Table no.- 01 (Long exp.)

Zener diode

Plot the characteristics of zener diode when the diode is used in reversed bias mode. Hence find the breakdown voltage of the zener diode.

Table no.- 02 (Long exp.)

Kelvin's Method

Determine the resistance of the galvanometer by Kelvin's method. Take three independent readings. Repeat the experiment by interchanging the position of the galvanometer and the resistance box.

Table no.- 03 (Long exp.)

Logic Gate

You are given TTL IC's for NOT, OR, NOR, AND & NAND Gates. Draw symbolic diagram to illustrate function of the above gates.Write the Truth table & Logic Equation for all these gates.

Determine the Output for all possible values of Input for each gates(Observation table) and verify the Truth tables.

Table no.- 04 (Long exp.)

Laws of Resistance using Wheatstone's meter bridge

Verify the law of resistances in series/parallel combination using Wheatstone's bridge. Take three independent readings. Also interchange the positions of resistances in the gaps.

Given:

a) Resistance of first Resistor (X_1) =_____Ω

b) Resistance of second Resistor (X_2) =_____Ω

Table no.- 05 (Long exp.)

Spring Mass Oscillator (Extension method)

Suspend a light pan from the lower end of the spring suspended vertically from a rigid support. Add a suitable mass M in the pan so that the spring isstretched to about triple of the unstressed length under its own weight.
Take the position of the pointer as zero. Note the position of the pointer forthree values of mass in the pan (m) less than M and three values of m morethan M. Find the extension (x) in each case.

Plot a graph of (m-M) g against x. Hence determine the force constant (K) of the spring.

Table no.- 06 (Long exp.)

Logic Gate

You are given TTL IC's for NOT, OR, NOR, AND & NAND Gates. Draw symbolic diagram to illustrate function of the above gates.Write the Truth table & Logic Equation for all these gates.
Determine the Output for all possible values of Input for each gates(Observation table) and verify the Truth tables.

Table no.- 07 (Long exp.)

Newton's law of cooling

Plot a cooling curve (θ vs t) for a given hot liquid. Find the rate of cooling for five different values of temperature. Plot a graph of rate of cooling $\left(\frac{d\theta}{dt}\right)$ against excess of temperature (θ) above the surroundings. Hence verify Newton's law of cooling.
Room temperature = _____^{0}c.

Table no.- 08 (Long exp.)

Resonance tube

A set of five tuning forks of known frequencies is given to you. Find correct length of air column vibrating in unison with each tuning fork. Hence determine the velocity of sound in air at room temperature.

Table no.- 09 (Long exp.)

Spring Mass Oscillator

Suspend a light Pan from the lower end of the spring suspended vertically from a rigid support. Set the system consisting of suitable mass in the pan and determine the time taken to complete 20 oscillations. Vary the mass inthe pan and find time of oscillations for five different values of mass M. Find periodic time for each mass assuming whole mass (m_s +M) of the system concentrated at a single point (Where m_s is mass of spring.)

Plot the graph of T^2 against M. Hence find the mass of the spring (m_s).

Table no.- 10 (Long exp.)

Resonance tube

You are given four tuning forks of known frequencies and one of unknown frequency. Find the correct length of air column vibrating in unison with each tuning fork. Hence determine unknown frequency of the tuning fork.

Table no.- 11 (Long exp.)

Kelvin's Method

Determine the resistance of the galvanometer by Kelvin's method. Take three independent readings. Repeat the experiment by interchanging the position of the galvanometer and the resistance box.

Table no.- 12 (Long exp.)

CURRENT SENSIVITY

Measure the deflection in table galvanometer for four different values of current flowing through it. Hence determine the current sensitivity (S) of the given table galvanometer. (By graph / Calculation)

E = _____V G = _____ohm

Table no.- 13 (Long exp.)

Zener diode

Plot the characteristics of zener diode when the diode is used in reversed bias mode. Hence find the breakdown voltage of the zener diode.

Table no.- 14 (A) (Long exp.)

SONOMETER : LAW OF LENGTH

You are given five tuning forks of known frequencies. Keeping tension constant determine the length of the wire vibrating in unison with each tuning fork. Also determine the vibrating length of same wire for the same tension for unknown frequency of tuning fork. Hence determine the unknown frequency by calculation / graph.

Table no.- 14 (B) (Long exp.)

SONOMETER : LAW OF TENSION

You are given five tuning forks of unknown frequencies. Keeping tension constant determine the length of wire vibrating in unison with each tuning fork. Plot a graph of reciprocal of vibrating length against frequency. Calculate tension for known mass and determine unknown mass.

Given: 1) frequency of tuning fork n = _____ Hz

2) Accelaration due to gravity (g) = 980 cm/s^2

Activities & short experiment
Table no.- 15 (SE and A)

1-Newton's law of cooling

Take 20 reading of cooling of hot water and plot the graph for temperature (θ) vs time (t). hence write the conclusion.

2- Household Circuit

Design a simple household electrical circuit using fuse, ON/OFF switches, 3 pin sockets and bulb.

Table no.- 27 (SE and A)

1-Household Circuit

Design a simple household electrical circuit using fuse, ON/OFF switches, 3 pin sockets and bulb.

2-Newton's law of cooling

Take 20 reading of cooling of hot water and plot the graph for temperature (θ) vs time (t). hence write the conclusion.

Table no.- 16 (SE and A)

1-LOGIC GATES

You are given TTL IC's for OR & AND Gates
Draw symbolic diagram to illustrate function of the above gates.
Write the Truth table & Logic Equation for all these gates.
Determine the Output for all possible values of Input foreach gates (Observation table) and verify the Truth tables.

