EXPERIMENT NO.: 11 **DATE:**

AIM: RECORDING PULSE OXYGEN (BEFORE AND AFTER EXERTION)

REQUIREMENT: Clinical Thermometer, Digital Thermometer, IR Thermometer

PRINCIPLE:

Peripheral capillary oxygen saturation (SpO2) is commonly measured by pulse oximetry, which provides an indirect measurement of arterial oxygenation (SaO2) based on the differential absorption of light by oxygenated and deoxygenated blood during pulsatile blood flow

THEORY:

Pulse Oximetry is the process to measure the oxygen saturation by pulse oximetry which is handheld clip device. Person can easily use this device at rest, and can also be used during exercise.

Figure: Pulse Oximeter

PROCEDURE:

- Remove any nail polish/false nails & warm your hand if cold.
- Rest for at least 5 minutes before taking your measurement.
- Rest your hand on your chest at heart level & hold it still.
- Switch on the oximeter & place it on your middle or index finger.
- The reading takes time to steady, Keep the oximeter in place for at least a minute or longer if the reading is not stable.
- Record the highest result once it has not changed for 5 seconds.

- Identify each reading carefully and note it as a before exercise reading.
- Repeat above procedure after doing the 10 to 15 minutes of normal exercise and again note the reading which is the after exercise reading.
- Now compare both the reading.

Result:

Pulse Oxygen	
Before Exercise	**After Exercise**

Interpretation:

- Normal oxygen saturation (SpO2) levels for healthy individuals should be between 95% - 100%.
- SpO2 values below 95% (90.1%-94.9%) are considered to be abnormal, and caution should be taken at these values.
- Patients with an SpO2 reading of less than 90% are said to be hypoxemic.
- Patients with an SpO2 reading of less than 85%would be severely hypoxemic. These patients would most likely need an external oxygen supply.
- Note that oxygen saturation levels can be slightly lower for individuals at higher altitudes.

SIGNATURE OF TEACHER