br>6- Photo electric cell |

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