2-Rate of loss of Heat

Take 20 readings of temperature of water of both beaker for interval of 1 min. Plot a graph of temp (θ) versus time (t). Draw the conclusion.

Table no.- 26 (SE and A)

1-Rate of loss of Heat

Take 20 readings of temperature of water of both beaker for interval of 1 min. Plot a graph of temp (θ) versus time (t). Draw the conclusion.

2-LOGIC GATES

You are given TTL IC's for OR & AND Gates
Draw symbolic diagram to illustrate function of the above gates.
Write the Truth table & Logic Equation for all these gates.
Determine the Output for all possible values of Input foreach gates (Observation table) and verify the Truth tables.

Table no.- 17 (SE and A)

1-SPRING – MASS OSCILLATOR

Suspend the light pan from the lower end of spring suspended verticallyfrom a rigid support. Add a suitable mass M in the pan so that spring is stretched to about triple of the unstretched Length under its own weight.
Calculate the Potential energy for each value of extension x and Plot thegraph of potential energy against extension x with Given Data.
K = 8000 dyne / cm. Value of extension x are

Sr. No	X in cm	P.E.
1		
2		
3		
4		
5		
6		
7		

2-use of Digital multimeter

Measure the values of given electrical components by using multi meter.

Table no:- 25 (SE and A)

1-use of Digital multimeter

Measure the values of given electrical components by using multi meter.

2-SPRING – MASS OSCILLATOR

Suspend the light pan from the lower end of spring suspended verticallyfrom a rigid support. Add a suitable mass M in the pan so that spring is stretched to about triple of the unstretched Length under its own weight.
Calculate the Potential energy for each value of extension x and Plot thegraph of potential energy against extension x with Given Data.
K = 8000 dyne / cm. Value of extension x are

Sr. No	X in cm	P.E.
1		
2		
3		
4		
5		
6		
7		

Table no.- 18 (SE and A)

1-Simple pendulum

For three different lengths of the (80 cm, 90cm, 100 cm) of simple pendulum, find the periodic time T for 25 oscillations. Hence find the length of second's pendulum.

2-S.E. RESONANCE TUBE

You are given three tuning fork of known frequencies. Determine length (l) of air column vibrating in unison with each tuning fork. Hence determine mean (nL). Neglect end correction.

Table no.- 24 (SE and A)

1-S.E. RESONANCE TUBE

You are given three tuning fork of known frequencies. Determine length (l) of air column vibrating in unison with each tuning fork. Hence determine mean (nL). Neglect end correction.

2-Simple pendulum

For three different lengths of the (80 cm, 90cm, 100 cm) of simple pendulum, find the periodic time T for 25 oscillations. Hence find the length of second's pendulum.

Table no.- 19 (SE and A)

1-LDR

Take 9 different readings for resistance(R) against distance (d). plot the graph for R vs $\frac{1}{d^2}$ and write the conclusion.

2-VARIATION OF POTENTIAL DROP WITH LENGTH OF WIRE
Perform the experiment to study the variation in potentialdrop with the length of a wire for a steady current for fourdifferent lengths.

Table no.- 23 (SE and A)

2-VARIATION OF POTENTIAL DROP WITH LENGTH OF WIRE
Perform the experiment to study the variation in potentialdrop with the length of a wire for a steady current for fourdifferent lengths.

1-LDR

Take 9 different readings for resistance(R) against distance (d). plot the graph for R vs $\frac{1}{d^2}$ and write the conclusion.

Table no.- 20 (SE and A)

1-SPRING – MASS OSCILLATOR

Suspend the light pan from the lower end of spring suspended verticallyfrom a rigid support. Add a suitable mass M in the pan so that spring is stretched to about triple of the unstretched Length under its own weight.
Calculate the Potential energy for each value of extension x and Plot thegraph of potential energy against extension x with
Given Data:
K = 8000 dyne / cm. Value of extension x are

Sr. No	X in cm	P.E.
1		
2		
3		
4		
5		
6		
7		

2-SURFACE TENSION

Measure the rise of liquid in the capillary tube in case of Normal water as well as Soap Solutions. Note the difference in rise. Draw the Conclusion.

Table no.- 22 (SE and A)

1-SURFACE TENSION

Measure the rise of liquid in the capillary tube in case of Normal water as well as Soap Solutions. Note the difference in rise. Draw the Conclusion.

2-SPRING – MASS OSCILLATOR

Suspend the light pan from the lower end of spring suspended verticallyfrom a rigid support. Add a suitable mass M in the pan so that spring is stretched to about triple of the unstretched Length under its own weight.
Calculate the Potential energy for each value of extension x and Plot thegraph of potential energy against extension x with
Given Data:
K = 8000 dyne / cm. Value of extension x are

Sr. No	X in cm	P.E.
1		
2		
3		
4		
5		
6		
7		

Table no.- 28 (SE and A)

1-Newton's law of cooling

Take 20 reading of cooling of hot water and plot the graph for temperature (θ) vs time (t). hence write the conclusion.

2-LDR

Take 9 different readings for resistance(R) against distance (d). plot the graph for R vs $\frac{1}{d^2}$ and write the conclusion.

Table no.- 21 (SE and A)

1-LDR

Take 9 different readings for resistance(R) against distance (d). plot the graph for R vs $\frac{1}{d^2}$ and write the conclusion.

2-Newton's law of cooling

Take 20 reading of cooling of hot water and plot the graph for temperature (θ) vs time (t). hence write the conclusion.